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Article

PREFACE

Populasi volume 30 issue 2 December 2022 consists of nine articles. The first article by Yosephine Carolina Nugraha discusses Indonesian International Students' Identity Post Mobility: How Mobility Affects International Students Beyond Education. According to the author, their experience abroad, not exactly the mobility act itself, is the one with more impact on their identity. Most expressed that their time abroad has changed their perspective and general world-view, such as they feel more like are global citizens or more concerned about environmental and human issues. In turn, even though their Indonesian root is still visible, sometimes they are also seen as akin to a stranger in their own home.

Furthermore, the second article from Viola D. Oceanio, wrote about Maternity Leave and Gender Equality: Comparative Studies of Indonesia, Malaysia, and Thailand. According to the author, that maternity leave in Indonesia, Malaysia, and Thailand complies with the recommendations of the International Labor Organization conventions 1952 and 2000. Women are barely in managerial positions due to their responsibility in the family matter. The discussion of maternity leave in Indonesia, Malaysia, and Thailand cases leads to a better understanding of the implementation of maternity leave in developing countries, for which there is currently a research gap.

The third article from Nizaruddin and M. Irsyad Ilham discusses the Effect of Sanitation on Stunting Prevalence in Indonesia. Berdasarkan penulis that the variables of sanitation, drinking water sources, and drinking water treatment before consumption affected stunting. Hence, to overcome the risk of stunting, the government has to accelerate the supply of basic sanitation, protect the good quality of drinking water sources, and promote awareness of boiling water before consumption.

The fourth article by Joko Prio Suseno et al tells about the Implementation of Guidance and Parenting in the Mental Preparation of Military Academy Cadet Leadership Level IV in Entering the Indonesian Army Organic Unit. According to the authors, youth leadership mentality is influenced by *Bimsuh* which is oriented towards achievement by developing creative and innovative thinking. Guidance and parenting with pressure, sanctions, and authoritarian approaches are not effective if they are not carried out in accordance with the achievement-oriented approach. Knowledge, skills, and experience while in the Military Academy as capital to adapt quickly in the Indonesian Army Organic Unit.

Next, the fifth article on Fertility Estimation Using the Own Children Method in South Sulawesi Province in 2021 written by Sri Nur Bayani Nur et al. This article explains that all districts/cities in South Sulawesi Province have TFR above the national level. When viewed by region, on average, districts/cities in the northern part have a higher TFR than districts/cities in the southern part of South Sulawesi Province. With the fertility rate obtained and its distribution, a guideline for the government to formulate appropriate plans and policies is expected as the outcome.

On the other hand, the sixth article by Rudi Dwi Yanto et al discusses the Influence of Military Teachers' Leadership on the Quality of Military Academy Cadets. The authors explain that cadets have good and satisfying values on attitude, behavior, knowledge, and abilities. The directive teaching method has the most dominant influence on the quality of cadets. The influence of supportive, participatory, and achievement-oriented methods must go through the directive method first.

Meanwhile, the seventh article written by Ridhwan Adhikersa et al discussed the Impact of Agile Organization and Leadership on Employee Experience with a case study at Jabar Digital Service. This study shows that the implementation of agile organization and agile leadership can be applied in government organizations that are in fact rigid about change which is also shown by the level of positive perception of expert employees on the employee experience in the Jabar Digital Service environment.

Next, the eighth article is about Mahathir Mohamad in Public Policy and Politics of Malaysia written by *Endi Haryono and Patrick Ziegenhain.* Mahathir, a charismatic leader in Malaysia during the 1980s and 1990s, has contributed an important role in the development and change of politics in Malaysia. The victory of the opposition coalition in the 2018 election would be hardly possible without him. His political comeback prior to the election made headlines in Malaysian media and raised high hopes for a more democratic Malaysia.

The last article or the ninth article by Yudho Setiarsono et al wrote about the Innovation of Utilization of Materials Research and Development Results in the Framework of Fulfilling the Defense Equipment of the Indonesian Army (Case Study of Battlefield Management System). According to the author, downstream policies play a role in realizing BMS products in the fulfillment of the defense equipment of the Indonesian Army. BMS is a modern defense equipment of the Indonesian Army, fulfilling aspects of complexity, technological progress, and speed. Although not yet fully realized due to the not-yet optimal triple helix policy, BMS products based on independence still face problems that there is still a conflict of interests, research funding, production costs, and indications of weak political will of the Indonesian Army to use domestic products.

Finally, hopefully, these articles can provide new knowledge and be useful for all readers. Thank you.

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Editor in Chief,
Muhadjir Darwin

Indonesian International Students' Identity Post Mobility: How Mobility Affects International Students Beyond Education

Yosephine Carolina Nugraha

Faculty of Social and Political Science, Parahyangan Catholic University, Bandung, West Java, Indonesia

Corresponding Author: Yosephine Carolina Nugraha (email: yoca.mikey@gmail.com)

Abstract

As part of the skilled labour group, international students have quite high potential to decide their country's future direction. This means there is a need of deeper understanding regarding the views and identity of international students, which are affected by their study tenure abroad. As such, this paper aims to shed new light to how mobility as a form of migration affected the identity of Indonesian international students as a group of migrants. To achieve this purpose, five international students from Indonesia, both current and former, were interviewed in depth to understood these post-mobility changes in their identity. From these interviews, it was revealed that their experience abroad, not exactly the mobility act itself, is the one with more impact on their identity. Most expressed that their time abroad has changed their perspective and general world-view, such as they feel more like are a global citizen or more concerned about environmental and humanity issues. In turn, even though their Indonesian root is still visible, sometimes they are also seen akin to a stranger in their own home.

Keywords: international students; international student mobility; student migration; constructivism; identity

Introduction

'Migration' is a term more often than not used to refer to a process in which people or groups of people physically move from one geographical place to another, regardless of the various reasons, length of stay in host community, and geographical distance (Hagen-Zanker, 2008; La Barbera, 2014; IOM, n.d.). The International Organization for Migration (IOM) further explained that the people or groups of people who migrates, commonly referred to as migrants, includes "well-defined legal categories of people, such as migrant workers; persons whose particular types of movements are legally-defined, such as smuggled migrants; as well as those whose status or means of movement are not specifically defined under international law, such as international students" (IOM, n.d.). The United Nations (UN) has also perceived the issues around migration and migrants as an important to be discussed. This can be seen from some Sustainable Development Goals (SDGs), such as Target 8.8 about protection of migrant workers', especially women rights, Target 10.7 about migration policies, and Target 10.c about the reduction

of remittance transfer costs (Faozanudin & Islam, 2021). These goals, however, is more concerned with IOM's first and second group of migrants, whereas the last group is regarded more as an after-thought. Thus, a new question emerged: Where are the international students?

International Students and Their Mobility

International students, and their mobility, has been around for decades and is still a popular topic to be discussed in various fields; from psychology to communication, from social sciences to linguistics, and even geography (Wickramasinghe & Wimalaratana, 2016). Their diversity means this group has infinite possibility to be subjects in various researches. The term 'international students' itself is commonly used to refer to a group of students who choose to further their education by leaving their country of origin and moving to another country (OECD, 2020, 2021; UNESCO UIS, n.d.b).

They are "those who received their prior education in another country and are not residents of their current country of study" (OECD, 2021). Similarly, the United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute of Statistics defines 'International (or internationally mobile) students' as "students who have crossed a national or territorial border for the purpose of education and are now enrolled outside their country of origin" (UNESCO UIS, n.d.b). Both organizations' definition applies to all levels of education, with university-level international students, whether in bachelor or master degree programmes, specifically called 'Tertiary-level Students'.

Various types of international students exist and migrate every semester, differentiated through their home and host countries, their funding sources, their affiliated university and field of education, their level of education, their primary motives, and many more factors. They are divided, for example,

by their programs into credit students, who went to study abroad only for a few months or semester, and degree students, who finished the entirety of his degree abroad (Findlay, et.al., 2012). Most, as another example, successfully completed their education abroad, though some went back home without completing it. Some choose to stay in their host country, while others choose to go back to their home country. One thing which will not change is that international students are always attached to their act of migration, or more commonly known as mobility.

Truly, inseparable from international students is their act of moving to another country for a certain period of time, which is often referred to as 'international student mobility'. This string of words is the most common pairing between this group and their inevitable activity of moving across borders, as international students are seen more as temporary migrants who have a high chance of going back to their home country (King, et.al., 2010). In all actuality, the term 'mobility' here is synonymous with terms such as 'movement' or 'migration', considering international students sometimes became labour migrants in their host countries.

According to UNESCO, the number of international students, and consequently their mobility, worldwide in 2018 has soared to over twice the number it was just twenty years prior; from just 2.2 million in 1998 to 5.6 million in 2018 (Mason, 2021). Most of them came from China and India, who are number 1 and 2 in population number (The World Bank, 2020), whilst the most popular host countries are the United States of America (USA) and the United Kingdom of Great Britain and Northern Ireland (UK). OECD released similar data, where it shows that the number of international student mobility is rising each year. Here, China and the USA once again become the two main stars, though China leans more to being a home/ sending country, whilst the USA more often than not is the host country (Mason, 2021).

Indonesia, which is the fourth most populous country, on the other hand is still a largely unexploited market in the international student mobility sector. With 53,604 outbound international students, Indonesian international university students only represent 0.9% of total global international tertiary-level students (UNESCO UIS, n.d.a). However, that low number does not mean the number of Indonesians currently in university-age are dwindling. This can be seen from how the number of Indonesian international tertiary-level students only consist of 0.6% of all university students enrolled across Indonesia. Currently, most Indonesian international students choose Australia as their destination with more than one-fourth of them going to Australia. Other popular host country destinations include Malaysia, the USA, and Japan.

As a migration phenomenon, international student mobility is motivated by some factors, though these factors are not necessarily the same as forced migration or work migration. Meanwhile the end-goal is still somewhat economical, considering the purpose of achieving higher education in general is to increase skills and knowledge in order to better secure future employment, international student mobility places its focus more on the achievement of high-quality education and expanding knowledge and skills (OECD, 2020).

In explaining the factors behind international student mobility, international migration theory of push and pull factors is the one most often used by researchers (Lin & Kingminghae, 2017; Mazzarol, et.al., 1996; Mazzarol & Soutar, 2002). Traditionally, push factors are used to refer to factors which make migrants decided to leave their home countries, whilst pull factors are factors which make migrates decided to enter certain host countries. In the case of international students, pulling factors from host countries tend to be stronger, with considerations focused on knowledge of host country and institution, recommendations, fees, environment, geographical distance, and network (Mazzarol & Soutar, 2002).

This high number is also helped enormously by globalization, especially neoliberal globalization (Faozanudin & Islam, 2021). Thanks to globalization which brings along positive changes in information technology communication, lowers needed costs, and increases pro-migration policies, migration and mobility has been a rapidly growing global phenomenon (Wickramasinghe & Wimalaratana, 2016). Globalization itself can be defined as a condition where inter-countries borders become blurred (Bukhari, et.al., 2021), which makes it easier and easier for more people, including students, to have access and more alternatives for their higher education.

Despite the numbers showing a promising rise in popularity, being an international student is not as smooth. International students face numerous challenges even before they leave their home country, much less when they actually leave. Not only academically, they have to quickly adapt to the new cultures, norms, and habits in the host country or community. In other words, they have to tackle social, cultural, and psychological challenges before they can even talk about the academic challenges they are facing (Cruwys, et.al., 2021; Severino, et.al., 2014). It is not rare for international students to receive rejection or other unwelcoming experiences from their host community to the degree which they chose to drop-out of their courses abroad and went back to their home country. Those who succeed, though, might find living abroad to be more enjoyable.

In the same vein, this type of migration also has different effects on the international students as migrants, their host community and country, and their home community and country. Other involved actors include the university and their benefactors (such as scholarship givers). In particular, family plays

a big role as these students are only just starting their independent adult life. Coupled with challenges they may face in another country, such as adjusting with new cultures and social norms, easing into the different language or dialects, facing different climates and food, and, most importantly, overcoming their academic challenges (Cruwys, et.al., 2021), support is detrimental to their health and success in education. Thus, one migrant group which is also important to be analysed, but unfortunately still receive little to no exposure, is international student.

Identity and International Mobility

A person's identity is shaped by what he has experienced in his life. Memorable or not, each thing a person went through has impacts on his identity. In other words, identity marks who we are, what we believe in, and how we perceive ourselves, others, and the world at large. Identity itself can be defined as the unique character or personality someone possesses, and at the same time the similarities in which individuals in a group are known for (Merriam-Webster, n.d.); it is both an individual and collective feature; it is determined by a person's sense of themselves both as individuals and as members of various social groups (Cruwys, et.al., 2021).

It has been agreed that one person can hold multiple identities at the same time. Researchers, especially psychologists, believe that a person has different identities and those identities can be adapted in different settings. Bardi, et.al. (2014), for example, said that a person's identity actually consists of several identities, which can include groups membership, individual traits, and physical aspects. Similarly, Alexander Wendt proposed four types in which identity can be categorized, which are: 1) Person or corporate; 2) Type; 3) Role; and 4) Collective (Zhan, 2020).

Person, or corporate, identity refers to the self-protecting structures which an actor builds and differentiate them with other actors. In application, the actors involved here could be individuals or groups of individuals. The second category, which is type identity, refers to a label that has been given, usually by society, to a group of people who shares one or more common intrinsic characteristics. These characteristics ranges from physical appearance and features, values and attitude, knowledge and experiences, to even simply historical and geographical similarities.

Role identity, on the other hand, is an identity which is made by the society and not intrinsic to each actor. These can include identities relating to, for example, profession and familial relations. The last identity, which is collective identity, can be perceived as the result of combining type and role identities. Collective identity includes an identification of the self in relation to others, such as the feeling of being a member of certain city group as opposed to a member of their country as a whole.

Using that idea as a starting point, a model called Social Identity Model of Identity Change (SIMIC) tries to explain how experiences, especially critical or important ones, are detrimental to the changes one's identity can take (Mawson et al., 2016). SIMIC also suggests that inclusiveness or groups membership may fuel a richer identity which makes that person less sensitive even during a life-changing moment. A similar model, the Social Identity Approach (SIA), produces similar results. Several research done using SIA has shown that during times of great distress and change, people find it more beneficial to at least reshape their identity and to broaden their social groups membership (Kellezi, et.al., 2018).

It is still true that life-changing moments and decisions have an impact on a person's identity. Ballentyne, et.al. (2021) quoted an argument which said that "we don't know a great deal about the patterns of identity change, but immigration is an ideal arena for analyzing these change processes in more

detail". Various other studies, particularly psychology, have also chosen to use migration and migrants as their main focus. From them, it can be concluded that migration is one of the life-changing moments in which people, or migrants in this case, underwent an identity change, either big or small, to better adapt in their new condition.

Mobility, or oftentimes called movement and migration, itself is the act where people move from countryside to city, which is called internal mobility, or from one country to another, which is called international mobility (La Barbera, 2014). It includes both the process of leaving the 'home community' and entering the 'host community'. Migration can also be understood as movement of people or groups of people from one geographic location to another, either permanent or temporary, for various reasons including, but not limited to, better employment possibilities and persecution (Hagen-Zanker, 2008). IOM, similarly, defines migration as a process of "[moving away from the] place of usual residence, whether within a country or across an international border, temporarily or permanently, and for a variety of reasons" (IOM, n.d).

Specifically, international mobility encompasses the process of leaving one's home country and coming to a host country which differs from their home country. The decision international migrants, who are people or groups of people who migrate, took to go to another country is influenced by many factors; most seek better economical and living conditions, while some seek a better life, and others simply have no other choice, which is often the case for forced migrants. Their choice of host country is also influenced by several factors, such as stability, acceptance, and migrant-aid programmes which exist in the host country. Migrants can also stay in their host country, or 'transit countries', from several weeks to several months, years, or even for their entire lifetime. The 'push-and-pull' factors

that motivate migration to happen and keep happening really varied per person (Hagen-Zanker, 2008).

The decision to migrate gave birth to several effects, especially to the migrants, though more often than not, their home country, host country, and host community are also affected. Economically, socially, and even politically, migration affects the lives of everyone involved, whether directly or indirectly. Migrants are, for example, sometimes seen as a threat to their host country, especially economically in regards to the labour market and employment opportunity (Lie & Dewi, 2020). Increasingly, health risk has also been increasingly worrying in regards to migrants. In their research, Cruwys, et. al. (2021) noted that stress almost always accompanies migrants, especially during the adjustment stages when they have just arrived. The COVID-19 pandemic also added to this health concern.

As previous researches suggested, decisions regarding migration at large and this mobility specifically are influenced and influencing migrants', or in this case the international students', identity. In particular, mobility affected international students more than simply giving them new knowledge and experience. Through those experiences, international students' identity is re-shaped and re-constructed. Mobility also affects their identity by semi-forcing them to 'adopt' a new identity more in line with values and norms common in the host country. Identity itself is not a singular object, but rather a group of various understandings of a person's uniqueness, role, and even their place in society (Zhan, 2020). One person can have multiple identities, and it is not impossible for these identities to overlap or even clash. Identity determines a person's decisions and actions at a personal level along with the global phenomenon he created, and those decisions influence his identity in return. This phenomenon is in line with the view used in constructivism.

Constructivism

Constructivism views the world we know and relation between international actors as a product of social construct by the actors (Theys, 2017) in accordance to their cultural identity, intent, and interest which they communicate through linguistic symbols (Hadiwinata, 2017). It can be said that the two most important components in social construction are the agents and the structure (Lie & Dewi, 2020). Agents, or actors, here can be understood as the people who are actively interacting with each other and thus are involved in the construction of their understandings about reality and the world around them. Whereas structure here means both material and ideational factors of the international system in which the interaction between actors happens.

One point which constructivists deem as important is about actors' interest and identity. According to constructivists, an actor can have multiple identity which was constructed through social interaction with other actors. Identity itself is the reflection of an actor's understanding of who they are, which in turn shape their interest along with the actions they took (Lie & Dewi, 2020; Theys, 2017). This point is further explained by Alexander Wendt. According to Wendt, constructivism views that international relation pattern is actually lead by ideas, norms, and values which are spread among and believed in by the involved actors. Through socialization and learning processes which happen when actors interacted, those ideas became structured and in turn made actors keep renewing their understanding and interest (Hadiwinata, 2017).

In accordance to how they approach this theory, constructivists are divided into two groups, which are conventional constructivists and critical constructivists. Conventional constructivists tend to ask what-type questions, such as 'what cause an actor to do something'. On the other

hand, critical constructivists tend to as how-type questions, such as 'how did an actor believe in certain identity' (Theys, 2017). The two groups also differ in their view of how identity should be treated in their discourses: conventional constructivists focus more on the effects an actor's identity have in relations to international condition, whilst critical constructivists are more interested in how social interaction shape parts of an actor's identity. In line with this paper's research question, a conventional way of thinking is undertaken.

Thus, the research question of this paper is: "What are the changes which happen to Indonesian international students' personal and collective identities due to their decision to study abroad?" To reach the answer, five Indonesian international students were interviewed to better understand their identity, especially after mobility when compared to before, and how or what experiences during their mobility process reshaped their identity. In addition, library review is used to gather the secondary data needed. Qualitative research method is used in line with this paper, which purpose is to show the various responses in the form of identity changes subjects', in this case Indonesian international students', went through due to their mobility in studying abroad. It is by no means a way of generalizing the effects of international student mobility towards said international students, nor is it a way of generalizing the changes Indonesian international students experienced.

In doing so, the researcher hopes to give a small contribution to the study of migration in international relations, in particular about international student mobility. Further, the understanding gathered from this paper can hopefully be used as materials when considering new or revised decision in relation to international student mobility, especially Indonesian international student. As it can be said that all graduating international university students are categorized as skilled labours, their identity and world-view is

important to be considered in order to retain their competency and reduce the risk of brain-drain for Indonesia.

Methods

A qualitative research method was used in this study, more specifically a literature review of existing researches and studies regarding international students, their mobility, and the effects of mobility on migrants' identity, along with an in-depth interview to further explore the phenomenon.

The semi-structured interview process, which was done between 15 January 2022 and 2 March 2022, is guided by a set of questions compiled from previous researches regarding identity in migrants and international students. The interview guideline is divided into four parts: 1) Interviewees' profile, including host country and institution, length of study, and current activity; 2) Motivation in becoming international students, mostly revolving around the reason for choosing the specific country and institution, wishes they hope to achieve by becoming international students, and support; 3) Experiences during and after mobility, including adaptation process, memorable instances, and reason for coming back to Indonesia; and 4) Identity changes, which include, but not limited to, questions on how they identify themselves, along with how they see their position in their family, groups of friends, society, and country at large before and after their mobility.

The interviewees, from the shortest to longest study period abroad, went to Dongseo University in South Korea (for 1 month), University at Buffalo in the United States of America (for 2 years), Technische Universität München in Germany (going on 3 years), Royal Melbourne Institute of Technology in Australia (going on 5 years), and Nanyang Technological University in Singapore (going on 8 years). Two of them are males (the USA and Singapore), whilst three are females (South Korea, Germany, and Australia). All

of them came from a middle-upper family in Surabaya (South Korea, Australia, and Singapore) and Makassar (the USA and Germany), with the youngest being 22 years old and the oldest being 25 years old.

Findings and Discussion

Reasons Behind Mobility

To understand changes in identity, the reasons behind international students' mobility must first be looked at. In this case, the interviewees' reason in choosing to study abroad varies. Most done so simply because there is an opportunity (3 people) given to them at the right time, either by their parents or their previous school in Indonesia. The other two, on the other hand, done so because they are looking for a specific program (1 person) and to escape from their life in Indonesia (1 person). None of them questioned the need to pursue further education, as all of the interviewees aim for at least a bachelor degree before starting their career. Support from their family is also identified, as all said they probably would not have become an international student if their parents are not supportive, both financially and emotionally.

Their reasons to choose their respective host countries reflect these basic reasoning. Living costs which their family can support are identified as one of the most important factors considered, along with the study program and degree offered. Subconsciously, the language used in the host country was also considered; they tend to still choose host countries which they feel familiar with rather than the completely unknown ones to them. Evidently, three of the interviewees went to English-speaking countries (the USA, Australia, and Singapore), and only one actually learnt a 'new' language prior to their mobility (Germany).

Previous experience in travelling and being an international student before their

tertiary-level education is another influential factor, as during high-school the interviewees have been migrating students (the USA and Germany, previously went from Makassar to Jakarta) and even international students, permanently (Singapore) and temporarily (South Korea, previously went to Thailand). The interviewees who went to Australia also has extended history of travelling during vacation with her family, mostly to Europe.

Still geographical distance and familiarity are also considered at the beginning stages of choosing a host country, as interviewees who went to the USA and Australia have both considered Singapore as potential destinations. Their institution choices, on the other hand, was influenced by the program being offered (Australia and Germany) along with cooperation said institution had with their previous education institution in Indonesia (Singapore and South Korea).

Their choice of university is also influenced by whether they have close friends and family members who have gone there previously, though not necessarily still reside there. These implies that during the initial mobility process, their decision was mostly influenced by individual values, desires, or expectancies and their social networks, which are more in line with meso- and micro international migration theories rather than the macro theory, which focuses more on pre-existing structure. These pre-existing structures still play a part though, as further down the road, interviewees who were almost finished with their degree (the USA and Australia) expressed that during their last year of studying abroad, their motivations shift towards the existing employment market, most notably the opportunity to work in their respective destination countries.

Identity Changes during International Student's Time Abroad: Personal Identity

It can be seen that international students' overall identity and perception shifted during their study abroad. From what the researcher concurs during the interviews, however, most of them does not necessarily see their mobility as students to have much impact on their identity, as in the act of moving itself is not as impactful as the experience they underwent during their stay there. This implies they feel welcomed in their host community, as they only include the physical act of going to another country within their mobility whereas their stay there is not actually seen as an act of mobility. One interviewee (the USA) expressed that the act of moving itself was akin to going on a holiday.

Most do need to adapt, though the time varies. The ones who went to Asia (Singapore and South Korea) have the shortest overall adaptation period, mostly because there are similarities in culture and behaviour with Indonesia. Interestingly, the one who went to the USA expressed that he does not need any time to adapt, though this can be attributed to his original personality (not easily fazed). The most difficult points during their adaptation includes languages and social cues, education system, and public transportation system, considering the two cities where they came from (Surabaya and Makassar) does not have adequate public transportation yet. They also expressed that food was not much of a problem because their universities, and the city where they are located at, are common destinations for international students from all over the world, including from Indonesia. As such, international food is more readily accessible thanks to the network which has been built in those particular cities. This shown that pre-existing structures actually helps the adaptation process of these international students without their knowledge.

This adaptation period is said to be the most memorable and impactful. However, the overall changes in identity happened not only during adaptation, though three of the interviewees agree that it was the most

affecting, but also gradually during their entire stay. That is to say, most of them find it hard pressed to find one specific moment that drastically change them forever or to find what exactly are these changes.

Still, when asked, they thought for a moment before answering that yes, their experience as an international student change some aspect of their identity. The changes towards their personal identity includes higher self-esteem, as the fact that they have been an international student is perceived as a point of pride which differ them from others. They also show higher degree of comfort in using foreign language, most notably English, than before their mobility.

Some more subtle changes can also be identified, such as a change in fashion and make-up choices. These changes are mostly linked to the norms in their respective countries. The one who went to Australia, for example, said that her apparel choice has changed to match the colder Australian climate and thus seemed strange to be seen in the streets of Indonesia where it is hot all-year-round. A similar thing happened to the one who went to South Korea, who confessed that her make-up style became more 'Korean' after her mobility. This proves that the length of study period may not be that detrimental to the change of identity. Rather, the chance international students have to live among the people of another country can be said to be the thing which affected their identity.

Identity Changes during International Student's Time Abroad: Type Identity

During their study tenure abroad, most tend to spend their free time with fellow Indonesian international students, especially those from the same university. There are also cross-university community for Indonesian international students, once again because the cities are already a hub for international students, or other community such as religious ones where they can interact and bond with fellow Indonesians. All of them nurture a neutral, leaning on positive, relationship with the people they interacted with, such as their classmates, professors, and landlords. Some even purposely look for communities or friends to ease their adaptation and learning process.

These choices and changes show that even though they do feel they are different from those who did not have or take the opportunity to study abroad, they also still longed for a sense of normalcy and familiarity within a foreign land as to not be labelled as 'strangers' all the time. Here, their Indonesian roots shown up, considering Indonesia which have a quite high cultural context tend to value collectiveness rather than individualism.

Still, they have also changed some of their innate characteristics to fit better in their receiving community, most notably in relation to their worldview and mannerism, including their view on politics, sexuality, and social norms. The one who went to Singapore, as another example, said that being in a more open-minded environment made him realize his sexuality which he has never known even exist before his mobility.

Back in their home country Indonesia, however, these changes are not always welcomed. They have expressed that people who know them before their mobility said that they have changed since studying abroad, whether in their speech pattern or behaviour. Their changes sometimes no longer fit with Indonesian customs, which makes their family treated them akin to strangers in their own home. This is especially true for those who were abroad for longer period of time, such as the ones who went to Australia and Singapore. This discrepancy made international students sometimes choose to live, even if not abroad, at least in a different house than their family, which creates a further rift in their collective identity and intention.

Identity Changes during International Student's Time Abroad: Role Identity

Other than the personal and type of identity as explained above, identity is also linked with an actor's social roles. In their case, however, three are still undergoing their study and one still went on to becoming a student for a few more years after their mobility. As such, there is only one who explicitly said that their social role changed: from that of a student to that of a worker. He said that graduating from a university abroad has put more pressure on him in terms of finding better career. This sentiment is echoed by two other interviewees who were on their last semester. Not only a better career, they also want to have a better chance at creating their own family and to live independently from their parents.

Some did experience new role identity, most notably as significant others – boyfriends and girlfriends – of other students. Considering the age in which they studied abroad, this is not a strange thing. Only one has decided to pursue a serious relationship though, while the rest are content with finishing or continuing their tenure as singles.

Still, all of the interviewees expressed their willingness to study abroad if there are ever any chance to do so, though not everyone would come back to that specific university if there are other options. They also show positive attitude towards encouraging others to also study abroad. Chance and luck were put on emphasis here by many, as well as adaptability and mental strength.

Identity Changes during International Student's Time Abroad: Collective Identity

As part of a whole, however, these Indonesian international students tend to view themselves as, at least, a global citizen rather than an Indonesian. One (Singapore) has even expressed that if it were not for the compulsory military service,

he would have to undergo if he became a Singaporean, then he would choose to become a Singaporean. This line of thought is echoed similarly by the ones who went to the USA and Australia, who said that if it possible, they would choose to live and work abroad rather than in Indonesia, but these two would still go back to Indonesia once they have retired and spend their old days in Indonesia. Admittedly, these five destination countries are wealthier than Indonesia, with higher wages and appreciation, especially for skilled workers such as these university graduates. This creates a threat of brain drain to Indonesia, who might lose their skilled human resources on the peak of their career to another country. Their plan to retire to Indonesia, on a brighter note, means Indonesia's future purchasing power might head in a bright direction.

Further, they said they have attachment not to Indonesia itself, but rather to their family and belongings which mostly are still located in Indonesia. They do not necessarily see Indonesia as their 'home', as they view 'home' as any places where their family or belongings exist or where they have spent most of their adult lives at. It can be said that the reason they have or would come back to Indonesia has more to do than the push factors from destination countries to not stay there, for example because of visa expiration or compulsory military service, rather than any pulling factors which Indonesia can offer to them.

Most also have more positive view of their destination countries. When asked about their view of Indonesia, they tend to compare the two (Indonesia and their respective destination country), in which they tend to find Indonesia to be simply 'enough' or even worse than their host country. This is especially true when they consider the safety, quality of living, wage level, and equality between the two.

The one thing they saw Indonesia has over their destination countries is the lower

cost of living, though this also correlates to the lower minimum wage which does not appeal to them. This is why most of them wish to work abroad to gather as much money as they can before they go back to Indonesia if they retire to spend it in Indonesia. Their ability and competencies during their peak career, however, may not be used for Indonesia if they succeed in achieving their hope of working abroad.

Overall Identity Changes during International Student's Time Abroad

From the interviews, it is clear that all five Indonesian international students experienced changes in their identity due to their education period abroad. The most changes happen to their personal and collective identity, whilst their type and role see relatively lower changes due to their tenure as international students. These changes may vary, but they did happen and in turn shape their perspective about Indonesia, their host countries, and the world in general. This is in line with constructivism's view which said that the world is not a single, universal, and constant objective fact, but instead is a product of social construct shaped by each actors' understanding and context.

Beyond formal education, then, student mobility gave international students a chance to interact in a social learning process. This chance, in turn, changed their identity which, further, affect the choices and decision they make afterwards, such as to live independently or to explore a profession they never thought of before. The opportunity has also enabled them to have a more open mind and better understanding when interacting with others.

Conclusion

From the interview which was done on five international students from Indonesia,

both former and current, it is clear that their decision to pursue further education in another country has led to some re-construction in their identity: type and role too, but mostly their personal and collective identity. No matter the duration of being an international student, all of them show that the mobility they have or currently are experiencing continues to shape their perspective of themselves and the countries involved. As such, international student mobility needs to receive more attention and consideration.

From the interview, it can be concurred that student mobility by itself does not change Indonesian international university students' identity. It is only once they got into the country and start their adaptation process that their identity started to change. They tend to adapt quite quickly thanks to the globalization and easily-accessible information on the internet. By adapting quicker, they can be accepted faster and easier among their peers and in their education institute. Their relationship, both with people in the destination country and with friends and family in Indonesia, tend to be positive, or at least neutral.

Most are not certain about what and when their identity changes, though they do admit they have changed as compared to before mobility, because these changes generally happen gradually and not all at once. In the case of social role, changes only happen when they have graduated or are in their last year, because those are the times when the pressure to find work and repay their parents are at the highest. However, there is a lack of positive view regarding Indonesia as a whole and quite a lot of disappointment when comparing Indonesia, or Surabaya or Makassar in this case, with their destination country or city.

While this individual level of analysis might seem unimportant in the grand scheme that is global international relations, theories such as constructivism has proven that these identities at a personal level is what shape the

identity of the nation along with its relations with other countries. Especially considering university graduates are skilled labours who might become industries or nations leaders in the future, and that many skilled migrant workers are former international students (Lin & Kingminghae, 2017), their collective identity is especially important in ensuring Indonesia does not lose more of its important resources.

The recommendation for future researches would be to build a sense of trust first with the interviewees, as without it the interviewees' answers tend to be lacking depth. Without trust, any efforts to deepen the interview would be met with rejection instead. One interviewee even said that she dislikes it when interviewers, especially one she is not close to, probe her for answers, which in turn made her answer in even shorter ways. Another method is to gather the interviewees who knew each other from before and are quite comfortable with each together in a Focus Group Discussion (FGD). That way, information might be easier to be obtained, though this might be difficult to achieve through online methods.

Another recommendation would be to further this topic by interviewing former international students who are at the time have authority in deciding Indonesia's direction and action in relation to other countries, especially their host countries when they were still students. Comprehensive research would take years to complete though, as identity will always undergo changes in every step of an actor's live, which means the identity changes caused by their mobility might have been overshadowed by other experiences leading to their current position.

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Maternity Leave and Gender Equality: Comparative Studies of Indonesia, Malaysia, and Thailand

Viola D. Oceanio

Department of Social Development and Welfare, Faculty of Social Science and Political Science, Universitas Gadjah Mada, Yogyakarta, Indonesia

Corresponding Author: Viola D. Oceanio (email: violaoceanio@mail.ugm.ac.id)

Abstract

This article discusses the implications of maternity leave on gender equality by taking comparative cases in Indonesia, Malaysia, and Thailand. This article focuses on three important issues, namely the implementation of maternity leave policies, the funding system for maternity leave policies, and the implications of these policies on gender equality in the workplace. This article uses secondary data from official government documents, documents from international institutions, such as International Labor Organization, World Bank, Asian Development Bank, and related studies. The results of the study show that maternity leave in Indonesia, Malaysia, and Thailand complies with the recommendations of the International Labor Organization conventions 1952 and 2000. The benefits provided by maternity leave accommodates women to work and take care of children. In funding maternity leave, Indonesia and Malaysia use the employer liability scheme, while Thailand uses a combination of employer liability and social security act. These funding schemes are aimed at employees in the private and informal sectors. To promote gender equality in the workplace, the benefits of maternity leave are influential in this effort. The more companies adopt this family-friendly work environment, the more it encourages enhancing gender equality in the workplace. The study finds women are barely in managerial positions due to their responsibility in the family matter. The discussion of maternity leave in Indonesia, Malaysia, and Thailand cases lead to a better understanding of the implementation of maternity leave in developing countries, for which there is currently a research gap.

Keywords: maternity leave; social security; financing system; gender equality; women employee

Introduction

The Maternity Protection Convention No. 3 of 1919 was the pioneer of the global practice of maternity leave policy of female employees. Maternity leave is a policy initiated by the International Labor Organization (ILO) at the International Labor Conference of 1919 (Addati, et.al., 2014). The Convention was adopted by the Maternity Protection Convention No. 103 of 1952 and No. 183 of 2000. Maternity Protection Convention No. 183 of 2000 provides rights to women in the form of a rest period before birth with money guarantees, medical insurance, work protection and non-discrimination, health

insurance and the right to breastfeed for 14 weeks (ILO, 2000). Maternity leave is included in social security provided to individuals to reduce social risk (Government of Indonesia, 1997) and one of the policies which aims to provide health and welfare insurance for postpartum mothers (Addati, et.al., 2014; Siregar, et.al., 2019). One of the goals of maternity leave is to provide protection and income security during the period of maternity leave and to promote equality and protection in the workplace for women and men (Addati, et/al., 2014). In addition, maternity leave is a manifestation of the ILO's commitment in realizing the 5th Sustainable Development Goals, namely gender equality.

The increase in women's emancipation in the era of globalization has led to an increase in the number of female employees in the workplace (Kwegyir-Afful, et.al., 2018; Tominey, 2016). Based on World Bank (2022a), in the last 10 years, women's participation in the workforce globally has reached 47-48%. In many countries, such as America (Glynn, 2019), India (Gupta, 2021), and Canada and Greece, 11-12% of (Kowalewska & Vitali, 2021) the income of women employees is the main source of the family economy. However, female employees often face the threat of losing their jobs during pregnancy or after taking maternity leave. This is because women still tend to lack access to social security, such as pensions, unemployment insurance, and maternity protection (ILO, 2016). In addition, social security tends to be gender blind which treats men and women equally and does not consider discrimination against women in the workplace (ASEAN, 2014). ILO (Addati, et.al., 2014) shows that 830 million women employees have not received maternity protection and 80% of this comes from Africa and Asia. This has encouraged various international and national organizations to be more aggressive in providing women regarding maternity protection (Siregar, et.al., 2019).

This phenomenon also occurs in Southeast Asian countries, including Indonesia, Malaysia, and Thailand with women's participation in the workforce reaching 58% (World Bank, 2022a). It is due to the rapid development of industrialization in developing countries and inadequate family economic conditions. However, this does not reduce the role of women in taking care of the family which causes a double burden for women (Baer, 2021; Bucher-Koenen, et.al., 2020; IWDA, 2016; Rummery, et.al., 2021). Asian women are still often faced with gender roles to take care of the domestic sphere (Kalthom, et.al. in Hirschman, 2016; Ida, 2001) so that this policy can lighten and balance the role of women in taking care of children, especially during the time of birth and job security for women.

This article aims to discuss the implementation of maternity leave policies and issues regarding gender equality in Indonesia, Malaysia, and Thailand. To achieve this goal, this article will answer three basic questions which that are quite important to discuss. The three questions are how to implement maternity leave policies in Indonesia, Malaysia, and Thailand; how the funding system for maternity leave guarantees is provided in Indonesia, Malaysia, and Thailand; and how the implication of maternity leave policies on gender equality in the workplace in these three countries. This study is important to discuss because women often face discrimination due to their pregnancy which leads to gender inequality in the workplace. One of the keys to creating gender equality in the workplace is maternity leave. This article begins with a discussion of the implementation of maternity leave policies and benefits maternity leave in Indonesia, Malaysia, and Thailand. The next section describes the source of the costs, the amount of maternity leave allowances and the conditions for accessing these benefits. The final part of this article discusses the influence of policies on gender equality in the

workplace with a focus on women's career sustainability after maternity leave because women take care of the family with a larger portion than men (Rossin-Slater, 2017).

Maternity Leave, Financing Scheme, and Gender Equality: Conceptual Framework

Maternity protection is a key component of family-friendly policies to promote maternal and child health and prevent discrimination against women in the workplace (UNICEF, 2020). Maternity protection has the main goals of encouraging women to carry out reproductive and productive roles well and encouraging equal employment opportunities and treatment (Addati, et.al., 2014; Borg, 2009). According to Schulze & Gergoric (2015), maternity leave is leave given to female employees who are pregnant, employees who have just given birth and who are breastfeeding are entitled to a 14 weeks period of leave allocated before and after childbirth. Maternity leave is a work absence protection for women which is provided for several weeks and months before and after giving birth (Borg, 2009; Kwegyir-Afful, et.al., 2018; OECD, 2020a). Maternity leave is often used as a measure of health and well-being aimed at protecting the health of mothers and children (Koslowski, et.al., 2021). Maternity leave gives female employees the opportunity to spend time with their babies without worrying about losing their jobs and income (ASEAN, 2014; Ponomareva, 2017).

The concept of maternity protection was introduced through the ILO Convention 1919 (No. 3) which provides limited leave for government and private employees by providing 12 weeks maternity leave, health protection and income compensation while on leave. This convention was revised in 1952 (No. 103) which expanded the range of leave to non-industrial and agricultural employees including housewives and introduced a minimum limit of cash benefits of 2/3 of income. The ILO Convention 2000

(No. 183) is the latest convention which provides protection to all female employees by extending leave for 14 weeks and adding benefits including health, medical, breastfeeding and job protection (ILO, 2012). The expansion of the scope and more adequate maternity protection benefits is a form of developing the status and recognition of women's rights in the workplace (Addati, et.al., 2014). Maternity leave is also recognized in the The Universal Declaration of Human Rights (UDHR) 1948 Article 25 which states that mothers and children are entitled to special treatment and care as social security. The International Covenant on Economic, Social and Cultural Rights (ICESCR) 1966 mentions special protection during the period before and after birth and paid leave with adequate social security. Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) 1979 Article 12b concerning the protection of maternity as a necessary basic right.

In providing leave allowances, each country has a different system in funding maternity leave regarding how much and who is responsible for financing the benefits. The funding schemes which are often used are contribution schemes, non-contribution schemes, combination schemes and employer liability (Addati, et.al., 2014). Contribution schemes are benefits provided based on regular payments made by employees through social insurance (World Bank, 2018; Barrientos, 2010; UNDP, 2016). Social insurance includes old-age benefits, unemployment benefits, pensions, health insurance, and maternity leave benefits. Non-contribution schemes are benefits financed by the government through state funds and taxes (B. Carter, et.al., 2019; ILO, 2018). This scheme is provided to poor and vulnerable individuals or families through social assistance, such as cash transfers, food and goods assistance for basic needs, education and access to clean water and sanitation (World Bank, 2018; UNDP, 2016;

White, 2016). Combination schemes are benefits which are provided by combining contribution and non-contribution schemes with the aim of expanding the range of benefits not provided by either scheme (Addati, et.al., 2014; ILO, 2018; UNDP, 2016). The employer liability is benefits provided by the individual employer which causes a double burden to the employer (Addati, et.al., 2014; ILO, 2018).

The provision of job protection and cash benefits to women during maternity leave is one of the keys to achieving gender equality in the workplace (Addati, et.al., 2014; ILO, 2014). Gender equality can be defined through two approaches, namely the sameness approach which places the position of men and women equally and equity or fairness (Rummery, 2021). The first approach highlights the pay gap and increases women's employment to equal men's. In this case, men are considered as the standard where gender equality occurs when women approach men's norms (Bailyn, 2011). The second approach focuses on five principles, namely anti-poverty, anti-exploitation, equality, anti-marginalization, and anti-androcentrism (Fraser, 1994). Htun & Weldon and UNICEF (2010;2017) gender equality is an ideal condition in which men and women have equal opportunities to participate in politics, economy, social and culture. Their roles are considered equal, no one gets unfair treatment based on gender differences and both are judged as free and autonomous human beings with dignity and rights. Gender equality in the division of labor is understanding that men and women equitably contribute to the work and family environment which can increase men's involvement in family affairs and women's involvement in the workplace (Dearing, 2016). Gender equality in the world of work is against discrimination against pregnant employees including guarantees to return to work after leave with the same position and wage (Addati, et.al., 2014; ILO, 2016).

Method

This article uses a qualitative research method with a case study approach. Qualitative research obtains data from the collection, integration, and exposure of various sources or evidence from various related studies (Yin, 2015). A case study approach is an approach which focuses in depth on a case by explaining it holistically using a certain perspective (Yin, 2018). This approach is used in this study to analyze cases in Indonesia, Malaysia, and Thailand. Source of data used in this study is secondary data. The data used comes from international financial institutions, such as Asian Development Bank (ADB) and World Bank, official country documents, namely laws and documents from international institutions, such as the ILO and UNICEF. In addition, data also comes from books, journals, and news articles as complementary data for maternity leave policy information.

The data was obtained by using a literature review. This method is used to explore research data by identifying, assessing, and synthesizing relevant studies to answer questions (Petticrew & Helen R., 2006). The analytical technique used in this study is a combination of the literature review method and comparative analysis between countries. The literature review was carried out by synthesizing data from the data found (Petticrew & Helen R., 2006). Data synthesis was carried out for generalization in drawing conclusions. Comparative analysis is solving the problem of cause-and-effect relationships by analyzing the factors causing the occurrence of a particular phenomenon (Nazir, 2005). A particular phenomenon is compared across time, culture and space to identify variations which will reveal patterns of differences and similarities in a policy (Brewer, 2011). The comparative analysis between countries aims to sharpen the analysis to make it more complete.

Discussion

Maternity Leave Implementations in Indonesia, Malaysia, dan Thailand

Maternity leave is a basic protection provided to pregnant women employees. The duration and benefits of maternity leave are important in implementing maternity leave (Addati, et.al., 2014). The study of Chatterji and Markowtz (Borg, 2009) showed that the duration of maternity leave affects the mother's physical and mental health and that longer duration of maternity leave has a positive impact on the health of mothers and babies, such as reducing symptoms of depression after childbirth or baby blues and hospitalization during the first six months of birth. In addition, maternity leave also has a positive impact on women's work participation and weekly working hours (Akgunduz & Plantenga, 2013; Dearing, 2016). The duration of maternity leave also influences the mother's decision to return to work after maternity leave. The duration of maternity leave which is too short potentially makes mothers leave work because they feel they are not ready to return to work (Keck & Saraceno, 2013; OECD, 2011). However, the long duration of maternity leave can also hinder women's engagement and advancement in work (Thevenon & Solaz, 2013). According to Dearing (2016), adequate and proper duration of maternity leave has the greatest positive impact on women's work participation.

The ILO Convention 2000 (No. 183) concerning maternity protection states that the duration of maternity leave is at least 98 days from the previous convention of 74 days. The ILO Recommendation No. 191 to extend the duration of leave by 126 days. In Indonesia, maternity leave is regulated in Manpower Law No. 13 of 2003 Article 81/1 state that female employees are entitled to 90 days of leave taken before and after giving birth according to the calculation of the obstetrician (Government of Indonesia, 2003). This leave applies to all female employees who work for a salary. In Malaysia, maternity leave is contained in the Employment Act 1955 Amendment 2021 Part XI concerning Pregnancy and Maternity Article 37 which explains that female employees get 90 days of maternity leave from the previous 60 days (Government of Malaysia, 2021). This leave is intended for private sector employees, whether or not they are members of a trade union in Peninsular Malaysia, while Sabah adheres to local regulations. In Thailand, maternity leave is included in the Labor Protection Act (LPA) 1998 Amendment B.E. 2562 of 2019. Article 41 states that pregnant female employees are entitled to 98 days of leave for each pregnancy from the previous 90 days (B.E. 2541) (Government of Thailand, 2019). This leave applies to all female employees, except administrative employees at both the central and local levels, foreign government employees, employees working in the agricultural and housework sector, principals and teachers in private schools.
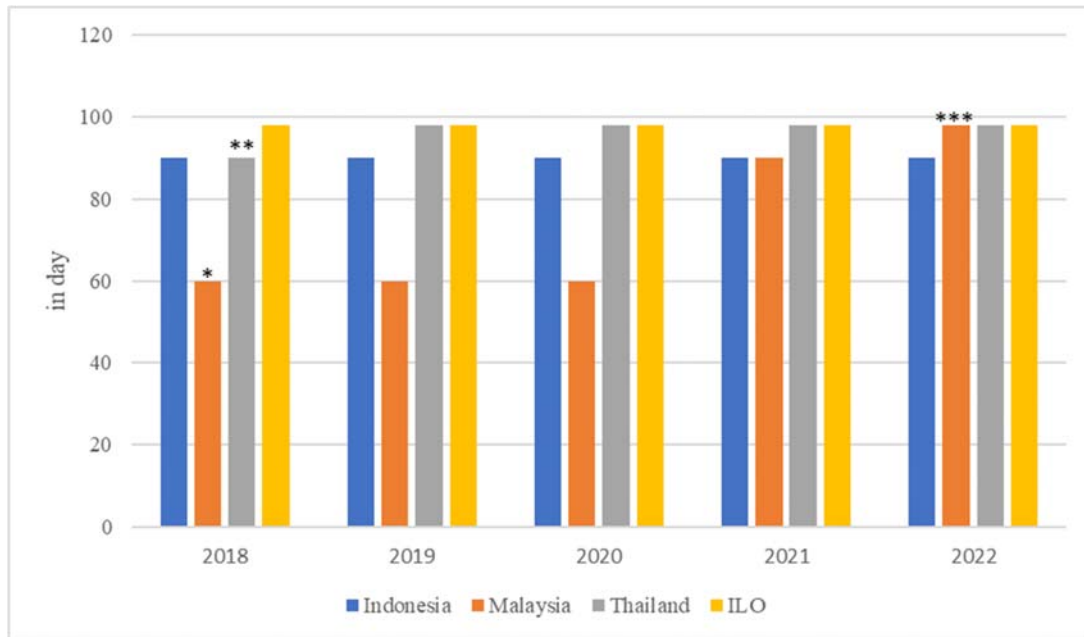
Graph 1. Maternity Leave Duration in Indonesia, Malaysia, and Thailand

Graph 1 shows that the duration of maternity leave in Indonesia has not changed, while Malaysia and Thailand have changed over the last 5 years. In Malaysia, the change in duration from 60 days to 90 days through the 2021 Act Amendment. On 21 March 2022, the bill was approved by the *Dewan Rakyat* to extend maternity leave from 90 days to 98 days (Ragu, 2022). Meanwhile, Thailand changed the duration of leave due to the amendment in 2019 from 90 days to 98 days. According to the latest law, the duration of maternity leave in Malaysia and Thailand complies with the ILO Convention 2000 (No. 183), while Indonesia complies with the ILO Convention 1952 (No. 103).

Maternity leave benefits and protections influence female employees' decisions to take maternity leave. Maternity leave benefits includes cash benefits, medical and breastfeeding protection, health protection for pregnant employees, and non-discrimination and work protection (Addati, et.al., 2014).

a. Cash Benefits

Cash benefit is a benefit to replace lost income during maternity leave to fulfill access to health, economic security, and welfare of pregnant women (World Bank, 2022b; ILO, 2021). Cash benefits are important in preventing pregnant women from working in the late stage of pregnancy and returning to work shortly after giving birth which risk their health (Carroll, et.al., 2022; ILO, 2021). In the ILO Convention 2000 (No.183), cash benefits are provided at 2/3 of the salary and are provided under national regulations to women who take leave. In Indonesia, cash benefits are given to employees with a full amount of their salary during the leave under Article 84 of the Manpower Law (Government of Indonesia, 2003). In Malaysia, under the Employment Act 1955 Article 37 Section 2b, cash benefits are provided to employees with their full salary during the leave (Government of Malaysia, 2021). In Thailand, cash benefits are regulated in two

regulations, namely the Labor Protection Act 1998 Article 59 which employers pay the full salary of female employees for 45 days (Government of Thailand, 2019) and Social Security Act (SSA) 1990 Article 67 which provides benefits for 90 days at the rate 50% of salary (Government of Thailand, 1990).

b.   Medical and Breastfeeding Protection

Medical and breastfeeding protection are benefits which include care for the period before birth, giving birth, and after giving birth thus the health of the mother and baby is well maintained (Fuentes dan Ben-Joseph, 2022)**.** Indonesia provides medical care to employees or wives up to three childbirth, namely pregnancy routine examination on SSA 1992 Articles 16 about health care (Government of Indonesia, 1992). The Manpower Law Article 83 also explains that female employees are given the opportunity to breastfeed their children and employers should facilitate employees to breastfeed (Government of Indonesia, 2003). Malaysia does not provide medical or breastfeeding facilities to pregnant women in either Employment Act 1955 or social security act. Thailand provides medical protection to insured persons or wives must have paid a contribution for not less than seven months, during the period of fifteen months before the date of receiving medical services up to two birth deliveries based on SSA 1990 Article 65 (Government of Thailand, 1990). Medical coverage consists of: 1) medical examination, treatment and child bearing expenses; 2) medicines expenses; 3) confinement expenses; 4) hospital and ambulance facilities expenses; 5) newborn baby nursing and treatment.

c.   Health Protection

Health protection includes working time arrangement about night work, overtime, working on holidays, leave for medical examinations, and leave when children are sick and protection from hazardous work to ensure the health of pregnant women employees (Addati, et.al., 2014). In Indonesia, health protection is regulated in Manpower Law Article 76 concerning prohibition of employers from employing pregnant women from 23.00-07.00 (Government of Indonesia, 2003). In the Employment Act Section VIII concerning Female Workers, Malaysia does not explicitly regulate pregnant women, but prohibits the employment of women in general in the industrial and agricultural sectors from 22.00-05.00 (Article 34) and prohibits underground working, such as tunnels, canals, and cave (Article 35) (Government of Malaysia, 2021). Thailand in the LPA Part 3 concerning Employment of Women Article 39/1 states that pregnant female workers are prohibited from working between 22.00-06.00 and working overtime or working on holidays. If required to overtime, must be with the approval and not endanger the health of workers. The prohibition on work carried out for pregnant workers is doing work which involves a vibrating engine, driving a vehicle, carrying more than 15 kg, and working on a boat (Article 39) (Government of Thailand, 2019).

d.   Non-discrimination and Employment Protection

This protection provides guarantees for female workers not to experience discrimination and termination of employment when taking leave due to pregnancy, childbirth, miscarriage or breastfeeding. Indonesia states in the Manpower Law Article 5 and 6 that both of men and women have the equal right of opportunity and treatment without discrimination in workplace. Protection from dismissal is also regulated in Article 153 Paragraph 1e where employers are prohibited from dismissal workers who are pregnant, giving birth, miscarriage and breastfeeding (Government of Indonesia, 2003). In Malaysia, terminating

employment during maternity leave is a violation. The prohibition on the dismissal of female workers after the leave period has expired is also regulated in the Employment Act Article 42/1 that female employees who remain absent after the maternity leave period is over due to illness marked by a doctor's letter are entitled to an extension of leave of up to 90 days and after that the employer can give notification termination of employment (Government of Malaysia, 2021). In Thailand, employers must treat men and women equally depending on the conditions of work (Article 15) and employers shall not terminate employment with pregnant women workers (Article 43) (Government of Thailand, 2019).

Tabel 1. Comparison Maternity Leave Benefits in Indonesia, Malaysia, and Thailand

Country/Benefits			Indonesia	Malaysia	Thailand
Duration			90 days	98 days*	98 days**
Maternity cash benefits			Yes	Yes	Yes
Medical Protection	Medical Check Up		Yes	No	Yes
	Breastfeeding		Yes	No	No
Health Protection	Working Time Arrangement	Night work	Yes	Yes (women)	Yes
		Over Time	No	No	Yes**
		Day off	No	No	Yes**
	Dangerous work		No	Yes (women) ***	Yes
Employment protection and non-discrimination	Non-discrimination		Yes	No	Yes
	Employment protection		Yes	Yes	Yes

Source: Addati, et.al., 2014; *: Ragu, 2022; **: Government of Thailand, 2019;***: Government of Malaysia, 2021

Financing Scheme of Maternity Leave

In financing maternity leave, both Indonesia and Malaysia delegate this obligation to employer liability for providing benefits (Government of Indonesia, 2003; Government of Malaysia, 2021), while Thailand uses a combination scheme between employers and social security (Government of Thailand, 1990; 2019). Funding through the employer's responsibility is an benefits provided by the employer based on the labor law or an agreement employment contract (ILO, 2012). In combination scheme, the distribution of the amount of funds by both parties is regulated in national regulations. The scheme of financing maternity leave through employer liability under the ILO

Convention 2000 (No. 183) is allowed to finance benefits in accordance with it is agreed at the national level. Unlike the ILO Convention No. 3 and 103 which advocate funding of benefits using public funds and social insurance and not relying on employers. However, in practice the contribution of social security funding related to working conditions using employer liability schemes is a common practice in most countries in East Asia Pacific (Holmemo, et.al., 2020). In contrast to members of the Organization for Economic Co-operation and Development (OECD), state expenditures for maternity leave are relatively high (Stewart & Carmen Huerta, 2006) so that leave funding is done through social security schemes. This is inseparable from the tendency of developed

countries as welfare countries to expand their social security system and coverage (Tomita & Kimura, 2021) with large expenditures of Gross Domestic Product (GDP) for social protection (OECD, 2020b).

In Southeast Asia, Indonesia is classified as a low-middle-income country, while Malaysia and Thailand are classified as an upper-middle income country (World Bank, 2022c). Amidst this income, the state is expected to spend adequate budget on social protection, but in reality social protection spending is still a small part of GDP. This is influenced by factors, such as the lack of state commitment in expanding social protection, differences in the development urgency, and related to historical legacies (ADB, 2016). The low capacity of the state for coverage social protection encourages other schemes to fulfill social protection which the state has not been able to afford (Sumarto, 2020), one of which is the employer liability in providing maternity leave benefits.
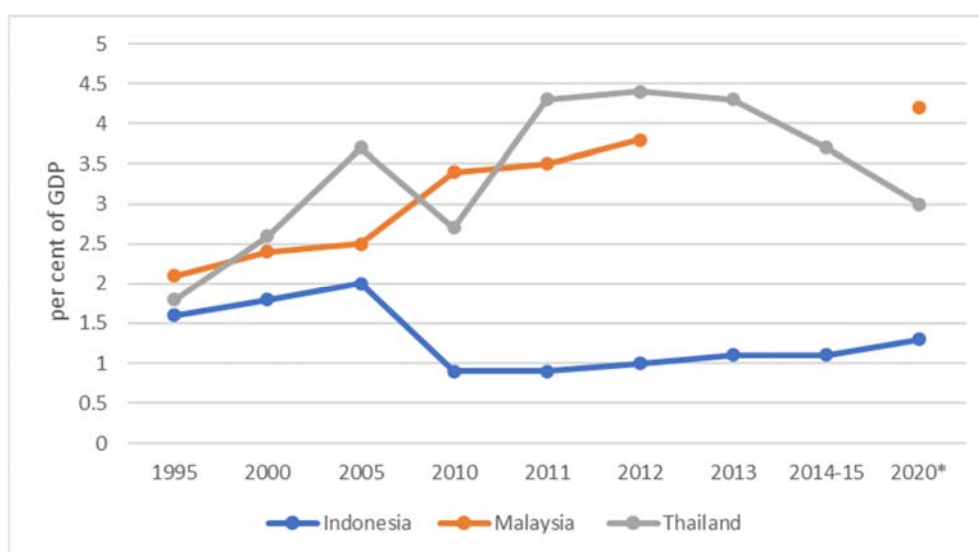
Source: ILO, 2018; 2020*:ILO, 2021

Graph 2. Government Social Protection Expenditure (percent of GDP)

Graph 2 above shows that Indonesia's spending on social protection is relatively low compared to Malaysia and Thailand. Social protection in Indonesia emerged as a consequence of the Asian financial crisis, so this sector is still relatively new. However, the increase in state spending on social protection is increasing every year. The increase in spending occurred as a result of the government increasing the budget of social programs to overcome poverty, such as the Family Hope Program – *Program Keluarga Harapan* (PKH), Prosperous Rice – *Beras Kesejahteraan* (Rastra), and the Smart Indonesia Program – *Program Indonesia Pintar* (PIP) (Sekretariat Kabinet Indonesia, 2016). Based on data from the World Bank on public spending in 2017 (OECD, 2019), the increase in the budget in 2016 was divided into 44% for social assistance and 56% for social insurance. Of the 56%, the expenditure is divided into various protections, one of which is health protection, including maternity leave benefits.

Malaysia's spending on social protection is high compared to Indonesia. Graph 2 shows an growth trend in social protection spending, although the data is incomplete.

This is inseparable from the existence of social protection in Malaysia since the beginning of independence (Bank Negara Malaysia, 2020) due to the constitution which was formed with the help of the British Colony (Sumarto, 2020). Social protection in Malaysia focuses on Social Safety Nets (SSN) to reduce poverty, social insurance for pension schemes and related to employee insurance and labor market policies (Bank Negara Malaysia, 2020). Social protection spending on SSN is largely insufficient to ensure a decent standard of living for vulnerable households. Social insurance also faces challenges in sustainability and lack of coverage for informal sector workers. The increasing number of elderly people is a challenge for the state in financing pension funds. In practice, the social insurance ratio is relatively high reaching 89% of total social protection expenditure (ADB, 2016).

Compared to Indonesia and Malaysia, Thailand spends the highest social protection funds except in 2020. This is because Thailand is facing problems with the growth of the elderly population and the high number of informal workers (World Bank, 2021). Social protection in Thailand focuses on the elderly and pensions by providing Old Age Allowance (OAA), State Welfare Card (SWC) as social assistance and health protection namely Universal Health Coverage (UHC) (ADB, 2016). Government spending on SWC reached 2.29% of GDP which occupies the largest expenditure in social protection and is followed by OAA (World Bank, 2021). In 2016, UHC covered 75% of Thailand's population and 25% was covered by social insurance and civil service schemes (Paek, et.al., 2016).

In financing maternity leave, Indonesia and Malaysia use employer liability schemes in providing maternity leave benefits except for entrepreneurs and civil workers (SSA, 2018). Employers bear 100% of the total costs for maternity leave benefits, while for civil servants, it is funded by the state. Thailand uses a combined scheme between employer and social security to provide maternity leave benefits for female workers. LPA Article 59 (Government of Thailand, 2019) states that employers are obligated to pay employees according to the worker's salary or daily basic wage for 45 days and SSA Article 67 states that employees receive an allowance of 50% of the applicable salary for 2 births (Government of Thailand, 1990; 2019). Sources of funds used to fund benefits in the 1990 SSA came from: 1) contributions from the government, employers and workers; 2) interest ; 3) additional funds by entrepreneurs; 4) donations and subsidies; and 5) fines. To receive maternity leave benefits, employees are required to pay a contribution of not less than 7 months for 15 months before receiving the benefits. Employees pay a contribution of 1.5% or 144 baht of income from 1,650 to 15,000 baht (Paitoonpong, et.al., 2010; SSA, 2018).

From the description above, it can be seen that the priority of state spending in social protection, both Indonesia, Malaysia, and Thailand focuses on overcoming poverty and vulnerability. Indonesia focuses on reducing poverty through social assistance programs, such as PKH and Rastra. Malaysia and Thailand are experiencing the phenomenon of the elderly population which causes one of the social protection priorities related to pension funds to reduce economic vulnerability. The same problem experienced by the three countries is the high number of informal workers and the lack of affordability of social protection for them (World Bank, 2021; Bank Negara Malaysia, 2020; Zin, et.al., 2001). In providing leave benefits through state funds or non-contribution schemes, both Indonesia, Malaysia and Thailand only cover civil servants, while private and informal workers are not affordable. This strengthens the provision for providing maternity leave benefits through the responsibility of employers, especially for informal workers.

Maternity Leave Implications on Gender Equality in the Workplace

Maternity leave policy is one of the ways to achieve gender equality in the workplace. Maternity leave is an attempt to give women the opportunity to carry out work and family affairs in a balanced way. Given the stigma of women being the main person in charge of housework, this causes women to often be faced with choices of work or family (Alon, et.al., 2021). In many studies, Baum & Ruhm and Del Rey, et.al. (2016; 2021) show that maternity leave increases women's participation in the workforce. However, this is not applicable in developing countries the high participation of women in the workforce is due to urgent circumstances to enter the world of work, such as poverty (Fallon, et.al., 2017).
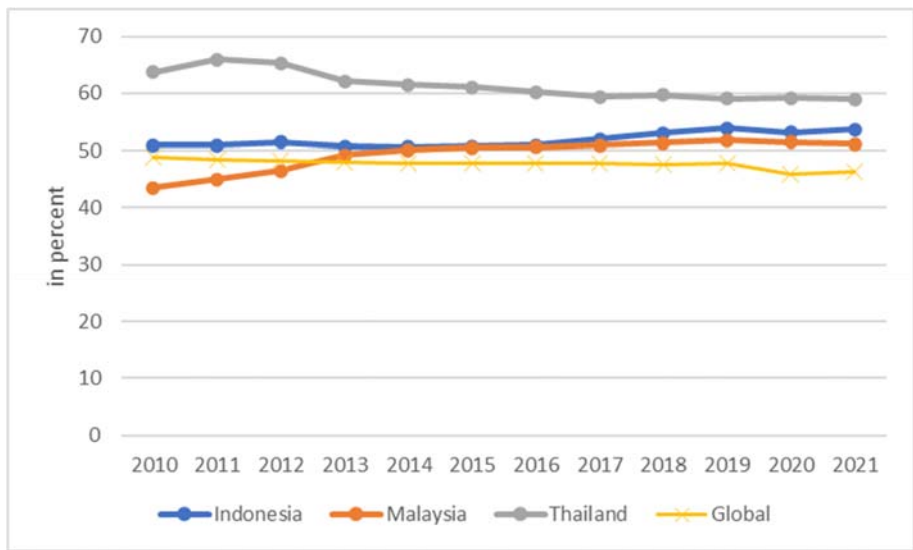
Source: World Bank, 2022

Graph 3. Women Participation in the Workforce (in a percent)

In Indonesia, Malaysia, and Thailand, the participation rate of women in the labor force is higher than the global rate. In Indonesia, the increase in women's participation experienced a significant increase from 2010 to 2013. In Malaysia, women's participation tends to be stable and has a small increase. In Thailand, the highest female participation occurred in 2011-2012 and decreased after that. This increase in numbers occurred partly because there was an increase in the number of women pursuing higher education (WEF, 2021). Based on United Nations Educational, Scientific, and Cultural Organization (UNESCO) (2022), the number of women in higher education in Indonesia, Malaysia, and Thailand is higher than men.

On the other hand, the decline in the female participation rate in Thailand is due to an increase in the elderly population which causes a decrease in the number of active female labor force (WEF, 2021).

Women's participation rates and high education are not necessarily followed by decent job opportunities and income. In the global gender gap data (WEF, 2021) related to economic participation and opportunity, the gap rate still shows. Of the 169 countries in the survey, Thailand is ranked 22, Indonesia is ranked 99, and followed by Malaysia at 104. This ranking is taken from several aspects ,such as labor force participation, wage equality, estimated earned income, managerial entry level, and professional and

technical workers. From the aspects above, only professional and technical workers in Indonesia and Thailand show disparity. The other aspects still show gaps, especially in managerial positions.
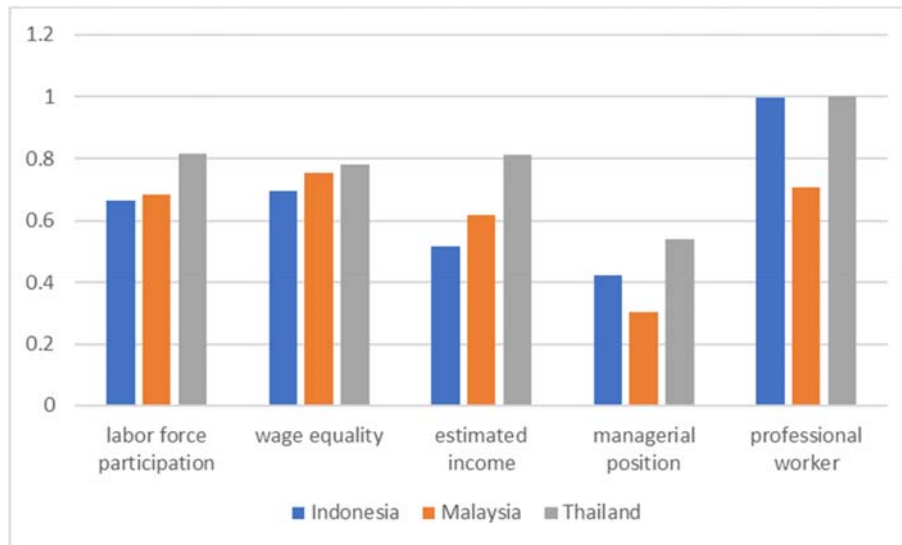
Source: WEF, 2021
Note: Number 1 show disparity and number 0 show parity

Graph 4. Gender Global Gap Subindex Economic Participation and Opportunity

The graph above shows the gap rate in Indonesia, Malaysia, and Thailand still high. From the number above it can be concluded that women participation and opportunity in economics is still far from equality. Maternity leave policy is one of the policy to promote gender equality in the workplace. To see the implications of maternity leave in gender equality uses five principles by Fraser (1994), namely anti-poverty, anti-exploitation, equality, anti-marginalization, and anti-androcentrism below.

a. Anti-poverty

Maternity leave policy is an adequate effort to prevent poverty in pregnant women. Maternity leave provides cash benefits for female workers during the leave period which aims to prevent women from losing sources of income which cause poverty during pregnancy and childbirth (Fallon, et.al., 2017). In the previous discussion, both Indonesia, Malaysia, and Thailand regulated the provision of cash benefits for maternity leave in the law as an obligation. Although this policy is intended for all women, in reality there are still many women who are not covered by this policy, especially women who work in the informal sector (ASEAN, 2014).

b. Anti-exploitation

Maternity leave might be an attempt to prevent the exploitation of pregnant women workers by providing protection, such as health protection and cash benefits. By providing such protection, it can avoid exploitation especially from excessive working hours and from hazardous work which risks workers' pregnancies. In Table 1, Indonesia, Malaysia, and Thailand have set this protection. In addition, by providing cash benefits to workers reduces women's economic dependence on men. However, an obstacle for private and informal employees who use the employer scheme to finance maternity leave benefits.

This scheme can be an excuse for employers not to hire and promote pregnant workers in order to avoid the double burden of spending funds due to maternity leave (Karshenas, et.al., 2014) and vulnerable to exploitation due to the weak bargaining position of women (Shimillen, et.al., 2019).

c. Equality

Income Equality. Maternity leave has no effect on income equality between men and women. In general, income inequality occurs in the world of work where women earn lower incomes than men. Based on WEF (2021), on average women in the world receive 37% less income than men. In Graph 4, the income gap still occurs in Indonesia, Malaysia, and Thailand. In Indonesia, women earn 23% less than men (UN Women, 2020a), in Malaysia, women earn 3.2% less (Shimillen, et.al., 2019), and in Thailand, the income gap is 10.94% (UN Women, 2020b).

Leisure Time Equality. Maternity leave slightly increased leisure time for women. Maternity leave gives women the opportunity to focus on taking care of their children without the burden of public work. Women who work in the public sector often experience a double burden which reduces their leisure time. In the household, usually men only have one efficient job, while women are divided between work, taking care of children and leisure time (Del Rey, et.al., 2021). This is also due to the amount of workload by women is 2 times greater in taking care of the family than men (WEF, 2021; Yerkes, et.al., 2020). Increasing women's leisure time depends on the involvement of men in taking care of domestic work (Fraser, 1994). This can be achieved by providing paternity leave or parental leave so that men also help women in taking care of their children, especially during time of birth. In Indonesia, paternity leave is provided for all workers for 2 days as regulated in Article 93 of the Manpower Law (Government of Indonesia, 2003). In Malaysia, paternity leave is granted for 3 days in the Article 60 FA Amendment 2021 (Government of Malaysia, 2021). In Thailand, paternity leave is still limited to 15 days for civil workers (Kusmit, 2017).

Respect Equality. Maternity leave is a good in providing equal respect for female and male workers. Equality of respect can be achieved by treating female and male workers equally without any discrimination (Carter, 2011). Equality of respect requires recognition of women as individuals and workers (Fraser, 1994). Maternity leave gives women the opportunity as individuals to carry out their nature to get pregnant, give birth, and breastfeed, while as workers, maternity leave gives women the opportunity to be able to work without discrimination due to their nature as women. Through this policy, both Indonesia, Malaysia, and Thailand have made efforts to respect the equality between women and men.

d. Anti-marginalization

Maternity leave is quite an effective in reducing the marginalization of women in the workplace which is often caused by female reproductive factors (Addati, et.al., 2014). Laws in Indonesia, Malaysia, and Thailand protect women from being terminated during maternity leave so that women can maintain their position in the workplace without worrying about losing their job while on leave. In addition, supporting facilities such as a place for breastfeeding and child care day provided by the company also support women with child care obligations which are not marginalized in the workplace. The availability of these facilities has an impact on women's ability to enter and survive in the workplace (WEF, 2021). Among Indonesia, Malaysia, and Thailand, currently only Indonesia has regulated breastfeeding facilities in Article 83 of the Manpower Law (Government of Indonesia, 2003).

e. Anti-androcentrism

Maternity leave is quite influential in combat androcentrism in the workplace. The existence of maternity leave shows that employers have accommodated the role of women as individuals who give birth and take care of families to be in the workplace. The existence of maternity leave changes the traditional view that women only work in the domestic sector. Although maternity leave has accommodated women's reproductive roles in the workplace, this does not affect the level of women in managerial positions as shown in Graph 4. The existence of a glass ceiling makes it difficult for women to advance in career because of gender stereotypes that women are not suitable to be leaders (Schaap & Shockley, 2020). Inflexible working hours are one of the reasons women are reluctant to get promoted because of the responsibility to take care of the family which requires more flexible time (Barsh & Yee, 2012; Thomas, et.al., 2020).

Explanation above can be concluded that maternity leave is good in preventing poverty for women and respecting equality. However, other principles still need improvement to achieve ideal gender equality. The principle of anti-exploitation will be better if the funding of benefits uses a state fund or social security scheme to reduce exploitation by employers. Equality of income can be achieved if domestic work becomes paid work, equality of leisure time can be realized if there is cooperation or equal division of domestic tasks between women and men so that the double burden does not burden women. Anti-marginalization can be increased by providing family-friendly facilities so that women can work and take care of children in the workplace. Maternity leave is quite good against androcentrism by accommodating the reproductive role of women in the workplace, although it is still not optimal, especially in managerial positions.

This study comes with limitations due to lack of previous studies in the research area and lack of available data. The lack of previous studies which is not many studies conducted maternity leave study in developing countries, including Southeast Asia countries. Most of the studies are conducted in developed countries which have different implementations with developing countries. This article also faced the lack of available data when collecting the data. Most data were collected from an international organization with bare explanation about implementations of maternity leave in Indonesia, Malaysia, and Thailand. The local data also limited to collect apart from government laws.

Conclusion

This article concludes that the implementation of maternity leave policies in Indonesia, Malaysia, and Thailand is quite varied and this variation is inseparable from the system and capacity of funding maternity leave in these countries. Maternity leave policy in Indonesia has complied with the standard duration of the ILO Convention 1952 (No. 103), while Malaysia and Thailand have complied with the ILO Convention 2000 (No. 183). Since was introduced of the maternity leave policy in the three countries, Malaysia and Thailand, the duration has changed so that it complies with the ILO Convention 2000 (No. 183) with a minimum duration of 98 days. Some benefits which support maternity leave are also included in the law, such as cash benefits, medical and breastfeeding protection, health protection, and non-discrimination and job protection. Indonesia does not provide health protection related to the fixing of working hours and the prohibition of hazardous work. Malaysia only provides cash benefits and job protection. Thailand provides all of the above guarantees except breastfeeding guarantees. Maternity leave benefits are inseparable from the funding

scheme in fulfilling the benefit. Indonesia and Malaysia use the employer liability scheme and Thailand uses a combination of employer liability and SSA schemes. This is due to the priority spending on social protection of the three countries for poverty and vulnerability, thus requiring other schemes to meet social protection that the state has not yet reached.

The maternity leave benefits provided affects gender equality in the workplace. The availability of benefits of maternity leave is a fairly good way to promote gender equality in the workplace by providing opportunities for women, especially pregnant women, to remain economically involved. Maternity leave is not entirely successful in promoting gender equality in the workplace based on Fraser's principles. However, maternity leave is one of the policies which can improve gender equality. Combating gender inequality requires efforts and cooperation from various sectors and aspects so that gender equality can be fully realized. There needs to be a more comprehensive policy and a strong commitment from the company to create a family-friendly work environment so that women have more opportunities to balance work and take care of the family. Further study needs to develop more research to draw a deep link between maternity leave and gender equality in Indonesia, Malaysia, and Thailand to be more complete. There is a need of more study about maternity leave implementations in general in developing countries which leads to sufficient data.

Acknowledgement

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The Effect of Sanitation on Stunting Prevalence in Indonesia

Nizaruddin and M. Irsyad Ilham

Badan Pusat Statistik, Jakarta, Indonesia

Corresponding Author: M. Irsyad Ilham (irsyad.ilham@bps.go.id)

Abstract

Preparing children from birth can boost productivity and competitiveness later in their lives. However, the occurrence of malnutrition and stunting during childhood period will reduce their productivity and increases the risk of non-communicable diseases later in their lives. This study examines the effect of sanitation, drinking water sources, and drinking water treatment on stunting in Indonesian children (0-59 months). This study analyses cross-sectional data from the 2014 Indonesia Family Life Survey (IFLS) 5 with 3,834 children living with their biological mothers. The Logistic Regression to estimate the coefficients is applied here. The results show that the variables of sanitation, drinking water sources, and drinking water treatment before consuming affected stunting. Children who consume tap water are less likely to be stunted (OR=0.81, 95% CI 0.66-0.99). Birth weight, economic conditions, and mother's level of education also affect risk of stunting. Hence, to overcome the risk of stunting, the government have to accelerate the supply of basic sanitation, to protect the good quality of drinking water sources, and to promote the awareness of boiling water before consumption.

Keywords: stunting; sanitation; drinking water; logistic regression

Introduction

Human resources development consist of three aspects which are quality, quantity, and mobility. Meanwhile the level of population welfare reflects the quality of the community, one of which is the standard of health and nutrition.[1] However, a significant and growing population will become a problem for human resources in the future. According to Population Survey (SP) 2020 released by the Central Bureau of Statistics (BPS), in 2015 the population of Indonesia reached 270 million more, in which the population aged 0 to 4 years (under five) become the primary target of nutrition reached 22.79 million people.

Malnutrition in the early childhood period will imply the development of children and the development of self-potential at a productive age. If all populations get enough nutrition to grow and develop optimally, they will possess a high quality indivudual which is the core element in development.[2] According to Adioetomo (2017), one of the requirements to reap the demographic bonus which occurred since the late 1980s and the window of opportunity opened in 2020-2030

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[1] Law No. 17 of 2007 on National Long-Term Development Plan 2005-2025

[2] http://www.depkes.go.id/article/print/15021300004/status-gizi-pengaruhi-kualitas-bangsa.html

is to prepare the human capital in early life to increase productivity and competitiveness in productive age. They are expected to become the driver of the economy as well as able to bear the increasingly unproductive age population, especially the elderly (65+) who have reached 32.4 million in 2035 or 10.6 percent of the total population of Indonesia.

In general, Indonesia has achieved major progress in the field of human capital development, one of which is successfully reducing the under-five mortality rate. Within 31 years (1971-2012), the under-five mortality rate in Indonesia has dropped from 218 to 26 deaths per 1,000 live births. However, like other countries in the world, Indonesia is also experiencing growth and developmental problems in children under the age of five according to the Ministry of Health's Basic Health Research (RISKESDAS). The prevalence of stunting in Indonesia from 2007 to 2013 tends to increase. In 2007, the prevalence of stunting in Indonesia was 36.8 percent; by 2010, the rate had dropped to 35.6 percent, while in 2013, the prevalence of stunting increased to 37.2%. Therefore this will be indicating that approximately 8 million Indonesian children under the age of five were stunted. The percentage decreased to 30.8% in 2018. Nevertheless, even though it has decreased, according to WHO (1995), the prevalence of stunting in Indonesia is still alarmingly high at over 30 percent.

The previous studies mentioned that stunting is an indicator of malnutrition which brings the short-term and long-term effects on individuals and nations. Stunting contributes to poor quality of life, morbidity (Kossmann, et.al., 2000; Olofin, et.al., 2013) and mortality (Olofin, et.al., 2013; Bhutta, et.al., 1997). Even though it was estimated that the occurrence of stunting contributed to 2.2 million deaths and 21 percent of under-five disabilities (Black, et.al., 2008). Besides, stunting also caused a decrease in cognitive abilities (Berkman, et.al., 2002; Mendez and Adair, 1999), physical capacity,

neurodevelopment, and an increase in the risk of metabolic diseases in elderhood (Prendergast and Humphrey, 2014).

The previous studies found that environmental factors significantly influence the occurrence of stunting in children in some countries, which is related to sanitation and the use of clean water. Smith and Haddad (2015) mentioned that during the period 1970-2012, at a global level, access to proper sanitation and clean water and enhancement of food supplies are the reliable drivers for reducing stunting. According to the World Bank, prefenting children to experience the stunting is a multisectoral challenge. Investment in water and sanitation has the tremendous potential to improve nutritional outcomes.[3]

In developing countries, children have better health and nutrition when their mothers have higher education level. Study by Semali (2015) to 678 households with children ages 0 to 59 months found that children whose mothers had a high level of education were less likely to be stunted than those whose mothers had a low level of education. Also, Wamani, et.al. (2004) in Uganda found that stunting was 2.5 times more common among mothers who did not attend school.

Agedew and Chane (2015) assume that a mother who works daily is more likely to have a child who is short in height for their age than a mother who did not work. Meanwhile, Urke, et.al. (2011), which observed Peru during 2004–2006, presented the high risk of stunting faced by children of working mothers. Willey, et.al. (2009) concluded that the working mothers had a small chance of having stunting children by the age of 30 months because of the positive impact of working on their income.

Stunting is identified by assessing a child's length or height (recumbent length for children less than 2 years old and standing height for children aged 2 years or older) and

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3 http://blogs.worldbank.org/voices/stunting-face-poverty

interpreting the measurements by comparing them with an acceptable set of standard values. There is the international agreement which stated that children are stunted if their length/height is below 2 Standard Deviation (SD) from the WHO Child Growth Standards median for the same age and sex. Similarly, children are considered severely stunted if their length/height is below 3 SDs from the WHO Child Growth Standards median for the same age and sex (WHO, 1978). To determine the extent of low prevalence in a country or region, WHO (1995) has set a threshold related to several indicators such as underweight, stunting, and waste, as presented in Table 1.

Table 1. Prevalence Threshold of Nutritional Status

Indicator	Threshold and its category
(1)	(2)
Stunting	< 20 percent: Low prevalence
	20-29 percent: Medium prevalence
	30-39 percent: High prevalence
	>= 40 percent: Very high prevalence

Source: WHO (1995)

The first thousand days of life represent a period that a human has passed from the formation of the fetus until the age of two years, to be precised. The first thousand days of life include 270 days in the womb and 730 days after birth. The first thousand days of life is the critical period in the life cycle because during this time, i the organs, the nervous system and the peak of development of the human senses are formed. If malnutrition occurs during this period, the impact will be permanent and severe (Achadi, 2014).

The importance of the first thousand days of life has also been the focus of government efforts to improve human resources. The effort is regulated in Presidential Regulation (*Perpres*) No. 42/2013. The regulation established has the primary objective to accelerate the improvement of nutrition of the priority community in the first thousand days of life. It is a form of government responsibility in raising public awareness about the importance of improving the nutrition status of children under-five, especially in their early of life. In the first thousand days of life, the nutritional need is substantial enough to support rapid growth and development, more susceptible to infection, and dependent on others for nutritional needs, care, and social interaction (Unicef, 2013).

The failure of growth in the first thousand days of life causes a decrease in height when they reach adulthood unless there is intervention in later periods. Prentice, et.al. (2013) commented that by not excluding the importance of the first 1,000 days of birth, child growth is still fluctuating after two years of their longitudinal study in Brazil, Guatemala, India, the Philippines, and South Africa. Their research indicates that there has been a significant decrease in height from 0 to 24 months, then also an increase in the age of 24 to 48 months in all countries, except India.

Dorman and Georgiadis (2015) mentioned that stunting recovery efforts beyond childhood can still be achieved, i.e. improving the living standards, food intake, and water and sanitation infrastructure programs. Correspondingly, a longitudinal study conducted by Aryastami (2015) found that stunted children may grow normally if optimal child growth can be pursued at the age of 4-5 years, through

improved nutrition supported by a general economic improvement. However, according to Martorell, et.al., (1994); Dornan and Georgiadis, (2015) although nutritional improvements in childhood (1-12 years) may affect height in adulthood, it is preferable to do the nutritional improvements early in life until the age of 5 years.

Souganidis (2012) found that stunting continues to cause significant morbidity and mortality worldwide. Prendergast and Humphrey (2014) said that stunting in early life is associated with increased morbidity and mortality, reduced physical capacity, neurodevelopment and increased risk of degenerative diseases in elderhood. Correspondingly, Victora, et.al. (2008) also mentioned that height at the age of 24 months can be used to predict height in adulthood and is associated with a lack of cognitive ability, lack of education, and potential income which all contribute to reducing human capital in developing countries.

Stunting often results in delays in mental development, poor school performance and reduced intellectual capacity which in turn will affect economic productivity at the national level in the future (WHO, 1995). Also, stunting may cause severe anaemia, dysentery, and delayed puberty (Unicef, 1998). Meanwhile, Achadi (2014) said that for someone who is exposed to stunting, other processes in the body are also inhibited, such as brain growth which affects intelligence. Children who experience stunting and rapid gain of weight after the age of 2 years will have higher risk of being overweight or obese in the future. Meanwhile, weight was also associated with a higher risk of coronary heart disease, stroke, hypertension and type 2 diabetes (Black, et.al., 2013 in WHO, 2014). Mukkudem and Kruger (2004) found that stunting resulted in fat deposits in women in South Africa.

Meanwhile, Georgiadis (2014) argued that stunting has severe consequences for child survival, health, and skill development throughout life, dramatically undermines individual economic productivity and economic prosperity nationally and makes it difficult for people in low-income countries to escape poverty. The consequences of stunting children in the future are less optimal work capacity which in turn impacts economic productivity (De Onis and Blossner, 1997; Ezzati, et. al., 2004).

The importance of safe drinking water, sanitation, and hygienic behaviour has long been recognized in public health, the health of infants and children in particular (Jones, 1923 in Cumming and Cairncross, 2016). Safe drinking water and sanitation are vital determinants of human health and well-being. Less safe drinking water is one of the leading causes of illness and death, as a result of viral infections, chemical pollution, and poor hygiene (BPS, 2015). Lack of access to clean drinking water and sanitation, coupled with the absence of good hygiene practices is one of the causes of malnutrition (Adair & Guilkey, 1997).

According to Pruss-Ustun, et.al. (2008), about 50 percent of all malnutrition cases are associated with recurrent diarrhoea or intestinal helminth infections as a direct result of unsafe water, inadequate sanitation, and poor hygiene behaviour. Meanwhile, Pruss Ustun, et.al. (2014) asserted that the provision of clean water, safe sanitation, and clean life practices are essential to protect health. His findings showed the importance of Water, Sanitation, and Hygiene (WASH) is due to the addition to preventing diarrhoea as well as other diseases and according to WHO (2011), babies and children are individuals at high risk of unhealthy waterborne diseases.

Bartram & Cairncross (2010) mentioned that proper sanitation could prevent endemic diarrhoea, giardiasis, schistosomiasis, trachoma, and many other infectious diseases. Meanwhile reliable safe water at home prevents not only diarrhoea, but also guinea worm which is transmitted through water and can prevent transmission of epidemic diseases, such as typhus, and

cholera. Correspondingly, Hotez, et.al. (2006) said that the transmission of worms could be through human waste containing worm eggs. In addition, King (2010) conducted research to analyze the direction of the causal effect between poverty and schistosomiasis, a disease caused by a worm-parasite. His research showed the connection between schistosomiasis and poverty now appears evident, though causation is likely to be bidirectional. Therefore, worms are closely related to poverty, poor sanitation, and lack of clean water. So the provision of safe drinking water and not disposing of waste in the open are essential to overcome worm infection. However, according to Mara, et.al. (2010), most countries focus more on medicines than on sanitation improvements.

Boiling water is also one way to improve water quality. Drinking water treatment at the household level becomes one of the means to get safe drinking water to overcome the difficulties to meet clean water sources. Blake, et.al. (1993) stated that boiling water is a protective effort against diarrhoea attacks.

Sodha, et.al. (2011) also found that water that is not boiled has a greater likelihood of containing E. Choli bacteria than boiled water.

Method

This is quantitative research with cross-sectional data collection type. The data used are secondary data sourced from Indonesia Family Life Survey (IFLS) 5. The dependent variable in this research is stunting status in children aged 0-59 months. The primary independent variables are sanitation status, drinking water sources, and drinking water treatment status, while the control variables are sex, birth weight, maternal employment status, maternal education level, and household economic status. The unit of analysis used in the study was 3,834 individuals aged 0-59 months who lived with their biological mother. The operational definition of the variables utilized in this study is presented in Table 2 below.

Table 2. Definition of Variables in Model

No	Variable	Name	Definition	Source	Measurement
(1)	(2)	(3)	(4)	(5)	(6)
1.	The prevalence of stunting	stunting	Length/Height-for-age. Stunting if less than -2 SD-Z (stunting consists of stunting dan severe stunting).	book us; bus_us; us04	0= Normal* 1= Stunting
2.	Sanitation Status	ssts	The presence of a toilet facility	b2_kr; kr20	1= Proper 0= Poor*
3.	Drinking water sources	sami	Primary sources of drinking water for the households	b2_kr; kr13	1=Piped water 0=Others*
4.	Drinking water treatment status	stssami	Drinking water treatment status before being consumed	b2_kr; kr13,kr13a	1=Mineral water 2=Boiled non-mineral water 3=Non-boiled non-mineral water*

5.	The sex of children	jks	The sex of children under five	bkar1; ar07	1=Male* 0=Female
6.	Birth weight	bb	Birth weight of children under five	b4ch1; ch24	1= LBW 0= Normal*
7.	Maternal employment status	kerja	Status of mother's work a week ago	bk_ar1; tk24b	1= Not working* 2= Informal worker 3=Formal worker
8.	Highest maternal education level	didik	The mothers' highest education level	bk_ar1; ar16,ar17	1=Low 2=Middle 3=High*
9.	The economic status of households	stsekon	Quintile of households' expenditure	bk 1, konsumsi	1=Quintile 1* 2=Quintile 2 3=Quintile 3 4=Quintile 4 5=Quintile 5

Note: *) Reference category

The method of analysis used in this study is descriptive analysis (univariate and bivariate) and inferential analysis (multivariate). Both methods are used to achieve the objectives to be attained from this research. This research uses SPSS 23 and Stata 13 software. This study uses binary logistic regression analysis because the dependent variable is categorical data with two categories.

The research hypothesis is that sanitation, water sources, and water treatment affect the incidence of stunting in children under five. At this stage, the primary independent variable and the birth weight variable will be put into the model concurrently (**Model 1**). The objective is to determine the effect of birth weight to the prevalence of stunting. The next step is to exclude the weight variable to determine the effect of primary independent variable to stunting status (**Model 2**). In addition, the final stage will be adjusted for other independent variables, such as gender of toddler, birth weight, mother's employment status, mother's highest level of education, and household income (**Model 3**).

The model design is as follows.

Model 1

$$\log\left(\frac{p_1}{p_0}\right) = \beta_0 + \beta_1 \text{ssts} + \beta_2 \text{sami} + \beta_3 \text{stssami}_1 + \beta_6 \text{bbl} + e$$

Model 2

$$\log\left(\frac{p_1}{p_0}\right) = \beta_0 + \beta_1 \text{ssts} + \beta_2 \text{sami} + \beta_3 \text{stssami}_1 + e$$

Model 3

$$\log\left(\frac{p_1}{p_0}\right) = \beta_0 + \beta_1 \text{ssts} + \beta_2 \text{sami} + \beta_3 \text{stssami}_1 + \beta_4 \text{stssami}_2 + \beta_5 \text{jk} + \beta_6 \text{bbl} +$$
$$\beta_7 \text{didik}_1 + \beta_8 \text{didik}_2 + \beta_9 \text{kerja}_1 + \beta_9 \text{kerja}_2 + \beta_{10} \text{kepro}_1 + \beta_{10} \text{kepro}_2 + e$$

Discussion

The results showed that the prevalence of stunting in Indonesia in 2014 reached 29.5 percent. Referring to the WHO's Provision (1995), stunting case in Indonesia is still at a near-high prevalence. Compared to stunting events in 2013 which reached 37.2 percent, this figure is quite optimistic, although steps must be taken to keep it down to a lower level. In detail, the distribution of the percentage of under-fives according to the independent variables used is presented in Table 3.

Table 3. Distribution of Number and Percentage of Children Under-Fives Based on Individual Characteristics, Underlying Determinant, and Basic Determinant, Indonesia, 2014

Variable	n	Percentage
(1)	(2)	(3)
1. Sex		
Male	1,994	52.00
Female	1,840	48.00
Total	3,834	100.00
2. Birth Weight		
LBW	229	7.80
Normal	3,535	92.20
Total	3,834	100.00
3. Sanitation Status		
Proper	2,875	75.00
Poor	959	25.00
Total	3,834	100.00
4. Drinking Water Sources		
Piped water	645	16.80
Others	3,189	83.20
Total	3,834	100.00
5. Drinking Water Treatment Status		
Bottled water	1.463	38,2
Boiled non-bottled water	2.115	55,1
Non-boiled non-bottled water	256	6,7
Total	3.834	100,00
6. Highest Maternal Education Level		
Low	927	24,2
Middle	2.353	61,4
High	554	14,4
Total	3.834	100,00

7. Maternal Employment Status		
Not working	1.843	48,1
Informal worker	1.161	30,3
Formal worker	830	21,6
Total	3.834	100,00
8. Economic Status of Households		
Quintile 1	781	20,4
Quintile 2	817	21,3
Quintile 3	816	21,3
Quintile 4	776	20,2
Quintile 5	644	16,8
Total	3.834	100,00

Source: IFLS5

Table 3 above shows that based on IFLS5 results, the largest proportion of children under five is male (52.0%). The percentage of LBW under-fives was 7.8 percent (low prevalence). Meanwhile, Riskesdas 2013 showed children under age five who experienced LBW were recorded at 11.1 percent (moderate prevalence). The majority of children under five years old live in households with proper sanitation facilities (75%). Meanwhile, only about 16.8 percent of children under the age of five live in households which use piped water for their drinking water needs. Meanwhile, the results also show that 6.7 percent of households still consume non-boiled water.

Regarding education, by 2014 the majority of those under-five have mothers with secondary schools (junior and senior high and equivalent) with a percentage of more than 50 percent, while those with a high education rate of about 14 percent. Based on the economic status of households, it appears that under-fives are mostly living in households with expenditure categories in quintiles 2 and 3. Under-fives living in households with the highest expenditure group is only 16.8 percent. It indicates that the majority of under-fives in Indonesia live in households with middle to lower economic levels.

Based on Table 4 it can be seen that the occurrence of stunting in under-fives is significant for the category of households that do not have proper sanitation where the percentage reaches 36.9 percent.

Table 4. Distribution of Number and Percentage of Stunting Status in Children Aged 0-59 Months Based on Each Independent Variables, Indonesia, 2014

Variable/Category	Stunting Status		
	Stunting n (%)	Normal n (%)	Total n (%)
(1)	(2)	(3)	(4)
1. Sex			
Female	517 (28.1)	1,323 (71.9)	1,840 (100)
Male	613 (30.7)	1,381 (69.3)	1,994 (100)
2. Birth Weight			
LBW	140 (46.8)	159 (53.2)	199 (100)
Normal	990 (28.0)	2,545 (72.0)	3,535 (100)
3. Sanitasi Status			
Poor	354 (36.9)	605 (63.1)	959 (100)
Proper	776 (27.0)	2,099 (73.0)	2,875 (100)
4. Drinking Water Sources			
Piped water	170 (26.4)	475 (73.6)	645 (100)
Others	960 (30.1)	2,229 (69.9)	3,189 (100)
5. Drinking Water Treatment Status			
Non-boiled non-bottled water	111 (43.4)	145 (56.6)	256 (100)
Boiled non-bottled water	620 (29.3)	1,495 (70.7)	2,115 (100)
Bottled water	399 (27.3)	1,064 (72.7)	1,463 (100)
6. Highest Maternal Education Level			
Low	346 (37.3)	581 (62.7)	927 (100)
Middle	661 (28.1)	1,692 (71.9)	2,353 (100)
High	123 (22.2)	431 (77.8)	554 (100)
7. Maternal Employment Status			
Not working	556 (30.2)	1,287 (69.8)	1,843 (100)
Informal worker	369 (31.0)	792 (68.2)	1,161 (100)
Formal worker	205 (24.7)	625 (75.3)	830 (100)
8. Economic Status of Households			
Quintile 1	260 (33.3)	521 (66.7)	781 (100)
Quintile 2	264 (32.3)	553 (67.7)	817 (100)
Quintile 3	249 (30.5)	567 (69.5)	816 (100)
Quintile 4	211 (27.2)	565 (72.8)	776 (100)
Quintile 5	146 (22.7)	498 (77.3)	644 (100)

Source: IFLS5

Meanwhile, under-fives who come from households with piped water drinking water sources have a smaller proportion of stunting which is 26.3 percent compared to the other drinking water sources which reached 30.1 percent. In addition to drinking water, other things related to water is water treatment before consumption. Based on Table 4, it shows that households consuming non-boiled water have the greatest proportion of stunting which is 43.4 percent. It is an early proof that boiling water is essential to avoid stunted growth in children.

Based on the sex of children under age five, it shows that males have the largest proportion of stunting which is 30.8 percent. The high occurrence of stunting among male children can not be separated from their vulnerability to infection and disease because the immune system is weaker, plus mobility is greater than in female children (Anker and WHO, 2007). Table 4 also shows that under-fives who experience low birth weight have a huge proportion experiencing stunting, reaching 46.8 percent, while those of normal birth is 28 percent. Based on maternal education level, the highest prevalence of stunting is in the group of mothers with low educational attainment which is 37.3 percent. Table 6 shows that the higher a mother's education level, the less prevalence of stunting in children.

Based on maternal employment status, the mothers who are informal workers are the highest to have stunted children. The difference with the group of mothers who are not working is minimal. But when compared with the category of mothers who work in the formal sector, it is clearly apparent that the difference in the proportion of stunted children in the other two groups is enormous. This result was inconsistent with the research from the research Agede and Chane (2015) and Urke, et.al. (2011). Both researches concluded that working mothers had stunted children more than non-working mothers. Furthermore, regarding the economic status of households, Table 4 indicates that the higher level of household per capita expenditure, then the less the proportion of occurrence of stunting. This result is in line with research by Sari (2012) in Sumatera which found that the proportion of stunted children under the age of five is found in households with low economic status compared with high.

The logistic regression results as presented in Table 5 show that sanitation is a strong predictor of the occurrence of stunting in under five. It is indicated by the significant variable that affects the occurrence of stunting both before and after being controlled with other variables. Model 1 is the regression result that includes all the primary independent variables plus the birth weight variable. Then in model 2, the birth weight variable is removed from the model. Model 3 is a complete model involving all independent variables. The results show that sanitation status, drinking water sources, and drinking water treatment status are reliable predictors of the occurrence of stunting in children under age five.

Table 5. Logistic Regression of Stunting Status

Variables	Model 1		Model 2		Model 3	
	OR	SE	OR	SE	OR	SE
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Birth weight						
Normal (ref)						
LBW	2.216** (0.000)	0.123			2.189** (0.000)	0.124
2. Sanitation Status						
Poor (ref)						
Proper	0.666** (0.000)	0.081	0.669** (0.000)	0.081	0.755** (0.001)	0.085
3. Drinking Water Sources						
Others (ref)						
Piped water	0.785** (0.021)	0.105	0.771** (0.012)	0.104	0.810** (0.046)	0.105
4. Drinking Water Treatment Status						
Non-boiled non-bottled water (ref)						
Boiled non-bottled water	0.584** (0.000)	0.137	0.576** (0.000)	0.136	0.596** (0.000)	0.139
Bottled water	0.527** (0.000)	0.145	0.509** (0.000)	0.144	0.598** (0.001)	0.149
5. Sex						
Male (ref)						
Female					0.875 (0.066)	0.073
6. Highest Maternal Education Level						
Low (ref)						
Middle					0.762** (0.002)	0.086
High					0.664** (0.004)	0.141
7. Maternal Employment Status						
Not working (ref)						
Informal worker					1.074 (0.387)	0.083
Formal worker					0.902 (0.318)	0.104

8. Economic Status of Households		
Quintile 1 (ref)		
Quintile 2	0.979 (0.848)	0.109
Quintile 3	0.932 (0.528)	0.111
Quintile 4	0.854 (0.179)	0.117
Quintile 5	0.740** (0.024)	0.133
Constant		**0.157**

Note: ** = p<0,05, number of p-value are in parentheses
Source: Refined from IFLS5

Model 1 shows that the primary independent variables still have a significant effect on the tendency to become stunted at α = 0.05 with the OR value smaller than 1. Model 2 shows the model after the removal of the birth weight variable. The result is also consistent with the result in model 1 in which the three primary independent variables remain significant. At a given value of other independent variables, the estimated odds that a household with piped water source had stunting children is 0.785 times the estimated odds for a household with non piped water source. Similarly, the estimated odds that a household with boiled non-bottled water treatment had stunting children is 0.584 times the estimated odds for a household with non-boiled non-bottled water treatment. Meanwhile, the estimated odds that a household with bottled water treatment is 0.527 times the estimated odds of non-bottled non-boiled water treatment. It can be implied as an indication that poor drinking water sources and the consumption of non-boiled water can worsen the occurrence of stunting in children born with LBW. The next model is the complete model (Model 3), in which all independent variables are incorporated into the model. In this model, in general, the primary independent variables remain significant at α = 0.05.

Table 5 shows that under-five children living in households with proper sanitation facilities have less risk of stunting than those living with poor sanitation. In addition to sanitation, drinking water sources are also a major factor affecting the occurrence of stunting in Indonesia. From Model 1, at a given value of other independent variables, the estimated odds that a household with piped water source had stunting children is 0.785 times the estimated odds for a household with non piped water source. The regression results show that this variable has a statistically significant effect on stunting status with an OR value smaller than 1, which means that under-five children living in a household with piped water drinking water sources have a lower risk of stunting than under-five children with other sources of drinking water. This is consistent with a study conducted in India in by Parekh and Pillai (2016), which discovered that households without access to piped water had a higher rate of stunting. According to their findings, children with access to piped water are 20% less likely to be stunted than children without such access.

Under -five children living in households which consume non-boiled non-bottled water have a greater risk of stunting compared to households consuming bottled or boiled non-bottled water. The estimated odds that a household with boiled non bottled water treatment had stunting children is 0.584 times the estimated odds for a household with non-boiled non bottled water treatment. Meanwhile, the estimated odds that a household with bottled water treatment is 0.527 times the estimated odds of non-bottled non-boiled water treatment. These results prove that boiling water is a major factor in reducing the risk of stunting in under-five. This is in line with the research conducted by Harriet Torlesse (2016) which states that drinking water treatment is a strong factor in causing stunting in children aged 0-23 months in Indonesia. Furthermore, there is a strong link between the decrease in stunting in Indonesia and how families treat clean water before drinking it, especially by cooking, filtering, or boiling it to kill the pathogens in water, such as viruses, bacteria, spores, fungi, and protozoa.

The results of the treatment for the three primary independent variables above confirm some of the previous research results which have been conducted in some developing countries and found that poor sanitation, unsafe drinking water sources, and poor drinking water treatment are the contributing factors to growth retardation in children under age five. Some of these are the research of Daniel, et.al. (1991) in Lesotho, Esrey (1996) in Sub Sahara Africa, Saaka and Galaa (2016) in Ghana, Shapiro, et.al. (2005) in Bolivia, and Merchant, et.al. (2003) in Sudan. Also, the results of this study strengthen the results of previous studies in Indonesia, such as Torlesse, et.al. (2016) in three districts/cities (Sikka, Jayawijaya, and Klaten). They said that water and sanitation are the targets of the program if it is to reduce the occurrence of stunting in Indonesia. It is also in line with study by Aryastami (2015) which finds that

poor environmental sanitation is one of the reasons a person becomes short at an early age.

The sex variable has no statistically significant effect on the stunting status. It means that there is no difference in the occurrence of stunting between males and females. Although, based on its tendency, males under five are more at risk of stunting than females. However, this result is an initial assumption that nutritional status under-five no longer sees sex differences. These findings contradict the study by Agedew and Chane (2015) which stated that gender is an important factor influencing the incidence of stunting. They discovered that boys aged 6 to 24 months in Ethiopia had a stunting risk 2.5 times that of females. Similarly, according to research by Fitri (2012) in Sumatera, gender has a substantial effect on the incidence of stunting in toddlers. According to Thompson (2021), sex differences in growth line and immune function beginning in utero may place boys at greater risk of infection and undernutrition.

Low Birth Weight (LBW) is one of the nutritional indicators which affect a child's growth and development in the future. Babies born with LBW are at risk of health problems and growth retardation (Kemenkes, 2016). Along with stunting, LBW is also the focus of nutrition improvement initiated by many countries in the world as outlined in SDGs. The results showed that LBW was one of the strongest predictors of the occurrence of stunting in under five. Based on Table 5, it is knownunder-five children born with LBW have a greater risk of stunting than normal-born children. When comparing the primary independent variables, the influence of LBW is higher against the occurrence of stunting in under five. At the given value of other independent variables, the estimated odds that a household with Low Birth Weight had stunting children is 2.216 times the estimated odds for a household with normal weight. This result is also in line with the findings of

Fitri (2012) on the island of Sumatera, which stated that a baby born with LBW has a risk of 1.7 times become stunting compared to normal-born children. Even the Sakaa and Galaa (2016) from their study in Ghana showed that the risk of underweight children under the age of five to be stunted is much greater than those born with normal weight, with a risk of 2.5 times.

The highest maternal education level has a significant influence on the occurrence of stunting in under five. The secondary education category is significant at α = 0.05, which means there is a difference in the occurrence of stunting in under five whose mothers have low to middle education levels, as well as those under-five whose mothers have middle to high educational attainment. Table 5 shows that the higher the maternal education level, the smaller the risk of stunting. Under-fives whose mothers have middle to high education levels are less likely to be stunted than those with low education levels. At given value of other independent variables, the estimated odds that a household which had higher maternal education had a stunting child is 0.664 times the estimated odds for a household with low maternal education level. This finding is consistent with research conducted by Chen and Li (2009), which discovered that, even after adjusting for income, the number of siblings, environmental health, and other socioeconomic factors, a mother's education was a significant factor in determining a child's height in China. According to Miller and Rodgers' (2009) research in Cambodia, mothers with the least or no education had the highest likelihood of their children being stunted before the age of five.

Based on the results, the maternal employment status does not significantly affect stunting at α = 0,05, in other words, there is no difference in the occurrence of stunting in children under age five based on their mother's job status. A working mother can have a positive impact on child nutrition when the mother is working to get enough resources which are used to meet her child's nutritional needs. In contrast, working mothers often have to be away from their children so the safe keeping (breastfeeding) is also constrained. At the given value of other independent variables, the estimated odds that a working mother in the formal sector had a stunting child is 0.902 times the estimated odds for a non-working mother. Meanwhile, the odds for the maternal workers who work in the informal sector will tend to have stunting 1.704 times more than non-working maternal workers. Furthermore study by Agedew and Chane (2015) showed no connection between the likelihood of stunting occurring in toddlers whose mothers worked for the government and those whose mothers did not, but they did find that moms who worked regularly had a higher likelihood of stunting than housewives (not working).

The economic status of households is approximated by a quintile of total expenditure per capita which is statistically significant at α = 0.05 for households in quintile 4 (top 20 percent). It means that there is a significant difference in the occurrence of stunting between under-fives living in households with low economic status and high economic status. At the given value of other independent variables, the estimated odds that a household in quintile 4 had stunting children is 0.854 times the estimated odds for a quintile 1 household. It is because the low economic status will cause limitations to obtain the high-quality food sources needed for the growth of the children. This result is in line with the research of Torlesse, et.al. (2016) that found that under five from low-income families tended to be more stunted by their growth than those from richer households.

Conclusion

The result of the tabulation shows stunting percentage in 2014 is in medium prevalence with a value of 29.50 percent. The three

determinants of stunting prevalence are poor sanitation facilities, non-piped drinking water sources, and consuming non-boiled non-bottled water. Based on other characteristics, males under-five children, experiencing LBW, have low maternal education levels, informal workers, and live in a household with the lowest economic status.

From the logistic regression result, it is known that sanitation status, drinking water sources drinking water treatment, and maternal education level status have a statistically significant influence on stunting status in children. Under-fives living in households with poor sanitation facilities are at higher risk of stunting than those who live in households with proper sanitation. Compared to under-fives living in households with piped water drinking water sources, under-fives who have no access to piped water are at greater risk of being stunted. Besides, the study also shows that consuming boiling water is one way to reduce the possibility of stunting in under five.

The results emphasizes the evidence of previous research which found that poor sanitation and drinking water facilities are contributing factors to stunted growth in children under age five in developing countries. The study also shows that children born with LBW and living in households with poor sanitation have the highest risk of stunting. It is an indication that poor sanitation has exacerbated the impact of LBW on the occurrence of stunting in children under age five.

The acceleration of the provision of proper sanitation and the high quality of the source of protected drinking water needs to be improved. Based on this study, those factors have a significant influence on the low nutritional status of children under age five. It needs to hold public education for the community to get used to cooking or boiling water before consumption, especially if the source of drinking water comes from an unprotected water source. It also needs to raise the awareness of the public to not defecate in the open area because it can be a medium for the spread of diseases.

There is a need to invite the community to be directly involved in creating a clean environment starting from the households in order for the government programs to accelerate and improve the nutritional status of the community more precisely and quickly, especially children as the next generation of the nation. The steps to reduce the prevalence of stunting in children under age five should not only focus on nutrition improvement but also sanitation improvement programs and access to a proper source of drinking water for the communities should remain a focus on health.

For improving this research, it is recommended to use longitudinal data so that the changes in sanitation, water sources, and water treatment status can be detected. So, it shows the effects in detail for each stage of development of children under age five. For IFLS organizers, it is recommended to include the distance between the septic tank and drinking water sources, which is one of the requirements in determining access to appropriate drinking water sources.

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Implementation of Guidance and Parenting in the Mental Preparation of Military Academy Cadet Leadership Level IV in Entering the Indonesian Army Organic Unit

Joko Prio Suseno[1], Umi Listyaningsih[2], and Ahmad Maryudi[3]

[1]Graduate School of Leadership and Policy Innovation, Universitas Gadjah Mada, Yogyakarta, [2]Faculty of Geography, Universitas Gadjah Mada, Yogyakarta, [3]Faculty of Forestry, Univeristas Gadjah Mada, Yogyakarta, Indonesia

Corresponding Author: Umi Listyaningsih (email: umilis@ugm.ac.id)

Abstract

The educational process at the Military Academy refers to the regulations of the Ministry of Education and Culture as well as the Ministry of Defense. Military Academy cadets are not only required to have academic abilities, but also have to have physical endurance, good attitudes and behavior, and have characters which reflect the leadership values. The Military Academy which has the task of creating the future of Indonesian Army Military Leaders is managed by combining conventional learning methods and providing guidance and parenting (*Bimbingan dan Pengasuhan/Bimsuh*). *Bimsuh* is intended to lead cadets to understand, explore, and implement the values of leadership, character of a warrior, and spirit of Sapta Marga by observing, examining, and imitating the Caregivers before entering the Indonesian Army Organic Unit. This study analyzes the influence of *Bimsuh* on the leadership mentality of Level IV cadets in entering the Indonesian Army Organic Unit. This study uses a qualitative approach with caregivers, managers, and cadets as the informants and a quick survey via google form to cadets. In addition to the primary data, the analysis is also came from secondary data, such as the Military Academy roadmap, curriculum, strategic plans for the Cadets Regiment and Military Teacher Teaching Materials. The results of the study showed that the duration of the implementation of *Bimsuh* was more than the Lesson Hours. This is different from the existing curriculum with 7 percent teaching hours for *Bimsuh*. Level IV Military Academy cadets expect to have longer hours of *Bimsuh* to explore the experiences of Caregivers while serving in the Army Organic Unit. Youth leadership mentality is influenced by *Bimsuh* which is oriented towards achievement by developing creative and innovative thinking. Guidance and parenting with pressure, sanctions, and authoritarian approaches are not effective if they are not carried out in accordance to the achievement oriented approach. Level IV cadets feel that they have the instilled leadership values so far. However, the cadets still lack self-confidence, lack the courage to make decisions quickly, and in taking risks. This condition is also experienced by the Caregivers because they do not have experience. Knowledge, skills, and experience while in the Military Academy as capital to adapt quickly in the Indonesian Army Organic Unit.

Keywords: cadets; Military Academy; *Bimsuh*; leaders

Background

Defense and security are a major concern for every country in the world. The Sustainable Development Goals/SDGs (Sustainable Development Goals) formulated by the United Nations on September 25, 2015 assigned defense and security as one of the important issues in global development agreements. The 16th of the SDGs' goals are to support peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels. Indeed, to be able to achieve this goal, a strong and resilient of the Indonesia Army is needed.

The defense and security of the Republic of Indonesia (NKRI) cannot be separated from the role of the Indonesian Army as a state instrument in the defense sector which in carrying out its duties is based on the policies and political decisions of the State. The Indonesian Army has the main task of upholding state sovereignty based on Pancasila and the 1945 Constitution of the Republic of Indonesia, as well as protecting the entire nation and the entire homeland of Indonesia from threats and disturbances to the integrity of the nation and state. Referring to this, the resilience of a strong state is determined by a strong military.

During 2015 and 2019 Indonesia had a fairly strong national resilience index (Wantannas RI, 2020). This indicates that the nation's tenacity and resilience are in a fairly adequate condition in facing various Threats, Challenges, Barriers, Disturbances (*Ancaman, Tantangan, Hambatan, Gangguan*/ ATHG). However, the capability and quality of the military in maintaining national security must continue to be improved.

The purpose of the Indonesian Army's education is to form and equip students in a whole as a professional soldier warrior. Indonesian Army soldiers must have attitudes and behavior in accordance to Sapta Marga and the Soldiers' Oath. Indonesian Army personnel must also have knowledge and skills as well as physically they always have to be ready in any circumstances known as *samapta* to carry out the tasks assigned to them. Awareness of responsibilities and obligations (Perkasad 26/VI/2011 dated June 1, 2011, regarding the Organization and Duties of the Military Academy) is the main point which must be possessed by the Indonesian Army personnel. In general, the aim of the Indonesian Army education is to form professional, tough and trained with the spirit of Sapta Marga and the Soldier's Oath.

Military Academy is a military educational institution which has the main function to develop basic knowledge of military with regard to the provision of science and technology, basic skills of the military profession and the formation of the mental attitude of the personality of the cadets and other students. Every graduate of the Military Academy is expected to be able to carry out the tasks entrusted by the leaders of the Indonesian Army in assignment units spread across the territory of the Republic of Indonesia. This expectation is in accordance to the fact that they are faced with increasingly complex, difficult to predict and dynamic task challenges in the future according to the needs of the Indonesian Army organization. They must be professional, nationally minded, with good character, have militant spirit, and care and being loved by the people. To be able to become a competent Indonesian Army soldier, of course, mental preparation is also needed during the period of education. This mental preparation for leadership should be addressed by the Military Academy considering the heavy burden of the Army's duties. Without a better mental preparation, every cadet graduated from the Military Academy who will enter the organic unit of the Indonesian Army will not have the appropriate character to become an Army personnel.

The challenges faced by the Military Academy will dynamically adapt to the era.

The cadets coming from Generation Z have several shortcomings, such as being impatient, less persistent and easily give up so that they tend to solve problems in an instant way. This generation is also less proficient in communicating verbally so they tend to be apathetic and less aware of the environment. Needless to say, with such characteristics, appropriate training and education models are needed to improve the mental readiness of the cadets.

One of the programs implemented by the Military Academy for the development and mental preparation of soldiers is the Guidance and Parenting (*Bimsuh*) program. This program cannot be separated in order to achieve the overall goals of education and training, namely to shape the mental, personality, physical and intellectual abilities of Military Academy's cadets so that at the end of education and training, they have the ability required and can implement the lesson in the life of society, nation and state. *Bimsuh* is a program officially carried out by Educational Institution (Lemdik) to improve and facilitate students in developing personality, intellectual and physical aspects during ongoing education as stated in the technical manual (*Buku Petunjuk Teknik/ bujuknik*) on the guidance and parenting of Indonesian Army's Students (*peserta didik/ Serdik*) Regulation of Chief of Army No. Perkasad 191/X/2007 dated October 30, 2007.

Caregivers are in control of the implementation of *Bimsuh*, as well as have the duties and responsibilities of supervising, controlling, guiding and training the cadets to become the Indonesian Army's officers. Caregivers also have the authority to determine the value of the attitude and behavior aspects as well as the mentality of the Military Academy's cadets and provide disciplinary action to the cadets who commit violations. *Bimsuh* Program has been equipped with complete supporting infrastructure facilities and a conditioned environment. The education schedule has also been adjusted to the educational calendar curriculum which is well regulated by the staff of Educational Director at the Military Academy, including the inherent supervision carried out by the caregivers to the maximum. However, due to the internal factor of the cadets and by considering the number of violations committed, especially during the four years of education in which the cadets are quarantined in dormitories, naturally it will cause boredom for cadets which affects their mentality in preparing to enter the Indonesian Army Organic unit.

In producing qualified graduates, the Military Academy combines the Chief of Army Decree No. KEP/688/IX/2015 concerning the Three Basic Patterns and the Decree of the Minister of National Education of the Republic of Indonesia No. 232/2000 concerning the Higher Education Curriculum Guidelines. The highest award for cadets is *Adhi Makayasa* (for male cadets) or *Anindya Wiratama* (for female cadets) which means that the cadets have the best three basic patterns and have cum laude academic achievements. Meanwhile, as for the cadets have the best attitude and behavior, they will get the predicate of *Tanggon Kosala*. The quality of cadets is determined by 30 percent of attitudes and behavior assessment, 55 percent of knowledge and skills, and 15 percent of physical elements. Based on the description above, this study aims to analyze the influence of *Bimsuh* on the leadership mentality of Level IV cadets in entering the Indonesian Army Organic Unit.

Research Method

This research is qualitative research. The main informants are caregivers, cadets, and managers represented by the department. The methods used in data collection are in-depth interviews, observation, and collecting the secondary data. The general description of Level IV cadets and the implementation

of the guidance and parenting program (*Bimsuh*) is presented descriptively based on secondary data and the results of google forms filled in by level IV cadets. The influence of *Bimsuh* in preparing the cadets' leadership mentality was analyzed qualitatively.

Results and Discussion

Strong Motivation of the Cadets

Based on Figure 1, 83 percent of cadets enter the Military Academy because of their dreams and wish to serve the country and their parents. This is in accordance to 71 percent of the Military Academy's cadets with military backgrounds. The military life which they have lived so far turned to be an inspiration which became a perception so that they are willing to serve the country. However, there are 16 cadets who stated that they enrolled to the Military Academy as an effort to find a job to do. This perception is not pointless. The reason a person conducts an activity is a state from within which provides strength and directs it to achieve the goals. Mulyaningtyas (2007) states that wishes are desires which are always in mind or goals which are set for oneself and will be achieved. In other words, the dream is a future wish which a person thinks to achieve.
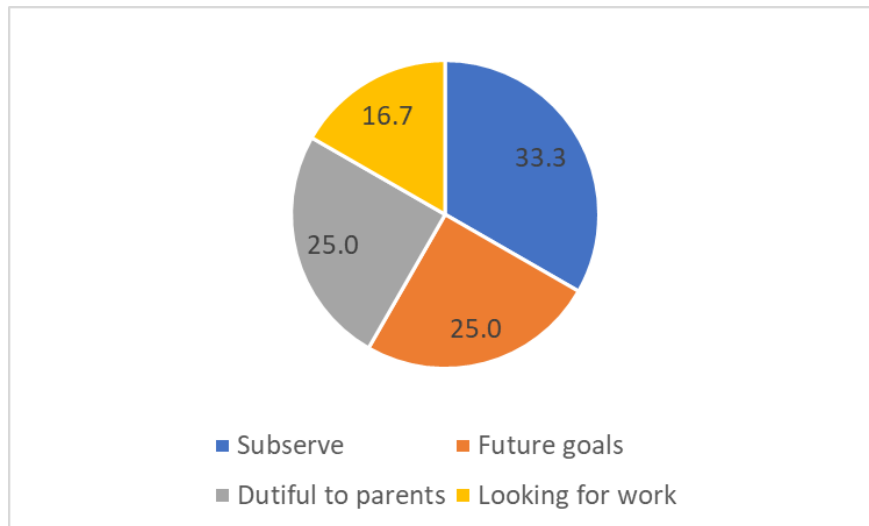
Figure 1. Reasons of the Cadets to Enroll to the Military Academy (%)

Nadia et al. (2021) in the research states that one's job is not directly related to their dreams when they were children, but parents can influence the wishes and desires of the children in determining the future. In addition, the parents will facilitate their children according to their ability to lead them pursuing their goals. Based on Figure 2, most of the Military Academy's cadets have parents with sufficient background. Meanwhile other occupations possed by the parents are farmers, retirees, and non-civil servant government officials, such as a representative in the House of Representative (DPR). Most of the parents are retirees or in other words, the parents of the cadets have a steady source of income.
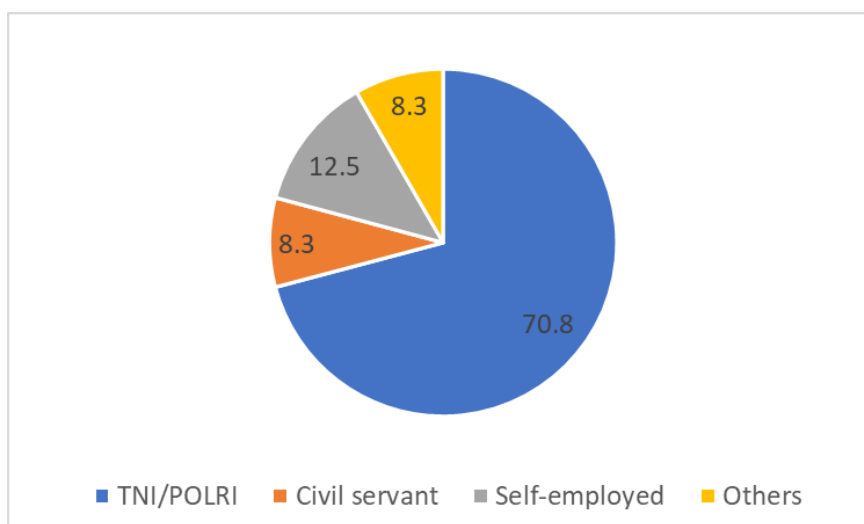
Figure 2. Type of Occupation of Level IV Military Academy's Cadets (%)

The characteristics of parents are separate motivators for cadets to be enthusiastic in learning and carrying out all the activities programmed during their education at the Military Academy. The determination to take part in the Military Academy's education is shown by the score of the Three Basic Pattern of the Level IV Military Academy's cadets. The average academic achievement index of cadets is above 3.5 or in the very satisfactory category. There are 47 percent of cadets who have an achievement index above 3.5. Even though the number of cadets who have an achievement index score below the average is more than 50 percent, the lowest score for the achievement index is still above 3 or in other words, it is still in the good category.

The Three Basic Pattern is an assessment component to see the quality of the cadets. The Basic Three Pattern assessment is carried out by class assistants and cadet assistants who are divided into platoons. In addition to do the monitoring and evaluating of the learning materials presented by *Gumils*, the class assistants also take notes on the attitudes and behavior of the cadets during the learning process. The Basic Three Pattern Assessment is also carried out by the cadet assistants in guidance and parenting activities.

Table 1 shows the score of the Three Basic Pattern of the cadets is very good. The score of physical ability which consists of physical as well as attitudes and behavior shows good scores. Previously it was stated that the cadets who have low grades will get remedial and attached assistance to meet the minimum score standard. Based on Table 1, the average physical ability score is lower than the other scores although it has the highest maximum score. Most of the cadets have excellent physical condition, but some cadets have poor physical stamina, such as leg muscle abnormalities which make them impossible to run.

Table 1. The Scores of Three Basic Pattern of Level IV Cadets

Three Basic Pattern of Level IV Cadets	Minimum	Maximum	Average
Attitude and Behavior	79.4	84.0	81.5
Knowledge and Skills	75.8	85.6	80.9
Physical	72.9	85.7	78.9
Grade point	3.17	3.89	3.58

Source: Akmil, 2022 (processed)

Values of Leadership

Factors in leadership which will be discussed in this study consist of three aspects, namely integrity, creation of positive change, and problem solving. Globalization and the Asian Community assist to emerge the importance of a change in public services. Public services will encounter problems which require creative and innovative thinking in solving them. Problems can be solved by scientific and creative thinking. Creative thinking allows a person to solve problems in various perspectives and generate many alternatives.

1. Integrity

The *Kamus Besar Bahasa Indonesia* explains that integrity is a state of completeness or unity in social behavior which is interpreted as a match between words and actions. I am who I am, no matter where I am or with whom. Thus, a person with high integrity is someone who has a stand, honesty, confidence and certainty in his life. This value of integrity must exist in a leader or commander. This is important because subordinates need confidence and certainty from a leader.

Someone who has an integrity does not divide his loyalty (ambiguous attitude), nor is he just pretending. A person with integrity is someone who is united, in other words, there is a unity of thought, speech and action. Someone with integrity has nothing to hide

or tends ti be honest and has nothing to fear. The following is the expression of one of the caregivers who explains that the cadets must prioritize honesty even though they end up getting punished.

"As caregivers, we have to set an example in what is conveyed as well as what is to bedone. We ask cadets not to use the cellphones during the learning processm so we also have to do the same, like don't use the cellphones during mentoring. This consistency between words and actions is one thing we always instill in the cadets. We believe that the more cadets see and hear their leaders are consistent in their actions and words, the more consistent their loyalty will be. What they hear, they understand. What they see, they believe. What they need is not a motto to be said, but an example to be seen."

The following are one of the activities conducted by the Military Academy for the purpose to instill the integrity of the cadets.
1. to uphold the achievement of the Three Basic Pattern
2. to consistently remind and instill the main tasks and goals which must be achieved
3. to train the closeness in groups
4. to uphold discipline in all aspects, such as be right on time, right on the purpose, even right in wearing the clothes

5. to instill the warrior spirit among the cadets by consistently maintain the closeness, never be divided and to keep reminding each other
6. to obey the seniors
7. to care for other cadets, for examples to willingly accept the group punishment when one of the cadets commits a violation.

Integrity can also be seen in one's loyalty to an institution. Loyalty according to Hermawan (2013) is expressed as the depth of human feelings towards something, including families, institutions, and organizations.

2. To Create a Positive Change

In military life, a leader is often faced with changing situations and must take action or decisions quickly and appropriately. Therefore, in addition to being intelligent, a leader must also have the readiness to face and respond to changes quickly, both physically and mentally. The physical readiness of a leader is shown when he must train and foster physical abilities and maintain good health. Meanwhile as for the inner readiness, mentally the leader must be brave to make decisions and the risks therein, such as the risk of losing life, the risk of being hated by the subordinates, the risk of being judged by the superior which may not be good for him. Thus, leaders must be proactive towards change, have a critical attitude and foresight in order to develop an anticipatory attitude regarding the implementation of their duties in the future.

The survey of the cadet perception shows that most of the cadets have an open mindset and ready to have a change. Based on the following table, cadets have the ability to plan, think creatively and innovate, and dare to take risks. However, the courage to decide something is lower than the perception of other leadership values. The following is the opinion of a caregiver when asked about the factors which influence the cadets not having the courage to make decisions.

"The cadets are trained to express their opinions, both in group forums and in larger discussion forums. Academically, the cadets are dared to express their opinion, but in deciding something, it was only done by the cadets served as platoon commanders. The Commander is a person who has a score on the Three Basic Pattern above average. The cadets who do not meet these qualifications do not have the experience to quickly take action and dare to take risks for the decisions they make."

Table 2. Perception of the Leadership Values of the Positive Change

Perception of the Leadership Values of the Positive Change	Percentage
Planning skills	98
Creativity and innovation	98
Courage to decide	96
Courage to take risks	98

Based on the teaching schedule, it can be concluded that the number of hours of *Bimsuh* activities for one week is longer compared to lesson hours. The duration of lessons is 36 hours, while the duration of guidance and parenting is 53 hours per week. The duration of guidance and parenting is more than the duration of lessons because *Bimsuh* is carried out attached to the activities of the cadets. This fact is different from the 2017 Military Academy Curriculum based on the Decree of Chief of Army No. Kep/160a sd. 164a/II/2017 dated 28 February 2017 concerning the Ratification of the Education Curriculum which stipulates the percentage of guidance and parenting hours at 7 percent. The difference between the implementation of *Bimsuh* and the existing curriculum is to strengthen the leadership mentality of the cadets. The character and leadership skills can be easily understood by the cadets when they see or imitate the senior cadets. The habits of the leader's character are continuously socialized to the cadets with inherent assistance.

Below is a quote from an interview with one of the staff of *Bimsuh*.

"The Military Academy and Headquarters will find the qualified care-givers to accompany the cadets. Every time they graduate, the best cadets will be assigned to the Military Academy for at least 2 years to become caretakers of cadets by providing coaching and that will be after they are serving in the Indonesian Army Organic Unit. They are used as role models that can be seen and observed by the cadets when doing education at the Military Academy".

Based on the schedule of the learning process above, the duration of guidance and parenting is longer than the duration of general material learning. This condition can mean that the implementation of the learning process at the Military Academy is not in accordance with the curriculum which has been determined by the Chief of Army. This is due to the fact that in order to instill a leadership mentality requires long and attached guidance and parenting as revealed in an in-depth interview with one of staff of *Bimsuh*.

Problem Solvings

Creative and innovative thinking patterns in seeing a phenomenon or the ability to see things from various points of view will create several alternative or action scenarios. According to Bass in Locke et al. (1991), a leader must have an effective ability to make decisions so that he is able to hypnotize or influence followers or subordinates unconsciously with his own willingness to sacrifice for the institution. Leaders must be able to convince subordinates and the decisions which are determined have a low level of risk and vice versa maximum level of benefit.

Furthermore, Muchji and Priyono (2004) states that there are four elements which underlie transformational leadership. The first one is charismatic because the leaders are expected to have a lot of influence and can move and inspire their subordinates with a vision which can be completed through hard work. The second one is that a leader must also have the ability to inspire. The leader can heighten meaning and increase positive expectations about what needs to be done. The third element is an intellectual situation in which a leader is able to help his subordinates to be able to think about old problems in new ways. The fourth element is individualized consideration, which means a leader must be able to treat his subordinates differently but fairly. He should be able to pay attention to his subordinates one by one and not only recognize their needs and improve the perspective of subordinates, but also

provide infrastructure in order to achieve goals effectively and provide work which is satisfactory and provide more challenges. These are the leadership indicators which a leader must possess.

The distribution of cadets' Percentage of Perception of Leadership Indicators can be seen in Table 3. Based on Table 3, indicators which have a score of 100% are the ability to influence others and the ability to communicate properly and correctly.

Table 3. Perception of Leadership Value in Communication and Monev

Perception of Leadership Value in Communication and Monev	Percentage
Ability to influence others	100
Ability to coordinate	94
Ability to communicate properly and correctly	100
Monitoring ability	98
Motivating ability	96
Ability to provide security and peace of mind	98

The ability to provide security and peace of mind by communicating properly and correctly as well as monitoring and evaluating is a systematic way of thinking. Decisions are born from a process, in which there is intensive discussion, exchange of ideas and deep brainstorming with sharp analysis. Therefore, decision making is essential in management and is the main task of a leader. The results of decision making are the rules which will be used as a guide to direct further behavior. The focus of decision making is on the ability to analyze the situation by obtaining information as accurately as possible so that problems can be solved.

Level IV cadets feel that their ability to coordinate is still absence. Competence to coordinate means the leadership's ability to manage, regulate from planning, coordinating, actualizing and supervising public organizations. According to one of the Caregivers at the Military Academy, the lack of coordination ability of Level IV cadets is due to these reasons.

"Not all cadets are members of the Corps Command Group. The
cadets who can join this group are the cadets who have a good score in the Three Basic Pattern (more than 50 percent). The cadets who are not members of this group will not feel the position of being an official in the organization tasked with coordinating and controlling one of its cadets and junior cadets."

There are at least seven competencies which must be possessed by leaders. First is competence to regulate oneself. Second is competence to regulate communication patterns. Third is competence to regulate pluralism. The fourth one is competence to manage ethics. Fifth is the competence to manage the team. The sixth one is the competence to manage cultural diversity. The seventh one is the competence to respond to a change (Warella, 2005). Leaders are able to maintain cohesion among members or in a broader sense maintain cohesion among community which is intended to avoid conflict. In a conflict situation, a leader must be able to act as a mediator, which means that the leader must have confidence in

various interests in the organization even though it is difficult to meet them. This is absolutely necessary for the sake of the cohesiveness of the group or organization because if it is allowed to drag on, the goals of the organization will be hampered.

Leaders must be able to optimize the diversity of organizational members because pluralism is a natural thing. It is not fair when there are members of the organization who are treated unequally by the leader. Leaders must be able to act as coordinators and integrators of various organizational components, so that they can move as a totality (Dadang, 2016).

Kartono (2005) states that decision-making requires courage because every decision must have risks, the function of decision-making as a leadership strategy is essential. Courage in making decisions for the organization means that the leader knows how to achieve organizational goals which will benefit all members of the organization. A decision-making role means that a leader must try to improve and develop the work unit he leads, must be able to overcome all obstacles faced, manage all resources (human, costs, etc.) and play a role in representing every working relationship with other work units. The role of the leader in decision making is usually along with the subordinates in selecting several available alternatives to determine the goals to be achieved. The decision-making process must consider all aspects and as needed. If the information is good enough, the decisions made are guaranteed to be accurate.

The cadets who are expected to be leaders must have confidence that they are worthy of being leaders. According to Wursanto in Sholehuddin (2008), there are at least six theories in discussing a person's leadership spirit. The first is known as the Excess Theory. According to this theory, a person becomes a leader because he has advantages over others. In this case, the advantages which must be possessed by a leader are at least he must have three advantages, namely rational advantages, spiritual advantages and bodily advantages. According to this theory, to be a good leader, a person must have better qualities than the ones he leads. Leadership traits which must be possessed in general are protective, confident, initiative, persuasive, communicative, energetic, creative, innovative and responsible.

Based on the explanation above, a leader can be due to talent or descent, instead of being made or created. However, a leader can also be made and learned by getting used to the characteristics of leading in everyday life. A person who is willing to work hard and concentrate all his energy on a certain area of ability so that in that area he excels others is likely to be a leader. The leader must have various abilities and traits which balance each other. Leadership is solely determined by the processes which occur within the group. The following is the opinion of the Military Academy cadets about their abilities.

"I think I have the skills, professionalism and ability to lead. The knowledge, guidance and care that I have learned so far have become my capital to be in an organic unit"

Below is another cadet's opinion on the readiness and professionalism which he possed.

"I think that I have sufficient provisions to become a leader, but I don't feel confident to enter the Indonesian Army organic unit because I have never known what the Indonesian Army organic unit really is. However, with the knowledge, skills, and experience received at the Military Academy, I am optimistic that I will adapt quickly."

The Military Academy which has the main goal of producing a leader must have a special method by optimizing the abilities of students by exploring the various potentials which exist and managing their shortcomings and weaknesses into potential. The learning, mentoring, and parenting methods provided must be able to provide space for movement, imagination, creativity, and cognitive, affective and psychomotor abilities which support the personality of a leader.

Guidance and parenting methods applied in a military style need to be adapted to the level of cadets. One thing to note, to be a leader is not only able to organize and coordinate subordinates, but one must be able to think critically, creatively and futuristic. It is the leadership character which needs to be given space in education at the Military Academy. The experiences gained from seniors can be an inspiration, but there is also a need for separate space for cadets to build ideas and leadership creativity that will be applied in the future.

Method in the Development of Bimsuh

Based on these conditions, the person in charge of *Bimsuh* must make time for several predetermined targets without eliminating the mentoring and parenting materials which have been set as follows.

1. Spiritual guidance and ideology. Spirituality provides social and emotional effects. Spirituality will provide emotional intelligence for a leader, such as self-control, being calm, working hard, motivating oneself and being able to be calm due to a sense of simplicity, humility and submission to God Almighty. The Military Academy provides an opportunity for cadets to develop their spiritual and ideological abilities so that they are not easily provoked and swayed when blending in with society. A leader with good emotions will make wise decisions. According to Gumusay, there are four impacts of spiritual quality, namely awareness of gratitude, inner awareness and simplicity, respect, responsibility, compassion, empathy and a sense of service as well as the values and morals of a leader that trust is a responsibility which must be maximized based on goodness. and honesty.
Spiritual and ideological activities consist of two things, namely:
   a. Worship Activities according to each religion
   b. Celebration of Religious Holidays which are adjusted to the schedule of the Military Academy Mental Development
2. Leadership guidance. Leadership is important to build a good, solid collaboration, and the cooperation of a team which is able to solve global problems. A leader must always be introspective, tenacious, creative and patient in dealing with obstacles in achieving goals.
Leadership activities consist of three things, namely:
   a. The Corps of Cadets Organizations organized and formed by the Corps of Cadets Organizations to train and apply the Leadership of Senior Cadets towards fellow colleagues and junior cadets
   b. GSCL Drumband which is divided into routine practice activities, special events, activity period from January to July and activity period from August to December.
   c. The tradition of the Corps of Cadets consisting of Welcoming activities, Orientation Period, Youth Service Day and *Tupdik Tar TK IV (Capaja)* or graduation day.
3. Guidance of soldier character. A leader must have the character of a soldier, such as unyielding, steadfast, loyal, initiative, and willing to sacrifice. A military leader will sacrifice for the sake of others

without expecting any particular reward. Leadership activities consist of two things, namely:

a. The Soldier's Norm, namely the cadets are required to carry out the soldiering norms in accordance with the honorary code of cadets/cadets, *Sapta Marga* and the Soldier's Oath and provide sanctions for cadets who violate discipline

b. Basic Soldier Attitudes which are carried out thoroughly in earnest in accordance with applicable rules, for example Basic attitudes of soldiers in applying Basic Military Rules (*Peraturan Dasar Militer/Permildas*).

4. Sports guidance and physical fitness. Danim (2012) states that the condition for a leader is to be devoted to God Almighty, the leader respects his staff not only as they are, but humans as God's creatures. The cadets must have a strong physique because it is not uncommon for a leader to have to work for a long time and is highly tiring because many organizational jobs require physical strength and endurance for a long time. So the leaders must be physically and mentally healthy. Sports and fitness activities consist of two things as the following.

a. Military self-defense which carried out according to the schedule of the Military Physical Department.

b. General sports or military sports which are carried out in accordance with the sports branch of the Youth Integration Competition Week (*Pekan Integritas Kejuangan Taruna/PIKTAR*). This activity was carried out in collaboration between the Military Academy, Police Academy, Air Force Academy and Naval Academy. *PIKTAR* at the international level is called WCG (World Center Game). The sports which are competed are including athletics, swimming, badminton, volleyball, orientering, and shooting pistols and rifles.

c. A and B fitness consisting of 5,000 or 10,000 laps of running which are carried out every week or every month. Dribbling is one of A fitness and B fitness is physical guidance after running and evening shifts.

d. Tutorials are carried out for cadets who do not meet the fitness standards of A, B, or military swimming.

5. Guidance on learning motivation and way of thinking. Leaders must also have high intelligence. High analytical ability is an absolute requirement for effective leadership and a growing organization requires a leader to think broadly, deeply, and can solve problems in a relatively short time. Assertiveness is the ability to make decisions based on certain beliefs, supported by strong data or the right intuitive instincts. Meanwhile taking the initiative when a person who acts as a leader means that he is able to provide new innovations, or other actions which reflect his certain thoughts on a subject. Leaders must be able to control emotions and think rationally in different situations. Some of the *Bimsuh* which was carried out for the deepening of thought are as follows.

a. Proficient in English

b. Assignment sheets

c. Compulsory study held from 20.00 to 21.00

d. The deepening of material for cadets who get red marks with the relevant lecturers. The implementation of the deepening of the material depends on the lecturer.

6. Socio-cultural guidance. According to Admodiwirio (2000), an organization operates by utilizing three conditions, namely past experience, present wisdom, and future expectations. In accordance

to this, there are five characteristics of leaders which are expected by the subordinates, namely the leaders must have clear and consistent goals, leaders can make good and affordable plans, leaders continuously inform their subordinates, leaders treat subordinates as human beings, and leaders are able to bring organizational progress effectively. wise and prudent.

The following are socio-cultural activities carried out by the cadets.

a. Regular practice of modern and traditional arts and to perform at special events. The modern arts developed are brassband, percussion, modern dance, and *Densik* (*Detasemen Musik*). The cadets also have the task of pursuing traditional arts, such as Papuan dance, *Kecak* dance, *Saman* dance, *Marawis*, and so on.

b. Mandatory visits are held twice a month during scheduled cadet cruise hours. The visit to the orphanage was carried out in conjunction with the cadet service.

c. Femininity activities, such as makeup and communication etiquette

d. *Api Sudirman* Magazine which is published twice a year, in July and January.

7. Science and technology guidance. Leaders are required to have broad knowledge, both theoretical and practical so that they are more professional. Confidence in the concept and self-confidence is a determining factor for the success of a leader's work. Science and technology guidance activities are carried out by providing computer knowledge and skills in the form of programs, applications, as well as presentation techniques and photo and video editing.

Another method of fostering *Bimsuh* is special parenting. Special care is an activity which is carried out in conjunction with the commemoration of holidays, an integrative activity of the Indonesian Army Academy at the Force Academy in turns. Another special care activity is Military Academy visits to friendly countries.

The process of guidance and parenting can be carried out using the following approaches.

1. Instructive. According to Waluyo Adi (1999), the instructional method serves as a way of presenting (outlining, giving, examples and exercises) to achieve goals. Humans basically tend to use positive instances in learning concepts rather than negative instances. This is due to the lack of information on negative instances, and humans encounter more positive instances so they have to adjust.

2. Educative. Basically, humans have the capacity to generalize what they have learned into new situations, which then helps them learn concepts. This concept provides a stability for humans to interact with their environment. The concept of learning provides opportunities for humans to be above the diversity and infinity of the environment and treat events that have the same properties as a group.

3. Suggestion is a method with an emphasis on habituation. Activities carried out repeatedly are expected to form a strong and intact personality. For example, cadets are accustomed to carrying out their worship in an orderly manner. Besides practicing discipline, they are also able to produce a strong personality based on the belief.

4. Stimulative. According to this association theory, learning activities will be effective if the interaction between educators and students is carried out through stimulus and response (S-R). Learning activities are the process of connecting the stimulus (S) with the response (R). Based on this theory, learning is more effective when students are more active in learning so their ability to connect simulations and responses will be higher too. The principles used in this theory are readiness related to the motivation of students, exercises are repetitive activities of students in connecting stimulus-response, and influences related to the results of activities and benefits which are felt directly by students in the world of their lives The principle of 'influence' is also related to the creation of a better atmosphere, rewards, reproaches, punishments, and rewards.

5. Persuasive by providing an atmosphere of guidance and parenting which is familiar and intimate. The supervisor is able to be someone for cadets to complain about various obstacles and problems. Supervisors are able to provide suggestions and solutions.

The five methods are applied concurrently and conditionally. For example, guidance in instilling discipline and character of soldiers is carried out with firmness. The cadets are required to memorize and apply all aspects of their behavior. The cadets who forget the rules will get sanctions or punishments. This is intended so that the cadets have loyalty to the organization. In instilling these values, cadets are able to see, observe and imitate their mentors. The five methods above have also been summarized and used in *Bimsuh* program and are in accordance with the

2007 *Bimsuh Bujuknik* documentation data as follows.

1. Instructive method. This method is used for very basic matters with the intention that students/cadets (*serdik*) always obey and follow all applicable regulations, both curricular and extra-curricular.

2. Educational Method. This method is used to educate and foster motivation as well as to create passion by actively involving *serdik* in every teaching and learning activity.

3. Suggestive Method. This method is used to provide encouragement in the form of views, suggestions or advice in a more communicative atmosphere.

4. Stimulative Method. This method is used to generate motivation, enthusiasm and sincerity in participating in every activity without any pressure or coercion.

5. Persuasive Method. This method is used to raise awareness of their own participation in the teaching and learning process.

Guidance and parenting techniques at the Military Academy are carried out into two types, namely individual guidance and parenting techniques as well as group guidance and parenting techniques. Guidance and Parenting techniques individual will be using the following techniques.

1. Direct *Bimsuh* technique. This technique focuses on the supervisor since the supervisor/caregiver plays an important role in directing the *Serdiks*.

2. Indirect *Bimsuh* Technique. This technique is centered on the *Serdik*, so the *Serdiks* determine for themselves on what to do based on the direction of the supervisor/caregiver.

3. Catering process techniques. This technique focuses on addressing emotional problems. In this case, the supervisor becomes a place for all kinds of problems and personal matters to be shared. For this, the supervisor must be

truly trustworthy, full of acceptance and understanding of the *Serdik*.

Group Guidance and Parenting techniques use the following techniques.
1. Exemplary Techniques. Guidance and Parenting Techniques focuses on the educational institution environment and the personnel in it to serve as a model which every *Serdik* should emulate.
2. Habituation techniques. This technique of Guidance and Parenting is for each *Serdik* to be required to behave according to the attitude and behavior patterns set out in the rules by educational institutions.
3. Visit/Tourism Techniques. This Guidance and Parenting is carried out in the form of visiting places which can have an influence on changes in *Serdik*'s attitudes and behavior in accordance with educational goals.
4. Group discussion techniques. This type of Guidance and Parenting is carried out in the form of group meetings with each individual in the group has a different role from one another. With this technique, it is expected that *Serdik* will grow from the ability to comprehend other people's thoughts, to be able to respect the opinions of others, thus creating motivation to overcome the shortcomings which exist in oneself and subsequently forming a good social attitude.
5. Techniques for activities in *Serdik*'s organization. Guidance and Parenting is carried out in the form of providing activities outside the curricular plan to educate them in organizational relationships.
6. Remedial Teaching techniques. This Guidance and Parenting technique is given to a group of *Serdik* in order to assist them in solving the learning difficulties they face.

Based on the interview with one of the Caregiver, below is the opinion.

"In providing guidance and parenting, we adjust the material according to the schedule that has been arranged. For example, about the character of soldiers who need firmness and pressure so that the cadets have a sense of responsibility. However, about leadership, apart from discussing, we also set an example. For example, we give an example of how cadets must be quick in making decisions. Bimsuh at the Military Academy can change and we have to make a quick decision on what material to fill in that can be adjusted. Sometimes what we decide is not in accordance with what is regulated by the Institute, for example the time for Bimsuh that has been allocated, but there are sudden protocol activities. In this case, we provide an example of daring to take risks, in this case the risk that we will accept has an impact on Bimsuh activities that are not clearly conceptualized."

Obstacles in the Implementation of Bimsuh

In the implementation of an activity program, not all of them can run as expected. It is just the same with *Bimsuh* program which is carried out at the Military Academy. Guidance and Parenting is carried out in order to optimize the achievement of educational goals. In the ranks of the Indonesian Army, there are several types of education which include *Dikma, Diktuk, Dikbangum, Dikbang Spes, Dik Ilpengtek, Dik Alih Golongan* and *Dik PNS*. In order to get optimal results, in Guidance and Parenting activities, education must be guided by general provisions which include Objectives, Targets, Nature, Roles and Functions, Organizing, Duties and Responsibilities, Personnel Requirements,

Types and Emphasis of *Bimsuh*, Guidance Methods and Techniques and influencing factors. The purpose of Guidance and Parenting is to make the achievement of educational goals more effective and efficient, the implementation of which is to optimize *Serdik's* ability to develop aspects of attitude and behavior, knowledge and skills as well as physically during educational operations.

There are several obstacles from the implementation of *Bimsuh* at the Military Academy. The first obstacle relates to the 2021 Curriculum. Based on Law No. 12/2012 concerning Higher Education, the types of Higher Education include academic education, vocational education, and/or professional education. Academic education is higher education for undergraduate programs and/or postgraduate programs directed at the mastery and development of science and technology. Vocational education is a higher education diploma program which prepares the students with certain applied skills. Meanwhile professional education is higher education after a bachelor's program which has special skill requirements.

Based on the definition of the type of higher education, academic, vocational, and professional education have the same degree, but have different domains and roles to complement each other. This definition is also a reference in the composition of theoretical and practical training provided in the curriculum design. The composition of the provision of academic education curriculum design with a proportion of 70% theory and 30% practice, while vocational and professional education uses a proportion of 30% theory and 70% practice.

Curriculum development is the right and obligation of each educational institution, but curriculum development must still be based on the 1945 Constitution, Law No. 12/2012, the National Standards for Higher Education as outlined in Regulation of Education and Cultural Minister No. 3/2020, as well as other provisions which apply both at the national

scope and specifically in the Indonesian Army's education environment.

Official education can be in the form of a full program or a combined program of formal and non-formal education as well as recognition of the combined program can be done through a credit earning system. In the 2021 Education Curriculum Technical Instructions, it is not explained in detail regarding the *Bimsuh* program. Based on the 2021 Education Curriculum Technical Guidelines, it is stated that the form of learning in curriculum implementation consists of lectures, responses and tutorials, seminars, practicums, studio practices, workshop practices or field practices as well as learning in other forms using Information and Communication Technology (ICT). It is the learning activities which can be in the form of lectures, responses and tutorials, seminars; and practicum, studio practice, workshop practice, field practice; work practice, research, design or development, military training, student exchange, internship, entrepreneurship, and/or other forms of community service (Regulation of Education and Cultural Minister No. 3/2020; Article 14 Paragraph 5).

Another factor which becomes an obstacle in the implementation of *Bimsuh* is *Giat Protokoler* which is compact and sudden. This is expressed in the interview as quoted below.

> *"The weakness of the implementation of the Guidance and Parenting program at the Military Academy is Giat Protokoler in the Military Academy which is a weakness in the implementation of Bimsuh activity. Desire and motivation in personal cadets are obstacles in improving self-ability."*

Based on the results of the interviews above, it can be seen that the obstacle in implementing *Bimsuh* is that *Giat Protokoler*

at the Military Academy. *Giat Protokoler* is an obstacle because it is carried out in a compact and sudden manner. In a broad sense, protocol is all things which regulate the implementation of an activity, both in the office/office and in the community. Etymologically, the term *protokol* is protocol in English, *protocole* in French, *protocoll(um)* in Latin, and *protocollon* in Greek. Originally, the term protocol meant the first page attached to a manuscript or manuscript. In line with the development of the times, the meaning is growing wider and wider, namely the entire text which contents consist of notes, approval documents, agreements, and others in national and international scope. Further developments, protocol means customs and regulations relating to formality, order and diplomatic etiquette. These protocol rules become a reference for government institutions and apply universally.

Definition according to Law No. 9/2010 concerning Protocol, protocol is a series of activities related to the rules in state events or official events which include Placement, Ceremonial Procedures, and Manner of Respect as a form of respect for someone in accordance with their position and/or position in the state, government, or society.

The implementation of education at the Military Academy is expected to take place smoothly, orderly and safely, because of many activities carried out by the cadets which is very compact, both in the nature of training, parenting and protocol activities which take place at the Military Academy. Therefor, protocol in the Military Academy are activities determined by the top command, both in the form of integrative activities of the Indonesian Army and institutional activities in this case all activities related to service in the Military Academy.

The protocol activities planned by the Military Academy, which are then used as guidelines in making the educational calendar are the result of the elaboration of RPP and AP associated with the available time allocation. The protocol must be able to describe all educational activities in sequence, starting from the opening of education to the closing of education. Furthermore, from the combination of the teaching program (syllabus) and the educational calendar which is *Rangka Pelajaran Terurai* (*RPT*) describing the sequence of stages of the operation of subjects or curricular activities.

The subjects are summarized in the weekly schedule, as a guide for Caregivers and male/female cadets to carry out their respective duties in the field of education and the parenting schedule made by the Caregiver. Therefore, when on the process, there will be changes due to sudden protocol activities, it can disrupt the course schedule of lessons and parenting activities. Protocol activities which are often sudden are caused by protocol activities from the Indonesian Army and Indonesian Army headquarters in the form of visiting friendly countries and cannot be separated from state protocol activities. It is must be carried out even though at the end it affects activities which have been scheduled according to lesson times and parenting activities.

Changes in protocol activities like this greatly affect the timing of parenting activities and lesson schedules as well as the physical condition of caregivers and cadets. As a result of these changes, the parenting activity schedule and lesson schedule underwent changes which greatly affected the subject matter should be taking place as the protocol event so that it would change the schedules of other materials. This is unbeneficial for the caregivers and cadets who have prepared themselves to follow the issued schedule as well as reduce the physical condition of caregivers and male/females cadets due to attending protocol events. Its is because during these events, they are not just obliged to be following the protocol events, but also the process of changing uniforms which takes time to return to their barracks to take lessons according to schedule.

Efforts to Overcome Obstacles to the Implementation of Bimsuh Program

Lopez (2009) mentions that expectation is an emotion which is directed by cognition and influenced by the environment. Expectation as a desire to achieve a goal. Expectation causes a person to have positive energy to be able to work in the face of adversity. Expectation is realized because of the belief which someone has the ability to achieve goals. Based on this definition, expectation will determine a person's success in doing something. Expecatation will bring up

enthusiasm and high fighting spirit to make it happen.

Bimsuh requires updating its abilities so that the process of guidance and parenting is not just filling for the spare time. The activities provided are prospective or future-oriented. *Bimsuh* needs to consistently evaluate the activities carried out and pay attention to the needs and conditions of the cadets. *Bimsuh* is expected to broaden its perspective so that the program has broad insight to provide provisions for cadets which are not obtained in class.
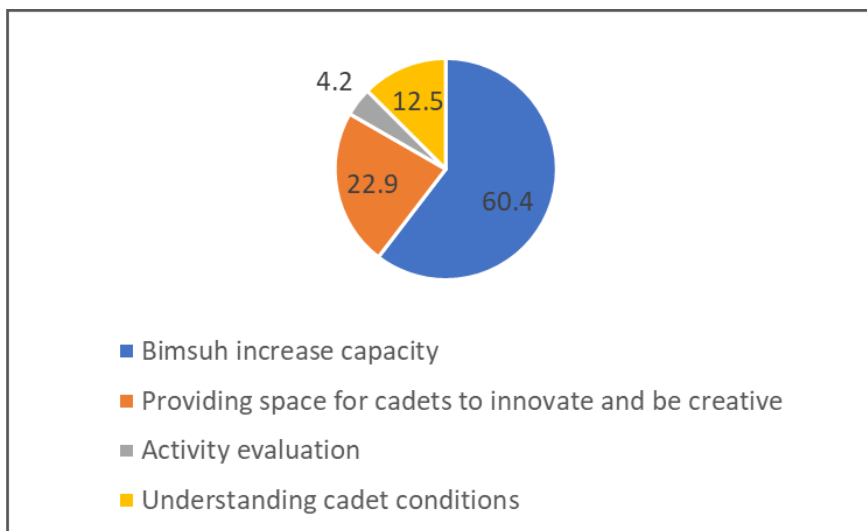
Figure 3. Percentage of Expectation by the Cadest for *Bimsuh* Staff (%)

Bimsuh is also expected to pay attention to the needs of the cadets. The cadets wish to have knowledge related to the tasks to be undertaken in the future. *Bimsuh* needs to provide space for cadets to listen and learn from senior cadets and experienced leaders. *Bimsuh* is also expected to understand the needs of the cadets to develop themselves according to their abilities and characteristics.

The cadets wish *Bimsuh* to consistently evaluate any program which was done, whether related to the method or material presented. The evaluation carried out by *Bimsuh* should be based on the needs of the cadets. *Bimsuh* needs to listen to the needs

of the cadets so that the activities carried out are effective and efficient and in accordance with the needs of the cadets.

Justice is an important thing which Caregivers must do in every activity conducted. Caregivers are expected to be fair and transparent in all activities so that cadets do not feel neglected and unfairly treated. The Caregivers treat all cadets fairly and releases the cadets' background. Justice in the learning process is the obligation of teachers/lecturers or caregivers and is the right of a student/cadet. The definition of justice is all matters relating to attitudes and actions in human relations.

Teaching staff, such as teachers, lecturers, and *Gumils* can function as leaders who command and order and position themselves in an ideal form. The relationship between teachers and students in this case is similar to the relationship between superiors and subordinates. It is different with the teacher who feels that he is a guide for his students. He will create a helpful atmosphere and he is actively involved in their activities. He also appears as he is, does not pretend to be great or scary. His relationship with students is simple and reasonable or can be said to be like a brother and sister relationship. Usually such a teacher is amusing and fun for students. He will be respected, loved and gladly obeyed by students. His personality will be emulated and his lessons will be noticed and the students will be interested in him. Variables of guidance and care are arranged based on Regulation of Chief of Army No/191/X/2007 dated October 30, 2007.

Conclusion

The Military Academy is improving the curriculum based on socio-economic and political conditions. Guidance and parenting as one part of the curriculum has a smaller duration compared to other activities. Guidance and teaching is an important phase for the learning process based on senior experience. Supervisors and caregivers innovate the mentoring process due to the limited time allocation, but bigger target achievement. Guidance is emphasized on exemplary and presenting actors or officers who have carried out their duties. Another method of mentoring is to release the cadets into actual organizations or apprenticeships. The ability to identify, analyze, and decide to make decisions must be done wisely and pay attention to all components.

According to the cadets, mentors and caregivers need to evaluate the activities carried out so far. *Bimsuh* needs to develop methods which take into account the characteristics of the cadets and are futuristic oriented. Simulations and presenting seniors who graduated from the Military Academy are more effective in fostering leadership values.

Academically, cadets have very good grades (Three Basic Pattern). The cadets who have scores below the standard will go through a remedial until they meet the standards. This means that in terms of academics and basic military skills, the quality of the cadets is highly adequate.

The educational curriculum to deliver the cadets to have the spirit or values of a leader has not yet been fully implemented in the cadets. There are still cadets who are hesitant in making decisions and lack confidence in taking risks. This trait should not exist in the cadets as a potential leader.

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Fertility Estimation Using the Own Children Method in South Sulawesi Province in 2021

Sri Nur Bayani Nur[1], Veni Hadju[2], and Mansyur Radjab[3]

[1]Regional Planning and Development Study Program, Graduate School, Universitas Hasanuddin, [2]Department of Nutrition Science, Faculty of Public Health, Universitas Hasanuddin, [3]Department of Sociology, Faculty of Social and Political Sciences, Universitas Hasanuddin, Makassar, South Sulawesi, Indonesia

Corresponding Author: Sri Nur Bayani Nur (e-mail: sri.nurbayani.nur@gmail.com)

Abstract

The unavailability of data regarding current fertility conditions complicates the photograph population conditions, especially after the Covid-19 pandemic in South Sulawesi Province. This study aims to produce an estimate of the fertility rate at the district/city level in South Sulawesi Province. Based on the available supporting data, an estimation of the fertility rate in the form of the Total Fertility Rate (TFR) was made using the indirect method, namely the own children method. The calculation is based on the number of women of childbearing age who have ever married and the number of children under five owned by the woman to get the birth rate. Based on these calculations, the results show that all districts/cities in South Sulawesi Province have TFR above the national level. When viewed by region, on the average, districts/cities in the northern part have a higher TFR than districts/cities in the southern part of South Sulawesi Province. With the fertility rate obtained and its distribution, a guideline for the government to formulate appropriate plans and policies is expected as the outcome.

Keywords: fertility; TFR; women of childbearing age; South Sulawesi, Own Children Method

Preliminary

Fertility is the actual reproductive consequence of a woman, while in the demographic meaning, fertility is the number of babies born alive (Arialdi Rendi, 2016; Jumliadi, 2020; Mahendra, 2017; Sinaga & Hardiani, 2017). One of the indicators used is the level of fertility which is measured through the Total Fertility Rate (TFR) showing in the average number of children born to the end of a woman's reproductive period, which is 15-49 years (Bappenas, 2020). Indonesian women's TFR is still at 2.45 children per woman and has stagnated at 2.6 children per woman for more than 10 years (BKKBN, 2021b). The change in Indonesia's TFR rate from 5.6 children per woman to 4.7 children per woman takes a relatively short time compared to the decline in fertility from 4.7 children per woman to 3.6 children per woman (Engraving, 1992). This shows that there is a slowdown in the decline in fertility from time to time.

Programs and policies adopted by the government play an essential role in

community decisions regarding fertility (Trisnaningsih, 2016). The population policy taken by the government during the Old Order period of 1945-1968 was trying to increase births or pro-fertility. This policy is allegedly related to the conditions at that time when the population was reduced in number due to the war, especially the male population of productive age. Therefore, many births need to replace the people who died on the battlefield (Trisnaningsih, 2016). Based on the results of the Population Census (*Sensus Penduduk*) in 1990, it is known that Indonesia's population of 60.7 million increased to 97.0 million in 1961 with a growth rate between 1930-1961 of 1.5 percent per year (BKKBN, 1982).

In the New Order era, during 1968-1998, population conditions were highly concerned when the economy only grew by 1.6 percent, while the population grew by 2.8 percent per year. The development paradigm adopted by the New Order government was that a large population was considered as a heavy burden. At this time, the institutions which dealt with family planning programs were in the hierarchical from the central government to local governments so the Family Planning Program has succeeded in reaching its peak of glory (Trisnaningsih, 2016). The population growth rate decreased from 2.3 percent in 1980 to 1.44 percent in 2000. Likewise, the birth rate (TFR) decreased from 5.6 in 1971 to 2.6 in 2002 (BPS, 2013).

During the reformation period, birth control only reached the representative areas/provinces. During this time, many BKKBN employees who were originally *widya iswara* and Family Planning Field Officers (PLKB) moved to other agencies in the province or the district/city areas. PLKB no longer worked for the Provincial BKKBN since they were responsible for the district/city government. The provincial government does not have the power to pressure district/city governments into the birth control program (Trisnaningsih, 2016).

Due to the policies in the reformation era, fertility conditions have stagnated and its development is highly diverse, both at the provincial and district/city levels. This can be seen from the change in TFR between 2017 and 2020 in which 17 provinces experienced an increase, while 17 other provinces experienced a decrease. As for the provinces with the highest increase in TFR are Lampung Province, West Nusa Tenggara, and South Sulawesi . This phenomenon can be seen in Figure 1.
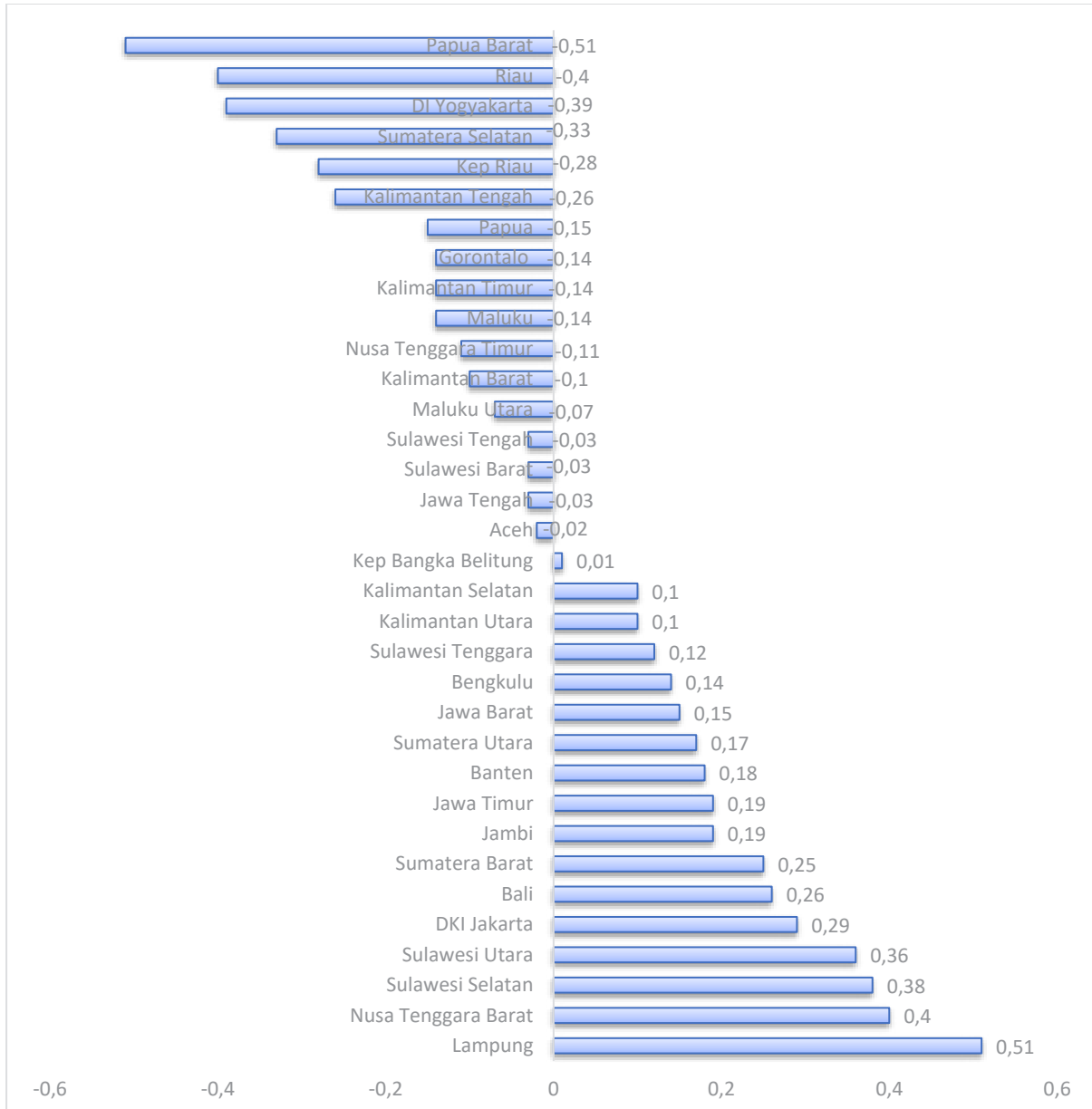
Source: BPS and BKKBN

Figure 1. Changes in TFR between 2017 and 2020 by Province

An interesting phenomenon occurred in South Sulawesi Province. The results of the comparison between the 2017 and 2020 TFR figures shows that South Sulawesi Province was ranked the third highest TFR which the figure increased by 0.38 points (BKKBN, 2021b; BPS et al 2018). At the same time, this province has the fifth-largest population in Indonesia and the first largest one in Eastern Indonesia (BPS, 2021a).

Meanwhile the fertility rate achievement target is described in the South Sulawesi Provincial Regulation No. 1/2019 concerning the Regional Long-Term Development Plan (RPJMD). This regional regulation targets the South Sulawesi's TFR to reach 2.1 children by 2024 (South Sulawesi Provincial Government, 2019). This target is considered quite realistic because the TFR of South Sulawesi Province has been below

the national figure since 2012. However, in 2020 the TFR of South Sulawesi Province experienced a sharp increase to reach 2.78 children per woman (BKKBN, 2021a).

To see the difference in the TFR figures at the district/city level both nationally and within the scope of South Sulawesi Province, the latest figures are not yet available other than the results of the 2017 IDHS. This is because the spike in Covid-19 cases in September 2021 which resulted in the postponement of the implementation of the 2020 Population Census long-form data collection aiming to produce data on fertility rates.

The importance of data related to fertility rates is urgently needed by Indonesia, especially for the formulation of planning and policy-making. In the developed countries, fertility rates are most often measured by using regular registration of births. However, in Indonesia, this data is not available due to a lack of reporting by the public. Fertility estimates can be carried out directly by questioning the mothers or an indirect procedure by estimating the reported age distribution of the population census, using the total number of pregnancies or births prevalence approaches recorded (TH Hull, 1980).

The captured of the fertility phenomenon using the results of the IDHS is considered not up-to-date, especially with the Covid-19 pandemic which has completely changed the social and economic life of the community. Thus, other alternatives are needed which can be in the form of district/city-level estimation figures to capture the current fertility conditions. The TFR figure can be estimated using data from the National Socio-Economic Survey (*Susenas*) conducted by BPS twice a year. Based on the comparison made by Terence H, Hull (2016), there was no significant difference in fertility rates between the IDHS and *Susenas* surveys.

Calculation of fertility estimates can be done using various methods, one of which is the Own Children Method (OCM) that has been used in various countries, including in research by Timæus & Timæus (2021) in England, Reid et al., (2019) in England, AS Goldstein & Goldstein (2016) in Thailand, Indrawati, Lely & Dwi Hapsari (2016) in Indonesia, Krapf & Kreyenfeld (2015) in Germany, Shavazi (2013) in Iran, Opiyo & Levin (2013) in Kenya, and Avery et al. (2013) in the United States.

Research conducted by Avery et al. (2013) using data from the Demographic and Health Survey in 56 countries states that the use of the Own Children Method is better to describe fertility in general than the Full Birth History (FBH) method. This is because the method of calculating the FBH tends to be inconsistent with age coding. In addition, there is a bias in the selection which causes the estimation results of the FBH method to tend to be overestimated.

Furthermore, research conducted by Indrawati & Hapsari (2016) uses the OCM method to estimate fertility from the data from the Basic Health Research (*Riskesdas*) survey conducted by the Ministry of Health in 2013. The results of the study stated that the advantages of the OCM method, namely the Age Specific Fertility Rate (ASFR) can be divided according to age and do not require much information/data. The main information needed is the number of children living with their mothers according to the mothers' age group. The estimated calculation is done by estimating the fertility rate before the survey is conducted based on tabulation of children living with their mothers at the time of enumeration or data collection. The population in this study are all women and children who live with their parents in Indonesia so that similar research at the provincial level has never been done.

One of the advantages of TFR estimation using the OCM method is that this method has taken into account both maternal and child mortality. This method uses a life table in its calculations so the assumption that there are maternal and child deaths

has been included as a correction factor. Meanwhile TFR estimation calculation using the OCM method in research Indrawati & Hapsari (2016) have not used the latest life table that has been developed by BPS using the loglinear model with the weighted growth average combined with the West model Coale and Demeny life table. Thus, this research is expected to be a refinement of the research.

Method

This research is a quantitative research with women of childbearing age who have been married as the main subject of research. Quantitative research is a research method aimed at testing existing theories or research by examining the relationship between variables, where this variable consists of numbers which are then analyzed by applying statistical procedures (Cresswell, 2014).

This research was preceeded by estimating fertility at the district/city level in South Sulawesi Province. The estimation is carried out using indirect estimation of the own children method from the results of the National Socio-Economic Survey (*Susenas*) which would be carried out in March 2021.

The National Socio-Economic Survey (*Susenas*) conducted by BPS is one source of information to obtain an overview of the socio-economic conditions of the community. The March 2021 *Susenas* was carried out in all provinces in Indonesia (34 provinces) with a sample size of 345,000 households spread across 514 districts/cities in Indonesia. As for the March 2021 *Susenas*, sample for South Sulawesi Province was 15,300 households spread over 24 districts/cities. The resulting data is representative enough to produce estimates up to the district/city level (BPS South Sulawesi, 2021).

The population unit in this study was all women aged 15-65 years old in South Sulawesi Province. Furthermore, the unit of

analysis in this study was all women aged 15-65 years old who were in the selected sample households of the March 2021 *Susenas* in South Sulawesi Province who were 20,685 people.

To calculate the fertility of survey data, the indirect estimation method was used. This estimation is mostly done in various countries in which the population registration has not been going well. One type of indirect estimation that is often used is the Own Children's Method (OCM) which is a technique can be used to estimate fertility measures when vital registration data are incomplete, or when relevant questions have not been asked in the census (Shavazi, 2013). This method uses a reverse-survival technique to estimate age-specific fertility rates. i.e. a procedure for estimating the specific age and total fertility in the period before the survey from the age distribution of the population (Timæus & Timæus, 2021). Several adjustments were made to reduce errors due to mis-enumeration, such as through counting and misreporting of age, as well as unmatched, such as the presence of non-own children.

In addition, the OCM method uses a life table in its calculations to include the assumption of maternal and child mortality. A life table is a hypothetical table which combines various mortality rates at different ages into a single statistical model. Indonesia does not yet have its life table, even though the World Health Organization (WHO) requires each country to build one. With the help of funds from the United Nations Fund for Population Activities (UNFPA), BPS tried to build a life table using mortality data from the 2010 Population Census administration (national, provincial, and district/city). In addition, BPS developed a model to determine life expectancy (e0) in an area well so that it can be an additional indicator in calculating TFR to be more accurate. The method is using the development linear model with growth weighted average. The calculation

basis model uses data from *Susenas* March 2021 so that it is expected to produce more relevant and up-to-date data.

The calculation will take the form of the number of babies and biological mothers in the form of annual data. However, they were aggregated into five-year groups to reduce misreporting of age. The advantages of using this method are that it is suitable for use in countries which do not yet have a good vital statistical record, can be used to estimate fertility rates according to parity and socioeconomic status, does not require special surveys so it is not expensive to apply, can use large data sizes such as censuses. and surveys, and can provide information on fertility rates by age up to 15 years before the census/survey. For the acquisition of fertility rates up to 15 years before, the survey used in this article, the age range of female respondents was 15-65 years.

Furthermore, the EASWEPOP Fertility Estimate Program application which was developed used figures by the East-West Center Program on Population contains the Coale-Demeny model's life table West for the final calculation step. It is to obtain the number of births and the number of female population per age group.

Calculations using the OCM method can produce the Age Specific Fertility Rate (ASFR) needed to calculate TFR. The ASFR calculation formula is as follows.

$$ASFRi = \frac{B_i}{P_i^f} x1000$$

ASFRi = Age Specific Fertility Rate for age group i
B_i = Number of births to women in group i
IP_i^f = Number of women of childbearing age in age group i
i = age group 15-19, …, 45-49

Therefore, after obtaining the ASFR, the TFR can be calculated. The formula for calculating TFR is as follows.

$$IFR = 5 \sum_{i=15-19}^{45-49} ASFRi$$

TFR = Total Fertility Rate
ASFRi = Age Specific Fertility Rate for age group i
i = age group 15-19, …, 45-49

Discussion

Before calculating the TFR, at first, the number of children and women of childbearing age in South Sulawesi is calculated. The calculation of the number of children is by counting the number of toddlers, both own children and non-own children who are in the household. In this study, a heatmap is used to provide a visualization of the number of children under five owned by women of childbearing age, in which the redder indicates the number of children in certain women of childbearing age is decreasing. Based on the heatmap which has been made, the information that most women of childbearing age give birth to children in the age range of 25-39 years in all districts/cities of South Sulawesi Province is obtained.
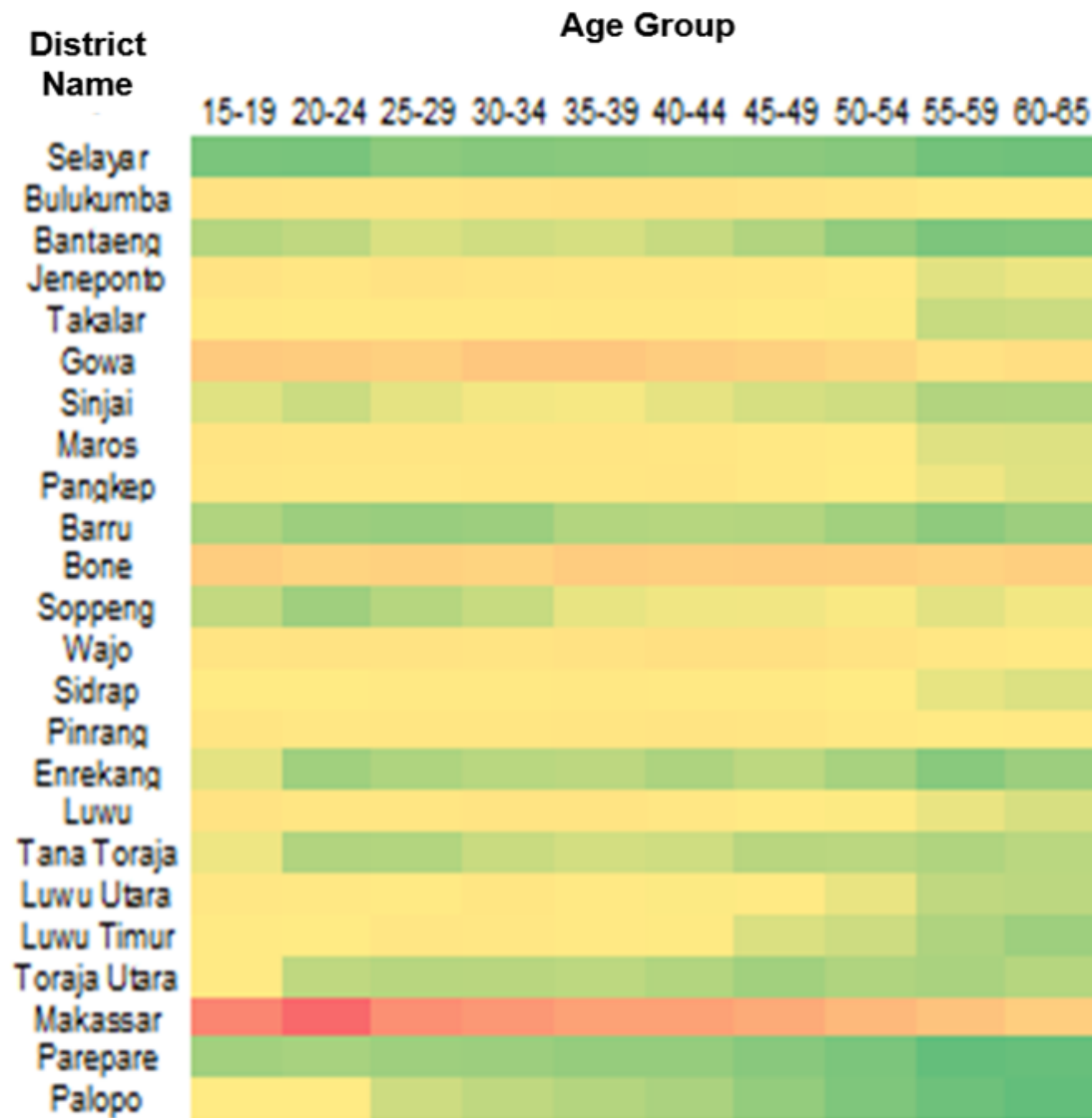
Source: *Susenas* 2021, processed

Figure 2. Heatmap Number of Toddlers Owned by Women of Childbearing Age in South Sulawesi Province in 2021

Furthermore, from the heatmap above, information can be obtained that the number of children born to women in the age range of 15-19 years for regencies/cities in South Sulawesi Province is marked with yellow and green colors. This shows that the prevalence of child birth in very young mothers has tended to be low in the province of South Sulawesi.

However, there is one district which has a slightly different color that is close to red and that is Makassar City, Gowa Regency, and Bone Regency. It is shown that the number of children of women aged 15-19 years in the three districts/cities is quite high. Even for Makassar City, the number of births to women aged 15-19 years reaches 75,243 children in 2021.

One of the efforts which can be done to reduce the birth rate for young women is to increase education evenly. The level of education is a factor to affects the level

of fertility. If a woman takes a long time to complete her education, a marriage to be delayed and it opens up the choice for when to either working or raising children. Women with higher levels of education generally have a high age at first marriage and in the end, it will affect the number of children born which will be less (Sinaga & Hardiani, 2017).

People with higher levels of education tend to have fewer children than people with lower education. This is because people who have a high level of education will more easily accept new things, such as the norm of small happy and prosperous families, the need for the use of contraceptives, and the new point of view that children are not a tool in the family production, but as an investment by parents for the future of their childhood (Wicaksono & Mahendra, 2016).

In the future, more women with higher education levels will enter the labor market. The better the education level of women, the more they have the potential to make a greater contribution to family income so that the time they specifically devote to raising children will be limited, which at the end it will affect the number of children desired (Yuniarti et al., 2013).

After obtaining the number of children 0-14 years old both own children and non own children, it will be multiplied by the survival rate to obtain the number of births. Survival Rate is obtained from the BPS development life table using the method of linier model with weighted growth average combined with the West model Coale-Demeny life table. This method is used as an attempt to build a life table and life expectancy which is in accordance with the conditions of mortality in Indonesia which have been adjusted to the condition of the quality of the result data *Susenas* March 2021.

Then, the number of women of childbearing age is obtained from the number of women age 15-65 years in the household. After obtaining the number of women of childbearing age in the household, it will be multiplied by the survival rate to obtain the number of births and the number of mid-year female population.

After obtaining the number of births and the number of female population per age group, the ASFR can be calculated. After calculating the ASFR, the TFR can also be obtained.

Based on the results of calculating the TFR of women of childbearing age using the Own Children method, it is found that all districts/cities in South Sulawesi Province have TFR above the national figure 2.71 child per woman. The highest TFR is in Bulukumba Regency by 5.00 children per woman, while the lowest is in Sinjai Regency with TFR of 1.5 child per woman. This shows that the government requires special attention regarding the handling of this population problem.
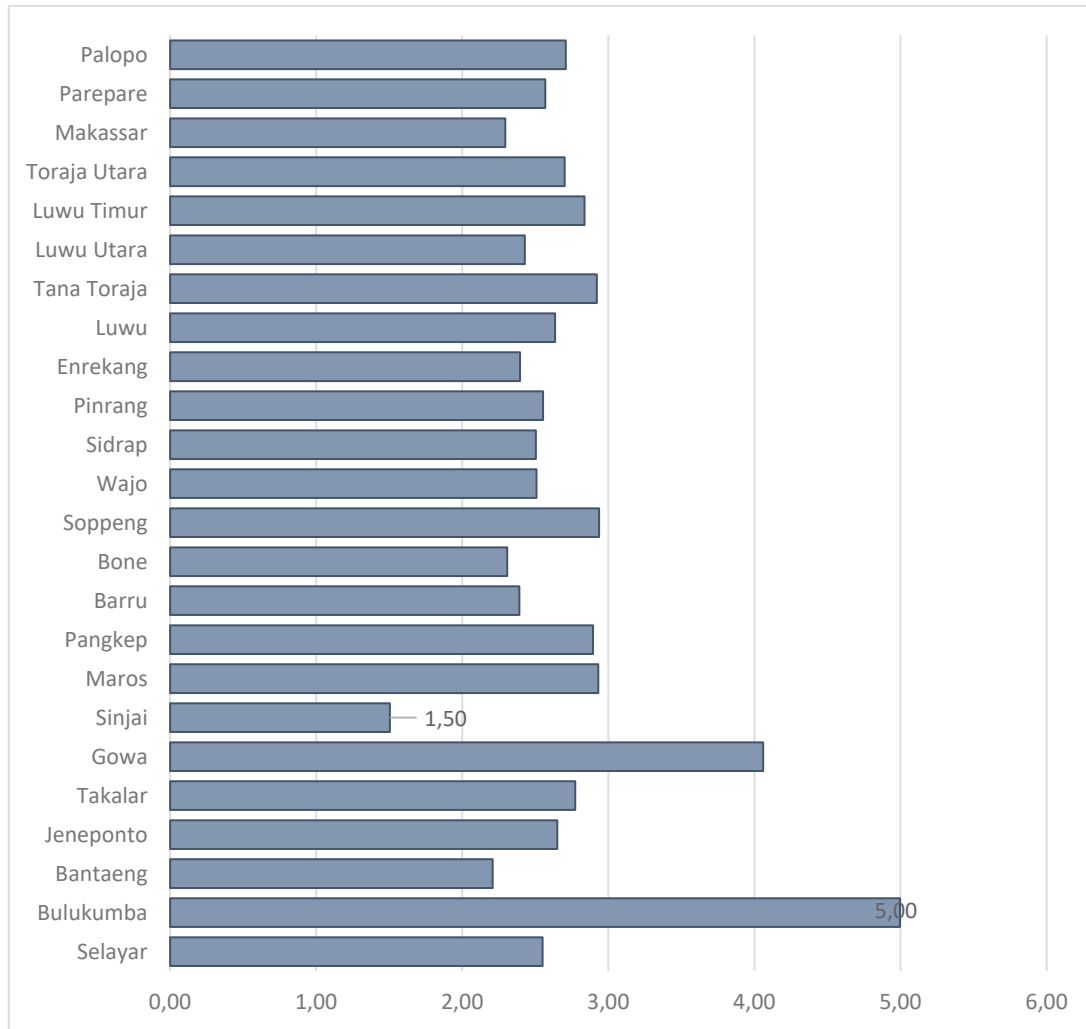
Figure 3. TFR Estimation Results for Women of Childbearing Age in South Sulawesi Province in 2021

Furthermore, the authors make a thematic map to provide a visualization of the distribution of TFR figures by region. The darker the color on the map, the higher the TFR in a district/city. If seen based on the map of South Sulawesi Province, the distribution of district/city TFR figures in the southern region is higher than in just the north.

For regencies/cities in the southern region, some regencies requires special attention related to fertility decline, namely Bulukumba Regency which has a TFR of 5.00 child per woman. There is only one district in South Sulawesi which the TFR was able to achieve the RPJMD target, namely Sinjai Regency with a TFR of 1.5 children per woman.

This phenomenon is due to the fact that in terms of demographic composition, the number of productive age population in Bulukumba Regency reaches 70.13 percent (BPS Bulukumba, 2021). Meanwhile, in Sinjai Regency, the productive age population is only 68.98 percent (BPS Sinjai, 2021).

In terms of health, in Sinjai Regency there is an innovation made by the government, namely the *Rumah Tunggu Kelahiran* (RTK) which is effective in reducing the birth rate

in Sinjai. At the RTK, in addition to health checks for pregnant and childbirth women, women were also given socialization about the importance of using contraception and the benefits of having small, but high-quality children (Asriadi et al., 2019). Unlike the case in Bulukumba Regency, in a study conducted by Noor & Eni (2020), it showed that the health

services for pregnant women and childbirth in Bulukumba were not even optimal. The Bulukumba Regency Government needs to be innovative, especially related to suppressing the number of births so that in the future, the fertility rate can reach the RPJMD target even below it like the achievement of Sinjai Regency.
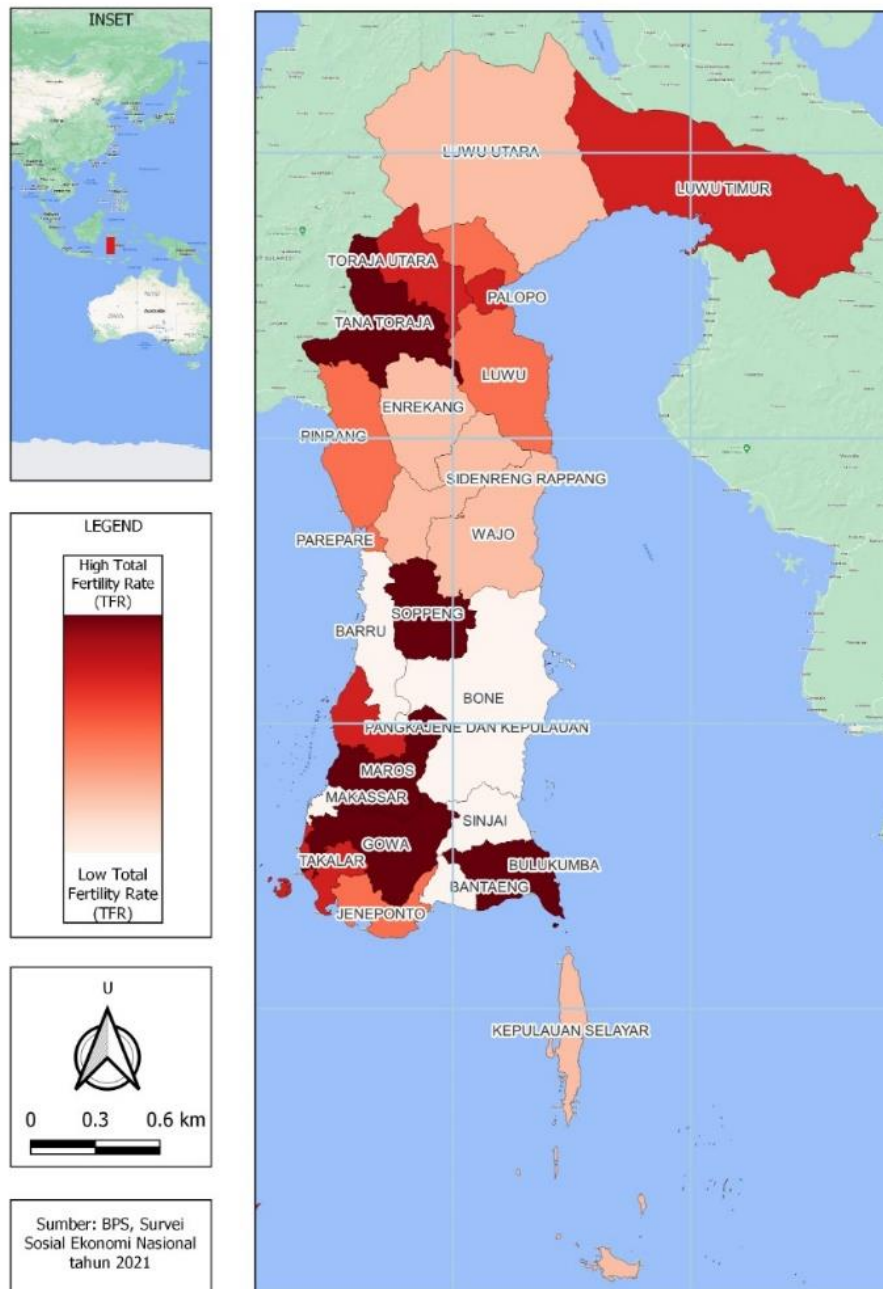
Source: *Susenas* 2021, processed

Figure 4. Thematic Map of TFR Estimation Results for Women of Childbearing Age in South Sulawesi Province in 2021

To reduce the fertility rate, the government, especially in this case the BKKBN, needs to put more emphasis on the use of a contraceptive method in the community. The use of contraception is one of the variables which affect fertility because it is believed to be effective in preventing pregnancy. By becoming a family planning acceptors, couples of childbearing age can space out pregnancies and limit the number of children they want (Sabina, 2020).

However, most couples of childbearing age use contraceptives after reaching the desired number of children. Based on the results of the National Economic Survey (*Susenas*) held by BPS, there has been a decrease in the use of a contraceptive method in fertile women from 52.65 percent in 2020 to 51.91 percent in 2021. In addition, there has been an increase in the number of women of childbearing age who do not use a contraceptive method from 33.44 percent in 2020 to 34.69 percent in 2021 (BPS, 2021b).

The family planning program is expected to focus on targeting low-parity young couples, namely couples who have only had one child and are not yet 30 years old. This is because if the use of a method of family planning is carried out by couples of childbearing age (EFA) after having more than two children, reduceing the birth rate by more than two will be difficult to achieve.

Conclusion

Based on the results of research conducted by the authors, the district/city TFR figures in South Sulawesi Province are still very high and are above the national average. Efforts to reduce fertility, such as the use of a contraceptive method, should be focused on fertile couples under the age of 30, especially in districts/cities located in the northern part of the province of South Sulawesi. The government needs to focus on socializing the benefits of using contraceptives for the sake of health reproductive and as an effort to suppress the birth rate. The socialization can be done in health services, especially those dealing with pregnant women and childbirth so that they can be effective targets couples of childbearing age. Furthermore, socialization is also can be done by displaying banners and banners at the KUA office, civil registry, and child care centers to target couples who are newly married or have just had children under five and focus on the benefits at maintaining the quality of the children they have, not only considering the quantity. In addition, efforts are needed to increase the school participation rate so that women can delay marriage so that their reproductive age will be shorter.

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The Influence of Military Teachers Leadership on the Quality of Military Academy Cadets

Rudi Dwi Yanto[1], Umi Listyaningsih[2], and Ahmad Maryudi[3]

[1]Graduate School of Leadership and Policy Innovation, Universitas Gadjah Mada, Yogyakarta, [2]Faculty of Geography, Universitas Gadjah Mada, Yogyakarta, [3]Faculty of Forestry, Univeristas Gadjah Mada, Yogyakarta, Indonesia

Corresponding Author: Umi Listyaningsih (email: umilis@ugm.ac.id)

Abstract

The high dynamics of Military Academy's teacher rotation has an impact on the linearity of teaching with the subjects taught. Based on this, research on the influence of Military Teachers leadership on the quality of cadets is essential. This study aims to determine the quality of the second level of Military Academy cadets, the learning method applied by Military Teachers and the effect of the Military Teachers learning method on the quality of the cadets. Research using google form was conducted on 205 Level II Military Academy cadets who acted as respondents. The research objectives were answered by using quantitative methods, descriptive analysis and linear regression analysis. The quality of cadets is measured by four indicators, namely attitudes and behavior, knowledge and skills, physical fitness, and leadership values. Results of the study are stated as follows. The cadets have good and satisfying values on the attitude, behavior, knowledge and abilities. The value of cadet leadership as measured by the cadet's perception of self-assessment still needs to be optimized. There are cadets who are unable to make decisions correctly and quickly. Some cadets also are not willingly to take risks in making decisions. These leadership values are important for a leader. During the learning process, military teachers apply a combination of supportive, participatory, directive, and achievement oriented learning methods. The directive teaching method has the most dominant influence on the quality of cadets. The influence of supportive, participatory, and achievement -oriented methods must go through the directive method first.

Keywords: military teachers (*gumil*); cadets; leadership

Introduction

The Military Academy is an educational institution for the formation of the first army officers of the Indonesian Army in order be prepare them to become cadres or future leaders of the nation. The Military Academy formed the cadres, both females and males, to become strong cadres with warrior spirit, empower by military culture and finally inherited the culture of Indonesian Army cadres.

The value of military is the attitude of militancy of the soldiers who are able to survive in any conditions. Some of the characteristics of being a soldier are included being able to survive in difficult conditions and under pressure, and daring to bring themselves

to reach their limits. Military values are ways and attitudes in acting and behaving, both in the relationship between superiors and among the subordinates. Military characteristics are attitudes according to the guidelines of military life, self-determination, fast and precise movements when receiving orders and being able to read the conditions when they are about to act. Meanwhile the militancy value is awareness as an individual who must be able to be relied upon and able to sacrifice. To form cadets who will later become tough soldiers, the role of military teachers (*Gumil*) is needed in order to accompany them during the education process (Nasution, 2012).

Cadets (*taruna*) are students in military educational institutions who are required to undergo an education period of approximately four years. During that period of time, them are to comply with and carry out any demands in the form of rules or regulations, both academic and non-academic. The success of a cadet is marked by the ability to adapt to the environment, both in the form of academic and non-academic demands. The quality of a cadet is determined by many factors and a set of rules which must be implemented.

In the Military Academy, a teacher or Military Teacher (*Gumil*) must meet the teaching qualifications and have a leadership pattern according to predetermined standards. Military Teachers play an important role in shaping the cadets to grow into professional officers, with the spirit of *Sapta Marga* and the Soldier's Oath, and devoted to God Almighty. The Military Teacher must have a leadership spirit and strong character in terms of physical, mental, and intellectual, so that one can work optimally. Therefore a Military Teacher has a responsibility as a facilitator and mediator towards the learning achievement.

Lieberman and Miller (2005) state that as a leader, a teacher has a high commitment to teaching his students, encouraging students to participate, and developing all abilities. Teachers as leaders are capable of organizing, guiding, and directing, fostering the will to move forward. As a leader, a teacher also creates an atmosphere of sharing and learning from one another. The approach is to model participation, build habits of mind, and support people to become apprentices for their own learning.

Bennis (2010) conducted a research with the results emphasize the leadership role of a teacher. The results of the study stated that teacher leadership competence is one of the ideas which continues to develop. In order to do that, there are three stages must be followed. The first stage is the legal authority in the organization. In this case, a teacher is only considered a leader if they take on an official position, such as a school administrator or department head. In the second stage, more emphasis is placed on the instructional elements of teaching. However, leadership is still held formally. In this second stage, there is a separation between teacher leaders and positions in the organization. The third stage is when teaching is integrated with leadership. Integration means that teacher leadership ceases to be a positional concept. On the contrary, it becomes a process by which educators are allowed to express leadership abilities in carrying out their duties. Teacher leadership is no longer defined by a formal position of duty, but rather a set of behaviors and characteristics. These roles are, for examples, are to be classroom educators, change catalysts, mentors, resource providers, learning facilitators, curriculum specialists, researchers, and education policy makers. In summary, Whitehead and Greenier (2018) define a leader teacher as a set of characteristics, qualities, and behaviors exhibited by educators, both inside and outside the classroom, with the intention of positively influencing students academically and socially.

Military teachers at the Military Academy institution have rules which refer to the Army

Headquarters, which are in accordance with the order of the Army Chief of Staff. It is due to the fact that the Military Academy is directly under the auspices of the Headquarters. In fostering the careers of military members, the positions held should not be more than three years. This is also in accordance to being accepted by a military teacher in the Military Academy who has the main task of teaching, but the military teacher (*Gumil*) also undergoes rotation as with other military members. Thus, a military teacher experiences a transfer or exchange of personnel for a maximum of three years and no more. This frequent change is expected to be able to influence the students, in this case, the cadets of the Military Academy. The leadership of a military teacher is essential to shape the character or quality of cadets who will eventually become future leaders, so the role of a military teacher or military teacher leadership in the teaching and learning system is crucial to influence students or cadets.

From the above introduction, it is affirmed that the leadership of Military Teachers will have a positive effect on the quality of Military Academy Cadets, both in the teaching and learning process and outside the teaching and learning process. This study aims to determine and analyze the influence of military teacher leadership on the quality of military academy cadets.

Research Methods

Type of Research. Descriptive method is a method used to analyze data by describing or describing the data which has been collected as it is without intending to make conclusions that apply to the public (Sugiyono, 2017:73). Meanwhile the quantitative research methods can be interpreted as research methods based on the philosophy of positivism, used to examine certain populations or samples, sampling techniques are generally carried out randomly, with data collection uses research instruments, and the data analysis is quantitative or statistical with the aim of testing hypotheses which has been set previously.

Variables. There are two variables in this study, which consist of the independent variable and the dependent variable. The independent variable is the variable which affects or causes the change or the emergence of the dependent variable. The independent variable in this study is a military teacher's leadership competence (X) and the dependent variable is the variable which is influenced or becomes the result of the independent variable. The dependent variable in this study is the quality of cadets (Y). The quality of the cadets as the dependent variable (Y) is the quality possessed by the cadets after undergoing their education period, in accordance with the competency standards set by the Military Academy. In this variable, the result of the assessment of cadets during the education period will be used which are in the form of the value of physical ability, academic value and the value of behavior.

Population. According to Sugiyono (2017), population is a generalization area consisting of objects or subjects which have certain qualities and characteristics which are determined by researchers to be studied and to draw the conclusions. In this study, 424 cadets of the Military Academy level II will be studied as the population.

Samples. The sampling technique used is proportional random sampling technique. According to Sugiono (2017), proportional random sampling technique is a technique of taking proportions to obtain a representative sample, while taking subjects from each strata or region is determined to be balanced or comparable in each region.

The desired number of samples refers to the Isaac and Michael Sample table (in Sugiono, 2017: 127), that with a total population of 424, the varying degrees of error is ranging from 1%, 5%, and 10%.

This study utilized a significant level of 5% with a total sample of 205 respondents. The sampling method in this study is to take the name of the cadets randomly according to a predetermined number.

Data collection technique. Documentation Techniques in this study are to collect data on learning outcomes or grades obtained during the education period. Questionnaires or pollings were used to measure cadets' perceptions of Military Teacher's leadership style and competence. In this study, a closed questionnaire is used, namely a questionnaire which requires answers about the respondent and the answers have been provided by the researcher. Alternative answers will be using the Linkert scale.

Hypothesis Testing

Descriptive Analysis. The analysis uses descriptive analysis is an analyisis with statistics to analyze data by describing the data which has been collected as it is without intending to make conclusions which apply to the public or generalizations (Sugiyono, 2002). Descriptive statistics can be used if the researcher only wishes to describe the sample data and does not want to make conclusions which apply to the entire population being sampled. This analysis is used for data description purposes, in which the frequency distribution table is used for each variable. The data frequency distribution table is created by determining the interval class.

Simple Liniar Regression Analysis. Simple linear regression is a linear regression based on a functional or causal relationship of one independent variable with one dependent variable (Sugiyono, 2017). Simple Linear Regression is a Statistical Method which serves to test the extent of the causal relationship between the Causing Factor Variable (X) and the Effect Variable. The causal factor is generally denoted by

X or also known as the Predictor, while the Effect Variable is denoted by Y or also known as Response. Simple Linear Regression or often abbreviated as SLR (Simple Linear Regression) is also one of the statistical methods used in production to forecast or predict the characteristics of quality and quantity.

Individual Parameter Significant Test (Test Statistical t). The t-statistical test basically shows how far the influence of one independent variable individually in explaining the variation of the dependent variable. If the statistical value of t calculation results is greater than t table, it proves that the independent variable individually affects the dependent variable (Ghozali, 2016).

Results and Discussion

Experts mentioned that a professional teacher (also lecturer) is one who has the following characteristics. **First**, one has a good and deep mastery of the material. **Second**, has good teaching skills. Today, the teaching paradigm is student-oriented. This means that the approach used is a student-centered learning process. In this case, the lecturer acts as a facilitator. Various teaching strategies are designed by lecturers so that students can develop into independent learners. It is different from the old paradigm in which lecturers are more active in delivering material to students. **Third**, has a service-oriented personality. This means that students are not just students who must be instructed, but students are clients whose needs must be served. The needs of the student needs are to learn independently. **Fourth**, has the ability to monitor learning outcomes with various evaluation techniques. **Fifth**, can be part of the learning community in their professional environment.

Syeikh Ibrahim (1993) states that knowledge can be conveyed through six things, namely intelligence, love of knowledge, patience, provisions or costs,

teacher instructions, and the past. Based on this statement, it is seen that one of the ways to gain knowledge is to involve teachers or lecturers or educators during the learning process.

Education is the process of developing abilities, attitudes, and forms of behavior in the society in which they live and social processes so that people have optimal social and individual abilities. Education is a conscious and planned effort to create a learning atmosphere and learning process so that people actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, and skills needed by themselves, society, nation and state.

The purpose of education will be responded perfectly when the teacher becomes one of the pillars of the delivery of knowledge has professionalism. Professional teachers are able to develop appropriate teaching methods and materials. Teachers are able to develop their knowledge to support their profession.

Characteristics of Military Teachers (*Gumil*)

Military teachers (*Gumil*) or lecturers as one of the important components in the education system are also required to have the qualities of professionalism. According to Simarmata (2016), the law states that professional teachers are teachers who have four competencies, namely pedagogic competence, personality competence, professional competence, and social competence. In short, pedagogical competence is the ability to teach, professional competence is the mastery of knowledge in the field, personality competence is having a strong personality, and social competence is the ability to communicate effectively.

The number of *Gumil* at the Military Academy is as described in Table 1. Male *Gumils* are dominating the teaching staff. Meanwhile in general female *Gumils* will provides non-military subject matter, such as management, social sciences, English, physics, chemistry, dan mathematics. Furthermore, the male *Gumils* are in charge of both military and non-military material, or activities related to military subjects and physical abilities.

Male *Gumils* dominate in the education process at the Military Academy due to the recruitment process in which the number of female soldiers is less than the male. This condition has resulted in fewer number of female *Gumils*.

In the military environment, there are no differences between male and female, both in terms of their duties and responsibilities. The work load charged for each personel is adjusted to the position attached to each of them. Similar to that fact, *Gumils* in the military academy are also in no difference. The only difference is the position and expertise which must be adjusted to increase professionalism in terms of teaching and learning.

The teaching quality of the female *Gumils* is as good as the male *Gumils* although there are some facts show that there are some prominent differences between the male and female *Gumils*. Psychomotorically, the male teachers are clearly more agile, faster, and have more energy than female *Gumils*. This is due to the anatomical structure of the female body which affects the women's movement to be more limited than that of men. For example, during the recruitment of cadets in 2017, in one wave or one batch of admissions, there were a total of 350 candidates in which were divided into two, namely 338 men and 12 women. Recruitment of female cadets is not necessarily to be held every year and this also happened in other sources or military academy, such as *Sepa Prajurit Karier* (those with Bachelor degree) and Bintara Prajurit Karier (those with high school diploma) which are also insignificant in percentage. Therefore, it will affect the number of female cadets or *Gumils* in the long term.

The results of research conducted by Rusli (2002) on physical education and health teachers in senior high schools show that there are fewer female teachers compared to male teachers because women prefer to have a relaxed and less strenuous type of profession. Meanwhile the teaching profession of physical education and sports is one of the jobs which really drains the energy. It is the job which is more often requires the teachers to be outside the classroom or in the field so it must have extra physical conditions. Overall, teachers are required to be able to master all the sports which will be taught because the practical material must be in accordance with the techniques which have been determined in the training lesson.

Based on this, conclusion can be made that the mechanism of Military Academu education is indeed different from other education. Physically based education is provided to all cadets regardless of gender. Female *Gumils* will have to do what the male *Gumils* do.

Table 1. Distribution of *Gumils* based on Gender

Gender	Number of *Gumils*	Percentage
Male	232	89.33
Female	28	10.77
Total	260	100.00

The education system at the Magelang Military Academy uses a block system in which the learning is carried out simultaneously in the batch or around 14 branches divided into 20 classes. This shows that every teaching level is conducted in the same material, must involve *Gumils* in the same number as the number of classes, which is 20 classes or to be stated that in one class there must be one *Gumil* as the material teacher. Thus, if there is a *Gumil* who is concurrently in the same material and within the class, it is feared that there will be clashes or doubles during the teaching process. Therefore, it is necessary to have a *Gumil* who is competent in the subjects of a number of existing classes. For military material which supports tactics and strategy activities, personnel (cadets) and trainers are needed to maximally and thoroughly in the implementation of these practices. In cases when practicum activities in large groups cannot be carried out, the learning process will be carried out simultaneously and in groups of smaller number of cadets at the same time.

From the data in Table 2, it is stated that the number of 260 *Gumils* is divided into 159 *Gumils* teaching the military lessons and 101 will be teaching the non-military lessons or general material. Among the total *Gumils* who teach at the level II/*Sertar*, there are 2 teachers with doctoral degree (S-3), 79 with Master degree (S-2) and 76 with bachelor degree (S-1). However, there are still 103 teachers who do not yet have their master degree due to the subjects they teach are purely in the military fields, but on the other hand, they have obtained the requirements as military *Gumils*, such as courses on military teachers, upgrading of the educators, technical guidance and many other trainings which are supposed to support them as teaching staff.

Table 2. Distribution of *Gumils* based on the Educational Degree and Subject Taught at the Academy

Educational Degree	Number of *Gumils*	Military Lesson	General Lesson
Non Degree	103	103	-
Bachelor Degree	76	33	43
Master Degree	79	23	56
Doctoral Degree	2	-	2
Total	260	159	101

Over time, there were some *Gumils* who were retired, Tour of Area, and being seconded somewhere else so that there was a shortage of material-supporting *Gumils*. To fill this shortfall, the relevant staff request an application letter to the top command or Headquarters as a policy maker in accordance with the existing procedures to fill the shortage because the Military Academy institution does not have the authority to directly appoint competent personnel according to their field.

Simply to be said, the recruitment process for Military Teachers (*Gumils*) at the Military Academy can be illustrated as follows (Figure 1).
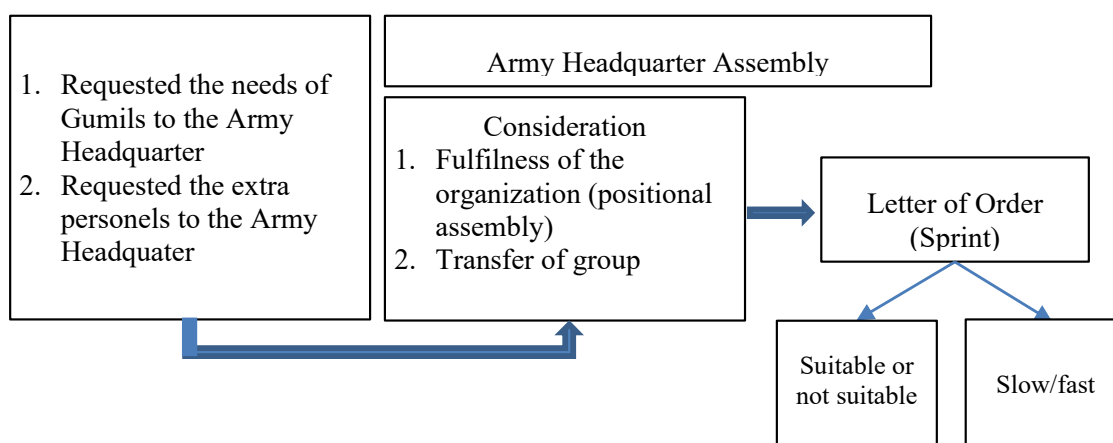
Figure 1. Flow of *Gumils'* Proposal Needs

The learning mechanism applies in the Military Academy is a class system with 30 cadets at maximum number in the class. In the division of classes or platoons, the cadets must pass a psychological test organized by the Army Psychology Service (Dispsiad). For now, level II is divided into 20 classes and further to be divided into 14 branches. Each class is not necessarily the same due to adjustment made based on the needs of the organization and the policies of the upper command. In each platoon or class, the number of cadets is different, some have 30 cadets, other have 16 cadets, while some have less than 10 cadets. In the policy of determining classes or platoons, each bacth has a different view of the needs of the organization.

Characteristics of the Cadets

Age can describe a person's personality traits. This trait is related to environmental conditions. The age of the cadets is included

in the category of searching for one's identity. Makmun (2004) states that the behavior of early adolescents (11-15 years), and late adolescents (15-20 years) is characterized by a desire to be alone and hang out with many friends, but it is only temporary, and they also have a strong dependence on peer groups accompanied by a strong spirit of conformity. At that time, there was also a change in cognitive behavior, such as thinking processes to be able to operate the rules of formal logic (association, differentiation, comparison, causality which were abstract, although relatively limited). There is an ambivalence between the desire to be free from the domination of parental influence and the needs and assistance of parents. Critical

attitudes and ways of thinking begin to test the rules or ethical value systems with the reality in everyday behavior by their supporters. There is a desire to identify morality figures who are considered appropriate with the type of idol.

The distribution of cadets by age is shown in Table 3. From the table data, the average cadet is 21 years old, in which there are 81 people or with a percentage of 39.5 percent. This shows that the cadets are in accordance with the phase or level in the education level. The minimum age limit at the time of registration is 18 years and the maximum is 22 years. The average age of level II cadets is 21.3 years.

Table 3. Distribution of Cadets based on Age

Age	Number of Cadets	Percentage
< 20	8	3.90
20-22	165	80.50
23-25	32	15.60
Total	205	100.00

According to Santrock (2015), the age of 18 to 22 is included in the early adulthood stage or in the search, discovery, stabilization and reproductive period, which is a period full of problems and emotional tension, a period of social isolation, a period of commitment and dependence, changes in values, creativity and adjustment to a new lifestyle. As an individual, one has begun to break away from dependence on others, especially from their parents, both economically, sociologically and psychologically. They will strive to become more independent in every effort they will make so that they are no longer dependent on others. Another character according to Erikson (in Monks, Knoers & Haditono, 2001) is that someone who is at this stage begins to accept and

assume heavier responsibilities and at this stage intimate relationships begin to take effect and develop. Individuals do not have to depend economically, sociologically or physiologically on their parents (Dariyo, 2003).

The character of a one's belief or religion is formed through their interaction with their environment, such as family, in which they spend themselves learning and mingling, including religious life. Religious education is the basic foundation of a nation, so it is important to have religious education from an early age. Instilling religious education from an early age in life makes one awares that everything or actions must be accounted for to God as the Creator.

Table 4. Distribution of Cadets based on Religion

Religion	Number of Cadets	Percentage
Islam	170	82.93
Catholic/Protestant	29	14.15
Hindu	6	2.93
Total	205	100.00

Based in characteristic data according to the religion and beliefs, the majority of cadets are Moslems (82.93 percent), followed by Christians, both Protestants and Catholics (14.15 percent) and the last one is Hindu (approximately 2.93 percent). Indonesia is famous for the largest Moslem population after countries in the Middle East. The population is Moslems can be found in almost areas, both urban and rural areas. Therefore, it is in line with the number of cadets who are mostly Moslems.

Data obtained from the majors during high for cadets or respondents, it shows that the majority of cadets originally from the science studies major during high school majors (96.10 percent). The number is highly different significantly compared to those who came form social studies majors (3.90 percent). Science majors are indeed widely accepted into the Army with the expectation that their mindset and ways of solving problems can produce decisions quickly and accurately. This value is expected for better future leaders.

Table 5. Distribution of Cadets based on the High School's Majors

High School's Majors	Number of Cadets	Percentage
Natural Science	197	96.10
Social Science	8	3.90
Total	205	100.00

Based on the characteristics of respondents according to the area of origin, the majority are from Java and Bali according to the data collected (60.98 percent), followed by Sumatera (15.61 percent), Sulawesi (7.80 percent), and Magelang (5.85 percent), while the rest are from Sabang to Merauke.

Java/Bali is indeed highly synonymous with various advantages, in terms of education which is quite advanced in various majors compared to areas outside Java. This results in more students Java/Bali who are qualified to the requirements.

Table 6. Distribution of Cadets based on the Origin

Origin	Number of Cadets	Percentage
Magelang	12	5.85
Java/Bali	125	60.98
Sumatra	32	15.61
Borneo	11	5.37
Sulawesi	16	7.80
Other islands	9	4.39
Total	205	100.00

The dominance of cadets from Java and Bali is a challenge for the managers in providing better education. The cadets' expectations for better education need to be put forward because the Java-Bali cadets have far more references to good education management.

Leadership of a *Gumil* / Lecturer

Leadership in this study was measured by 4 types of leadership, namely supportive, participatory, directive, and future-oriented. Each dimension was measured using a Likert scale from strongly agree to strongly disagree. The classification of leaders is as follows.
1. Supportive leadership is a form of leadership which measures aspects of clear assignments, responsibilities, concerns and creates a friendly learning climate. Policies which are fair and impartial to certain parties are also a component of supportive leadership assessment.
2. Participatory leadership emphasizes the types of giving opportunities for cadets to have opinions, submit suggestions, parallels between a *Gumil* and cadets in the learning process. *Gumil* is open for suggestion in the learning process, such as an explanation of learning instructions, objectives, and methods to be used.
3. Directive or authoritarian leadership is measured by a *Gumil* decision making without involving cadets. The cadets are not invited to decide or determine the method or material to be delivered. When changing the schedule or adding class hours, the *Gumil* is not open for discussion with the cadets. *Gumil* considers himself more important and powerful than the cadets.
4. Achievement oriented leadership is a form of leadership which tries to motivate, encourage creativity, always try and never give up. *Gumil* motivates cadets to develop themselves, both academically and non-academicly.

Based on Table 7 regarding the cadets' perception of the *Gumil's* supportive leadership, it shows that 67.32 percent of *Gumils* have supportive leadership. This means that the majority of cadets stated that most of the *Gumils* were able to build academic intimacy with the cadets. *Gumils* offer responsibility and trust to the cadets in the learning process. The cadets think that the tasks given by *Gumils* are given in a clear and directed manner. There are also *Gumil* who provide explanations and directions before the cadets complete their tasks.

Table 7. Distribution of Perception of Cadets on the Supportive Leadership of *Gumils*

Perception of Cadets on the Supportive Leadership of *Gumils*	Number of Cadets	Percentage
Not enough	1	0.49
Moderate	66	32.20
Good	138	67.32
Total	205	100.00

However, there are still 32.20 percent of cadets who provide an assessment that *Gumils* have not maximally had the supportive leadership traits. Gibson (1997) states that the leader, in this case *Gumils*, must have the ability to manage, direct, command and motivate the cadets to obtain the desired goals. In the education process, it is necessary to create a good learning communication between *Gumils* and cadets in order to create a harmonious learning relationship. Gibson (1997) further explains that the leaders or *Gumils* are expected to explain all problems to the cadets and create a friendly atmosphere so that the cadets do not hesitate to discuss, and appreciate the performance of the cadets.

Participatory leadership is a leadership style which emphasizes equality. *Gumils'* leadership style always involves cadets in the learning process, including learning methods and materials. Gumils invite cadets to determine the learning process so that they feel they have and enjoy the material provided.

Table 8. Distribution of Perception of Cadets on the Participatory Leadership of *Gumils*

Perception of Cadets on the Participatory Leadership of *Gumils*	Number of Cadets	Percentage
Not enough	5	2.44
Moderate	125	60.98
Good	75	36.59
Total	205	100.00

Based on Table 8, it is stated that Participatory leadership is in the moderate category (60.98 percent). Participatory leadership is formed when *Gumils* provide subject matter in the form of case studies and simulation practices. Gumils for the Level II cadets do not use participatory teaching patterns because of the characteristics of the cadets. Level II cadets are still undergoing some basic courses and military courses which require discipline and thoroughness, such as the Army doctrine, basic leadership, shooting techniques for light weapons, and so on.

Meanwhile, Directive Leadership according to House in Robbins (2006) is a leadership style which has a positive relationship with the satisfaction and expectations of subordinates or cadets. Superiors often give orders or special tasks (autocracy). Davis and Newstrom (2006:164) state that directive leadership is a leader who

concentrates power and decision-making for himself. The leader manages complex work situations for employees who do whatever they are told. The leader has full authority and assumes full responsibility. Leaders who have this style generally often give orders or special tasks to their subordinates, make important decisions and are heavily involved in their implementation. All activities are centered on the leader. Basically, the directive style is an authoritarian style.

Table 9. Distribution of Perception of Cadets on the Directive Leadership of *Gumils*

Perception of Cadets on the Directive Leadership of *Gumils*	Number of Cadets	Percentage
Not enough	62	30.24
Moderate	131	63.90
Good	12	5.85
Total	205	100.00

From Table 9, it can be seen that 69.7 percent of respondents said the Directive of the Directive of their *Gumils*. This is because in the military education, real attendance is required in the teaching and learning process, and activities must be on schedule and on time due to the density of each activity. As Davis and Newstrom (2007) mention, directive leadership is a leader who concentrates power and decision-making for himself, the leader manages complex work situations for employees who do whatever they are told. The leader has full authority and assumes full responsibility. However, the cadets wish the *Gumils* to promote dialogue and do not have full authority in the learning process.

However, in the Military Academy education process for level II, this type of directive leadership is still needed to provide an example of assertiveness and responsibility as decision makers. It is expected that the cadets can carry out their duties well, create a spirit of activity and in the end the planned learning objectives can be achieved properly.

According to House in Robbins (2006), achievement-oriented leadership, namely leadership which poses attractive challenges to subordinates or cadets and stimulates them to achieve goals and carry out well. The higher the orientation of the leaders or *Gumils* for achievement, the more subordinates or cadets who believe it will result in effective work implementation.

Table 10. Distribution of Perception of Cadets on the Achievement-Oriented Leadership of *Gumils*

Perception of Cadets on the Achievement-Oriented Leadership of *Gumils*	Number of Cadets	Percentage
Moderate	100	48.78
Good	105	51.22
Total	205	100.00

From Table 10, 51.22 percent of respondents stated that the leadership was achievement-oriented. *Gumils* always provide the latest information to build the motivation of the cadets. Besides that, *Gumils* also provide opportunities for the cadets and guides the cadets to take part in both academic and non-academic competitions held between batches and between universities. This type of leadership style set goals to challenge and stimulate the cadets, expect the cadets to excel as high as possible, believe in the cadets' abilities to achieve them, and continually seek academic and non-academic achievements.

Table 11. Total Leadership of the *Gumils* based on the Cadets

Total Leadership of the *Gumils* based on the Cadets	Number of Cadets	Percentage
Not enough	38	18.54
Moderate	130	63.41
Good	37	18.05
Total	205	100.00

Based on Table 11, most of the cadets (63.41%) stated that the leadership of *Gumils* was moderate. This condition needs to be taken into consideration because there are considerations from the cadets that the *Gumils* in the learning process still prioritizes unidirectional education patterns and do not involve cadets in making learning decisions. This is due to the pattern of education in the military environment which is still influenced by several activities as follows.

a. Limited learning hours compared to parenting hours outside of class hours.
b. The education pattern system in the military environment has its own cadet corps culture/characteristic.
c. Many protocol activities which take the time for the teaching and learning process.
d. There are still policies which do not support *Gumils* in the learning process.

Quality of Cadets

The purpose of the learning process at the military academy is to form qualified cadets. This will enable the cadets to plan, to implement and toevaluate activities. The qualities which must be possessed by a leader are able to influence, take responsible decisions, dare to take risks, be honest and trustworthy. loyal to superiors and respect for subordinates and future oriented.

The characteristics which must be possessed by cadets as future leaders in the military environment are the main capital and basic provisions which must be inherent in each indivisual. This is in line with several indicators which reflect the values of a leader as illustrated in Table 12 , namely a cadet can plan activities (96.6 percent), can carry out activities well (98.0 percent), can evaluate correctly (98.0 percent), cadets feel they can be oriented towards the future (97.6 percent), are able to influence other people for the sake of common goals and interests (88.8 percent), being able to make decisions quickly and accurately (84.4 percent), daring to be responsible for the decisions taken (96.6 percent), daring to take risks in what they do (84.6 percent) and the last is the most basic one, namely honest and trustworthy (98.5 percent). This is a description of the data obtained based on the results of the questionnaire which the cadets submitted and was carried out randomly to see the

extent to which leadership values were embedded in each cadet.

At level II/*Sertar* cadets, they are still classified as early formation education in which they still need ways to convey orders or goals by using a directive or authoritarian system to shape the character of cadets who are more mature and become more militant to instill a good leadership spirit in accordance with expectations in educational institutions. It can be seen from the research results that 88.4 percent stated that some cadets have the courage to make decisions quickly and accurately, 84.6 percent of cadets are brave in taking risks, 88.8 percent of cadets are good in influencing others. From the example above, there are still cadets who do not dare to take risks in making decisions quickly and accurately. This is a common concern that not all cadets of level II have the spirit of leadership to the fullest, that there is still a need for directive/authoritarian educational methods to indoctrinate and provide an understanding that the cadets will become future leaders who must have a good leadership spirit.

Table 12. Distribution of Percentage of Values of a Leader

Leadership Values	Number of Cadets	Percentage
Ability to plan an activity	198	96.6
Ability to carry out activity plans well	201	98.0
Ability to evaluate activities	201	98.0
Ability to think with future orientation	200	97.6
Able to influence	182	88.8
Decision making speed	171	84.4
Take responsibility for an action	198	96.6
Dare to take risks	194	84.6
Honest and trustworthy	202	98.5

With the leadership values embedded in the cadets, it is expected that in the future they will become a leader who is trustworthy, responsive, responsive and capable and able to overcome the challenges they face and dare to take risks in what is their decision. A leader of course must have basic principles which must be inherent in one self in accordance with leadership theory, namely being able to influence others for the sake of common interests and goals so that the results achieved can be beneficial to all members and dares to make decisions quickly and precisely without any one of the injured parties. Furthermore, a leader must be dare to take risks for whatever has been done for the common good without involving other people. Thus, these leadership values still need to be improved to achieve the expected goals so that the results of cadets after completing their education at the military academy have reliable leadership qualities and cover all aspects of leadership values.

The regulation of lecture time in a day is a maximum of 7 lesson hours (JP) or equivalent to 420 minutes and in one week, the lesson hour is a maximum of 40 lesson hours or equivalent to 2,400 minutes. The learning schedule has been distributed from the education section a maximum of Friday in the week before the learning process. In current education operations, the system of lesson hours is still not using the course credit system (*sistem kredit semester/SKS*). The curriculum in the military academy currently uses the lesson hour system (JP) in the teaching and learning process, in which 1 lesson hour is equivalent to 50 minutes. The

provisions on the total of hours in lessons in one material are different according to the needs and relevance of the subject.

In receiving subject matter, all cadets get the same quality, starting from General Basic Course (*Mata Kuliah Dasar Umum*/MKDU) or non-military material, basic military material, general military material and physical material. All cadets will be getting the same portion, only branch introduction material which distinguishes the cadets in receiving material according to the corps each, but the number of hours of lessons are in the same portion. Thus, the majority of cadets receive the same lessons. This is evident in every exercise and practicum in the field carried out simultaneously or together.

The exams in the learning system at military academies is different from the exam system on campus in general. In carrying out the exams, schedules are not divided into midterm and final exam because the Military Academu has not implemented the system yet and it is still under the discussion to be implemented in the next academic year. The current implementation of the exam is carried out after the subject has been delivered, both theory and practice, then an exam is immediately held to take scores. As for the grades for practicum, it can be taken during the practicum activity. Thus, the taking of grades is carried out after the material has been delivered and there is no specific schedule for the exam to be done simultaneously or all together.

The quality of cadets can also be seen from the Temporary Achievement Index which is a combination of the grades of attitudes and behavior, academic knowledge, and physical skills.

The Influence of *Gumisl* Leadership Patterns on the Quality of Cadets

The method used is multiple linear regression. Regression was chosen because it was to determine the magnitude of the influence of the types of *Gumils* leadership on the quality of cadets. Multiple linear regression was chosen based on:

1. Scale of data (primary to dependent variables is ratio)
2. There is more than one independent variable which is expected to affect the dependent variable.
   Below are the variables to be used.
   Dependent variable or Y = quality of cadets
   Independent variables:
   X1 = Type of supportive education
   X2 = Type of participative education
   X3 = Type of directive/authoritarian education
   X4 = Type of achievement-oriented education The inferential analysis of these variables is as follow (Table 13).
3. The relationship between *Gumils* and the directive education pattern with the education quality of the cadets are:
   a. The relationship between *Gumils* and the directive education pattern on the quality of cadets is 42 percent
   b. *Gumils'* contribution to the directive education pattern on the quality of cadets is 18 percent
   c. *Gumils* type with a directive education pattern on the quality of cadets is effective for cadets with low quality
4. The relationship between *Gumils* and the directive and supportive education pattern on the quality of cadets is:
   a. The relationship between *Gumils* and the directive and supportive education pattern on the quality of cadets is 51 percent
   b. *Gumils'* contribution to the directive education pattern weakens at the same time as the *Gumils'* type of education with a supportive education pattern
   c. *Gumils'* contribution with a supportive education pattern to the quality of cadets is 7.8 percent

5. The relationship between *Gumils'* type of education and directive, supportive, and participatory education patterns on the quality of cadets are:
   a. The relationship between *Gumils* and the pattern of directive, supportive, participatory education on the quality of cadets is 54 percent
   b. *Gumils'* contribution to the directive education pattern along with the supportive and participatory education pattern is getting weaker
   c. The contribution of *Gumils'* type of education to the participatory education pattern is 3 percent
6. The relationship between *Gumils* and the educational pattern of directive, supportive, participatory, achievement orientation towards the quality of cadets are as follow.
   a. The relationship between *Gumils* and the educational pattern of directive, supportive, participatory, achievement orientation towards the quality of cadets is 56 percent
   b. *Gumils'* contribution to the directive education pattern along with the type of supportive, participatory education, achievement orientation is getting weaker.
   c. The contribution of *Gumils'* educational pattern based on achievement orientation is 2.6 percent.
7. The quality of education for level II cadets is mainly influenced by *Gumils* with a directive education pattern.

Table 13. Distribution of Regression Formulation and Acceptance of Regression Model

Regression Formulation	Acceptance of Regression Model	Contribution Xn
Y = 28.30 + 6.5 X3	42.4 %	18.0 %
Y = 50.28 + 5.7 X3 + 4.3 X1	50.8 %	7.8 %
Y = 60.57 + 4.9 X3 + 3.9 X1 + 3.1 X2	53.9 %	3.0 %
Y = 72.40 + 4.0 X3 + 3.0 X1 + 3.0 X2 + 3.19X4	56.3 %	2.6 %

The relevant form of education to improve the quality of Level II cadets is authoritarian or directive. The form of education given is an order to the cadets and they must do it without being given the opportunity to know the reasons they have to do it. Sanctions for cadets who commit violations are highly possible. *Gumils* tend to give orders and prohibitions. If there is a difference between Gumils and the cadets, it is considered as a violation.

The consideration of the Military Academy Management with an authoritarian form of education at Level II cadets is because most of the cadets come from military families who incidentally have a higher level of courage than non-military children. Nurcahyanto (2020) stated that the label "*anak kolong*" causes a person to feel different from others so they tend to be more courageous. Parenting patterns which emphasize discipline, firmness, independence and responsibility are hard to indirectly shape the personality of the cadets in life. This condition is the background for the Military Academy Management to develop authoritarian education to build a spirit of togetherness and kinship among fellow cadets. *Gumils* have the responsibility to change the habits of the cadets who are

spoiled, willing to win on their own, have no challenges, feel right and do not pay attention to the environment into a person who is empathetic, responsible, dares to take risks, and is ready to make decisions quickly. Based on the study of Pramesthie and Satwika (2019), authoritarian parenting is not reasonable in the development of children's lives. Children will tend to be moody, unhappy, not creative, waiting for orders or lacking initiative.

Table 13 shows that when an authoritarian form of education is combined with a supportive form of education, the achievement of quality education is still relevant. For certain material, *Gumils* will have to practice the authoritarian type of education or give orders and prohibits. However, for certain subjects, *Gumils* tend to use a supportive form, which means that *Gumils* still provide encouragement and an equal position to the cadets. *Gumils* develop interesting education and invite cadets to develop their curriculum. *Gumils* give clear and directed orders so that Level II cadets are able to carry out assignments with ease. In their firmness and discipline, *Gumils* can still be invited to dialogue and discuss when the cadets have difficulties. Another thing to be achieved in this review is to create cadets with a perfect leadership spirit.

Conclusion

As for the educators at the Military Academy are called Military Teachers (*Gumils*), the leadership of military teachers towards the Military Academy cadets has an influence on the quality of cadets, but it is not significant because there are still several other factors which can affect the quality of Military Academy cadets. Other factors which support the creation of qualified cadets are regular guidance from the battalion commander, parenting hours or coaching hours which are attached after receiving subject matter in a class with longer duration. In receiving

lessons in classes, cadets only get 9 hours a day, thus more time is spent outside the classroom or in the nurturing corps. Thus, *Gumils'* leadership on the cadets has no significant effect on the quality of the cadets. Due to the Military Academy cadets' education system being quarantined only in the academy, they are not allowed to interact with the surrounding environment, in contrast to students in general who receive lessons or training only from lecturers or teaching teachers in the classroom.

Gumils' leadership style consists of supportive leadership, participative leadership, directive leadership, and achievement-oriented leadership. Of the four leadership styles, the most influential on the quality of the Level II Military Academy cadets is the type of directive leadership because the Level II cadets are still in the period of character building and are still in transition from a civilian to a military officer, it is necessary to apply a directive or authoritarian system to directing to a common goal and forming a spirit of togetherness among fellow cadets.

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Impact of Agile Organization and Leadership on Employee Experience: Case Study UPTD (Technical Implementing Service Unit) Digital Service Center, Geospatial Data and Information of West Java Provincial Government (Jabar Digital Service)

Ridhwan Adhikersa[1], Wahyudi Kumorotomo[2], Achmad Djunaedi[3], and Agus Heruanto Hadna[2]

[1]Graduate School of Leadership and Policy Innovation, Universitas Gadjah Mada, Yogyakarta, [2]Faculty of Social and Political Sciences, Universitas Gadjah Mada, Yogyakarta, [3]Faculty of Engineering, Universitas Gadjah Mada, Yogyakarta, Indonesia

Corresponding Author: Ridhwan Adhikersa (email: adhikersa@mail.ugm.ac.id)

Abstract

This research is a mixed study which analyzes the implementation of agile organization and agile leadership, and analyzes the impact of its implementation on employee experience at the Technical Implementing Service Unit Digital Service Center, Geospatial Data and Information of West Java Provincial Government or called Jabar Digital Service (JDS) This research was conducted by searching for information on civil servants (PNS) and expert employees about organizational and leadership methods applied in Jabar Digital Service. Concepts of agile organization and agile leadership and researching quantitatively the perception of employee experience of expert employees on the implementation of agile conceptions to organization and leadership in Jabar Digital Service using Structural Equation Modeling (SEM) with a Partial Least Square (PLS) method was compared. This study shows that the implementation of agile organization and agile leadership can be applied in government organizations which are in fact rigid about change which is also shown by the level of positive perception of expert employees on employee experience in the Jabar Digital Service environment.

Keywords: agile organization; agile leadership; employee experience

Introduction

The Indonesian government is currently in the third phase of bureaucratic reform in both the central and local government bureaucracy. The focus is to creating world-class government services which is stated in the grand design of bureaucratic reform in Presidential Regulation No. 81/2010 concerning the Grand Design of Bureaucratic Reform 2010-2025, as well as the *revolusi mental* program proposed by President Jokowi in 2014 (Adiperdana, 2016).

Field facts show that bureaucratic reform has not yet been fully implemented in all government agencies (Kompas.com, 2021). Public Service Index (PSI) which is a measurement to see how far the

effectiveness of a public service in ministries, non-ministerial institutions, and local governments with service policy variables; HR professionalism; infrastructure; public service information system; consultation and complaints; as well as service innovation.

The national PSI score is 3.63 which means it is in the Good category. It is supported by the PSI performance of Ministries, while the local government PSI score is at 3.43 which is in the Good (With Notes) category (Suaramerdeka.com, 2021).

Table 1. PSI Public Service Index

PSI	2017	2018	2019
Local Government	3.28	3.14	3.43
Ministries	-	3.62	3.83
National	3.28	3.36	3.63

Source: KEMENPAN RB https://www.menpan.go.id/site/pelayan-publik/index-pelayan-publik-ipp, Accessed on July 18, 2021.

The problem with the service of public organizations is not only the changing in methods or tools in services support, but also the leadership and bureaucracy of public organizations which can hinder the implementation of good governance in public organizations. Generally, public organizations in developing countries apply to a layered hierarchy. Doz, et.al. (2018) stated that the hierarchy in public organizations in developing countries has a hierarchical style of feudal organization and control-oriented organizations on leaders. This makes the problem solving or decision-making process of public organizations tend to be long because there are silos in each department.

The massive development of information technology provides opportunities for public organizations to transform digital-based organizational business processes. The needs and demands of the community to obtain appropriate policies can be done by utilizing information technology, such as big data and artificial intelligence. Snow, et. al. (2017) stated that digital instruments are not only a supporting factor for the organization's business processes, but also the instruments can be one of the determining factors for strategic decision making both in the organization and in the leadership. Digital

transformation basically has prerequisites which are needed by the organization to apply agile methods, both in organization and in leadership(Snow, et. al., 2017).

Carrasco, et.al. (2018) in his paper entitled *Agile as the Next Government Revolution*, revealed that basically agile can be applied to public organizations, agile allows public organizations to get more value from public services with innovation, adaptation, responsiveness, and collaboration that have agile values, thus public organizations can provide more optimal services and respond to dynamic public desires. Agile organizations basically focus on micro-management in organizations in which the relationship between instruments in the organization is no longer like a feudal relationship focusing on leaders, organizations which are agile in responding to changes can work well if they make organizational members can feel good experiences at work Organization. Meanwhile Morgan (2017) mentioned that the relationship between employees or members of the organization on organizational instruments is the focus of future HR management which Morgan called employee experience. Morgan's employee experience is the attachment and role of employees to the organization. Here employees are no longer

considered as 'tools' or factors of production, but become instruments in organizational development.

Literature Review

Agile is an approach, concept, model or concept which is repeated in project management and software development. Agile focuses on interaction and collaboration between teams and quality output, agile is often referred to as the mindset and spirit in organizations which require changes in each of their products quickly (Atalssian, 2015; Steve, 2019). In its development, the concept of agile developed not only applies to the software development process, but can be applied to the entire organization.

Organizations which are based on the agile concept can be said to be organizations being responsive to change, innovative, collaborative and process-oriented organizations. When viewed from the explanation of the agile concept, the key to agile is the high motivation which the organization has in the organization's business processes through active communication both within the organization (Martin, et.al., 2003). Therefore 'agile' can be used as a concept seeking to fulfill organizational goals effectively, responsively, adaptively, collaboratively, and innovatively.

Agile Organizational

Embedding agile concepts in organizations in general in the era of digital transformation will improve organizational performance in developing and delivering products or services. Besides that, organizational agile can provide more benefits in the formation of internal organizational interactions both in performance resulting from work efficiency and social interaction collaboration between teams. Aghina, et.al. (2017) illustrated the basic difference between traditional feudal organizations and agile organizations.

Overview of the understanding of the differences between agile and traditional organizations put forward by Aghina, et.al. (2017). Figure 1 can be used as a fundamental for understanding agile organizations. Agile organizational understanding can be formed from self-organization understanding, at which Medinilla (2012) adapting the agile manifesto principles to "the best architectures, requirements, and design emerge from self-organizing team" indicates that an agile organization implies the existence of self-organization in the implementation of the organization's business processes. Mendibil and MacBryde (2006) mention self-organization can be achieved at the independent and interdependent levels in the organization. This indicates that an agile organization needs to provide team opportunities in contributing to organizational fulfillment.
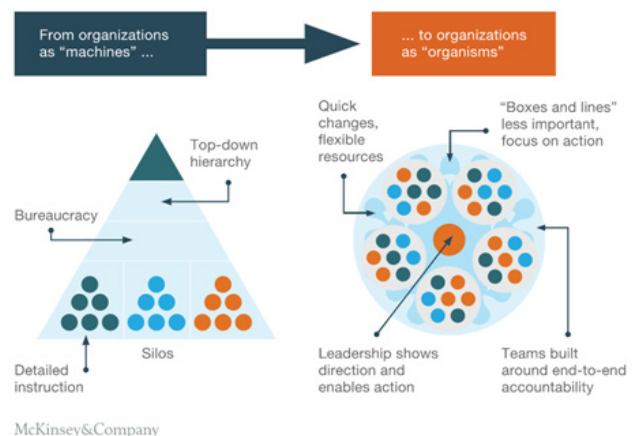
Figure 1. Comparison of Traditional Organizations and Agile Organizations (Aghina, et.al., 2017)

The characteristics of the organization in the agile concept give us an idea that the organization is not always the center of attention, but a system which integrates and collaborates with each other, both in internal organizations and relationships between organizations. This makes the direction of power relations in work relationships within organizations in the digital era or in the current disruptive era, power which previously

emphasized power and the fulfillment of organizational sectoral ego needs has shifted to a synergistic relationship with one another with a collaborative and agile approach.

Agile organization in the public sector does not have a significant difference in measuring how agile public organizations are. The only striking difference is how the attitude of public organizations in preparing and forming a regulation in fulfilling requests from the public (Kumorotomo, 2020). The rest of the researchers assess to measure the extent to which organizations implement agile in their business processes can use some of the concepts presented by (Morris, et.al., 2014) and (Aghina, et.al., 2017).

Agile Leadership

A leader is a key of every organization, whereupon a leader according to (Capowski, 1994) is someone who has creativity in seeing things and can motivate and inspire a team. Kotter (2001) added that a leader can also align the team within the organization in order to achieve organizational goals. Based on both of these opinions, leadership is more likely to be personal-touch or dependent on whom (subjectivity).Winkler (2010) explain that the characteristics can understand leadership in organizations through contemporary approaches., andthe leadership process in organizations can be seen as a process of interaction between a leader and subordinates. Winkler further adds that every individual in the organization has an interest in and has the potential to become a leader in the organization making the relationship between leaders and subordinates not more

feudal, but egalitarian, and there is even a mutually beneficial relationship between the leader and subordinates. Winkler's opinion indicates that the organization in contemporary discussion is no longer egocentric, but becomes eco-centric. Eco here is defined as the environment in the context of this discussion can be linked to the organizational environment, as well as ecosystem (Kelly, 2018).

The concept of agile leadership which is not far from the leadership concepts presented by Winkler (2010) and Kelly (2018), Morris, et.al. (2014) mentioned that agile leadership is important in agile organizations. Actually agile leadership does not only discuss the self-actualization of a leader, but also focuses on self-actualization in the organization. Morris, Ma and Wu stated that there are six qualities of organizational actualization which must be accommodated by leaders, namely: fostering team creativity; fostering team passion in solving important problems; creating a humane environment; fostering individual organizational morale which is integrated with the organization's goals; direct the organization to do good; and direct the organization to do what is best.

Koning (2019) viewed agile leadership more from the way a leader interacts with the organizational environment. Koning explained that there are four roles in agile leadership, namely: co-creator; facilitator; experimenter; and leader culture as in Figure 2. Koning wrote that in measuring how greatly a leader implements agile leadership, agile leadership is not always considered about a leader, but the way and the relationship between the leader and the organization.

Figure 2. Agile Leadership Toolkit (Adapted on Koning, 2019)

The characteristics of agile leadership can basically be applied to any organization, including public organizations, in which the leader is an influencer to subordinates and the organization as a whole. Therefore agile organization cannot be achieved if a leader does not apply agile and agile to change. The following are some opinions shared by Joiner and Josephs (2006), Morris, Ma, and Wu (2014), Morrison, et al. (2014), Olivier, Hölscher, and Williams (2020), and Koning (2019) whose suggest that agile organizations can be formed with the initiative of agile leaders in organizing organizations.

Employee Experience

Employee experience a new concept of HR managerial which makes the focus of employee needs on HR managerial. Morgan (2017) mentions that in the current era of technology utilization or the era of disruption of the managerial concept of HR, there have been several changes where initially the organization considered employees as 'tools' in the production process. The organization assessed the needs of employees to the extent of what is needed to support the work of employees. Then the managerial concept of HR changes the view of employees as 'tools' into factors which increase productivity, in which the organization responds to employee needs to the extent of what employees need to work faster and better. Furthermore, the concept of HR managerial changed to engagement or interest. In this concept, HR managerial views that employee interest in work can increase productivity so that organizations look for what organizations can do to increase employee happiness while still improving employee performance. Eventually the new HR managerial concept views that the experience of employees in working in the organization is the main factor in increasing productivity and employees are given the opportunity to contribute more to the organization.

Niagara Institute released a publication entitled *The Employee Experience in the Public Sector: 9 Practical Ways Team Leaders can have a Positive Impact* which states that the emergence and demand of employees in the new generation triggers a paradigm shift in organizations in assessing employees. Employee experience can be shaped from the way a leaders in shaping organizational culture which require changes in both private organizations and public organizations. Basically public organizations can make employee experience one of the ways the organization increases employee experience and knowledge in order to accelerate organizational goals.

Morgan sees that employee experience focuses on organizational culture, the use of technology and a comfortable work environment. Besides that, employee experience can be used as a long-term approach in assessing employee performance, by giving employees flexibility in efforts to develop self, self-appreciation, and self-expression in an organization. Maylett and Wride (2017) mentions that the leader is the guardian of the employee

experience whereupon the leader's role is to accommodate employees to grow and develop in the organization.

Figure 3. MAGIC-CA Concept (Bridger and Gannaway, 2021)

Unlike Morgan, Maylett and Wride, Bridger and Gannaway (2021) views that there are three lenses in the employee experience lens, namely: organization; HR; and jobs. Bridger and Gannaway put the three lenses on several measurement methods in which each lens has different variables. This makes the concept brought by Bridger and Gannaway more detailed how to see the employee experience of organizational employees. In measuring employee experience, Bridger and Gannaway recommends using the MAGIC-CA model which stands for meaning, appreciation, growth, impact, connection, challenge, and autonomy. Bridger and Gannaway's MAGIC-CA concept was adapted from MAGIC theory developed by Maylett and Warner (2014) by adding challenges and autonomy. MAGIC-CA brought by Bridger and Gannaway is classified under the three lens of employee experience as in Fig. 3 namely self-meaning, appreciation and autonomy are in the organizational lens, then growth and impact are in the work lens, and connections and challenges are in the HR lens.

Research Hypothesis

Based on the theoretical foundation of agile organization and leadership, which is an organization in which agile organization and agile leadership have the same focus, namely focusing on processes that occur in organizations, particularly employees, the principles of agile leadership and agile organization are in line with the Indonesian government's objective to implement dynamic government. Researchers argue that leaders of public organizations in the case of public organizations in Indonesia can use organizational principles and agile leadership and have a tight association with employee views of organizational experience. So, the hypothesis of this research is as follows.

H1: Agile Organization has a positive effect on Employee Experience
H2: Agile Leadership has a positive effect on Employee Experience

Research Method

This research is a mixed study with an exploratory sequential approach. Mixed method is a research methodology which combines qualitative research and quantitative research and aims to analyze both which result in a correlation interpretation between qualitative and qualitative research (Creswell, 2014: p 266). Meanwhile the exploratory sequential approach according to Creswell (2014: p. 276-277) is an approach in the mixed method which examines and explores the phenomena with qualitative approach and then collect quantitative data to explain the relationship between the variables in the quantitative data and the variables found in qualitative data. Therefore the results of the interpretation of this study will be more comprehensive and describe the relationship between the two research variables.
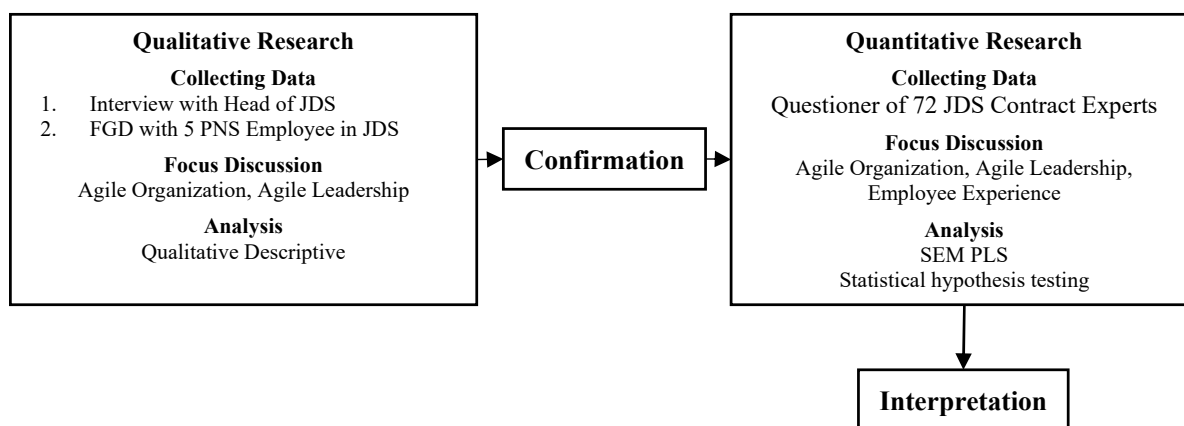
Figure 4. Research Design

This research aims to analyze the implementation of agile organization and agile leadership at Jabar Digital Service and analyze the impact of agile organization and leadership on employee experience at Jabar Digital Service. Details of this research can be seen in Figure 4 in which qualitative research is to find the implementation of agile organization and leadership at Jabar Digital Service by interviewing the head of Jabar Digital Service and focus group discussion (FGD) with civil servants at Jabar Digital Service. The analysis uses in this research is descriptive qualitative, in which the result of interview will be triangulated by focus group discussion with participants, then the result of focus group discussion will be analyzed comparatively with the theory as an idle state of implementation of agile organization (AO) and agile leadership (AL).

Meanwhile the qualitative research aims to find employee perceptions of the implementation of agile organization and leadership and to find the impact of the implementation of agile organization (AO) and leadership (AL) on employee experience (EX). The source of data this research comes from questionnaires distributed to Jabar Digital Service expert employees who are employment status for expert employees and work at Jabar Digital Service with a contract period of one year. The data collection technique in the quantitative data was carried out through an online survey using Google Forms distributed through the respondent's WhatsApp according to the number of samples which had been determined.

The population in this study were 151 Jabar Digital Service expert employees. t

The quantitative research was carried out using a non-probability sampling method with a purposive sampling approach where the criteria for respondents in this research were expert employees with a working period of more than one year. Determination of the number of samples in the quantitative research using the Slovin formula for a total population of 151 people and the population of employees with a working period of more than 1 year is 88, the error tolerance limit in this study is 0.05 or 5% so that the sample calculation in the quantitative research is as follows.

$$n = \frac{N}{1 + Ne^2}$$

$$n = \frac{88}{1 + 88(0.05)^2} = 72$$

Description:
N : Total Population
n : Number of Samples
e : Fault Tolerance

In accordance with the sample calculation using the Slovin formula, the number of samples taken in the quantitative research with an accuracy of 0.95 or 95% was found to have a minimum number of respondents as many as 72 people.

In line with the formulation of the problem in this study, two types of independent and dependent/bound variables can be determined with the following information:

a. The independent variables in this quantitative are Agile Organization (X1) and Agile Leadership (X2).

b. The dependent variable in this third stage of research is Employee Experience (Y).

TIn quantitative research, there are three theories which are used as reference for the questionnaire. Agile organization (AO) based on the five trademarks of agile organization by Aghina, et.al. (2017), agile leadership (AL) based on agile leadership toolkits by Koning (2019), and employee experience (EX) based on MAGIC-CA by Bridger and Gannaway (2021). Table 2 is a detailed indicator for each variable.

Table 2. Research Instrument

Variable	Theory	Indicator		Scale
Agile Organization	Aghina, et.al. (2017)	1. North star embodied accross the organization 2. Network of empowered teams 3. Rapid decision and learning cycle 4. Dynamic people model which sparks passion 5. Next generation enabling technology		Likert interval
Agile Leadership	Koning (2019)	1. Co-Creator 2. Facilitator 3. Experimenter 4. Leader culture		Likert interval
Employee Experience	Bridger and Gannaway (2021)	1. Self Meaning 2. Appreciation 3. Growth 4. Impact	5. Connection 6. Challenge 7. Autonomy	Likert interval

The analysis in the quantitative research will use a structural equation modelling (SEM) technique with a PLS analysis method approach which is a casual predictive approach for SEM which emphasizes predictions in the estimation of statistical models which structure is designed to explain cause and effect by testing confirmatory factor analysis (CFA). CFA in PLS can be called outer loading analysis while the validity test in this study is based on the rule of thumb which uses the loading factor value and average variance extracted (AVE). Furthermore, for reliability testing in this study using Cronbach's alpha and composite reliability values. Testing the suitability of the research model will be using indicators of average path coefficient (APC), average R-square (ARS), and average variance inflation factor (AVIF).

The next stage of analysis is testing structural models and hypotheses using indicators on structural testing from the path coefficient value or beta coefficient (β)

and p-value (p). The path coefficient value equal to or greater than 0.1 ($\beta \geq 0, 1$). then there is an influence between variables, and thehypothesis testing is done by looking at the p and p-values represents the probability level of error. The level of confidence used in this study is 95% or = 0.05, so if the p-value is found to be 0.05, the hypothesis can be supported.

Findings and Results

Implementation of Agile Organizational and Leadership at Jabar Digital Service (QUAL)

1) Description of Informants

The qualitative research was conducted on the Head of Jabar Digital Service and applied on four employees of civil servant Jabar Digital Service, consisting of two Echelon IV and two staff of the implementation division and implementation division.

2) Implementation of Agile Organizational at Jabar Digital Service

The qualitative research with Jabar Digital Service leaders shows that the implementation of agile principles which have been applied to the organization of Jabar Digital Service has been carried out since the first time this organization was formed. However, at the beginning of the formation of Jabar Digital Service, the organizational structure used was only a head of Jabar Digital Service who gave order directly to expert employees expert employee, along with the development of Jabar Digital Service programs. Therefore the Head of Diskominfo Jabar decided to add a structure to the Jabar Digital Service organization so that the organization head does not directly supervise expert employee expert employees, but instead there was an extra one layer to make program coordination easier. Here the Jabar Digital Service program where the Digital Data and Implementations Section is formed. The Digital and Information Services Section and the Administration Sub-Section are filled by civil servants. From the findings of the first phase of research, the researchers confirmed the implementation of the existing agile organization at Jabar Digital Service by comparing work experience before and after working at Jabar Digital Service.

Some of the results of the above analysis can be seen in the summary of the analysis based on agile organizational theories proposed by Aghina, et.al. (2017) as shown in the summary in Table 3.

Table 3. Agile Organization Analysis Summary

Indicators	Analysis Summary
North star embodied across the organization	1. The organizational culture at Jabar Digital Service applies agile principles, such as responsiveness, data-driven, iterative process-oriented, and learning organization. 2. The team formed at Jabar Digital Service has adapted to the organizational culture which has been implemented. 3. Submission of Jabar Digital Service Vision and Mission is given to the entire team
Network of empowered teams	1. The implementation of tribes in the organization's business processes is based on programs at Jabar Digital Service to eliminate silos in each division and focus on program completion. 2. The implementation of tribes allows communication between teams not to be limited by a divisional framework which creates responsiveness to change. 3. Jabar Digital Service provides an opportunity for the team to take self-development classes provided by Internal Jabar Digital Service and self-development classes outside Jabar Digital Service.
Rapid decision and learning cycle	The use of Slack and Trello platforms for communication between teams and project management gives Jabar Digital Service the opportunity to make decisions quickly
Dynamic people model that ignites passion	Jabar Digital Service provides an opportunity for the team to take self-development classes provided by Internal Jabar Digital Service and self-development classes which are subscribed to by Jabar Digital Service for outstanding employees.
Next generation enabling technology	1. The programs provided by Jabar Digital Service make full use of technology, such as Pikobar, Jabar Open Data, Desa Digital, and others. 2. JDS Team is a platform in which the entire team is given the opportunity to contribute to sharing knowledge and new things with the entire team.

3) Implementation of Agile Leadership at Jabar Digital Service

The leadership of the Head of Jabar Digital Service who was originally a conductor of the organization has become a coordinator and orchestrator of the organization. Therefore the leadership role at Jabar Digital Service has increased the role of leaders from Section Heads and Heads of Sub-Divisions, so that in formal communication, the Head of Jabar Digital Service coordinates with the heads of Sections and Sub-Sections. From the findings of the first phase of research, the researcher confirmed the implementation of agile leadership in Jabar Digital Service with an effort to accommodate employees to create innovations.

The results of the analysis can be seen in the summary of the analysis based on the agile leadership theories proposed by Koning (2019) as shown in the summary in Table 4.

Table 4. Agile Leadership Analysis Summary

Indicators	Analysis Summary
Co-Creator	The implementation of tribes in the Jabar Digital Service business process by the leadership can create a heterogeneous organization so that the process of creating shared goals can be carried out quickly due to the absence of silos in each program at Jabar Digital Service.
Facilitator	Leaders at Jabar Digital Service provide opportunities for employees to gain self-development by providing self-improvement classes and the creation of a self-development platform in the JDS Team.
Experimenter	Leaders at Jabar Digital Service provide employees with opportunities to contribute in every process of developing and creating innovations at Jabar Digital Service.
Culture Leader	The leadership culture applied by Jabar Digital Service leaders is focused on performance and transparency.

4) Employee Perception on Employee Experience at Jabar Digital Service

According to the results of the research above, the previous indicators of the implementation of agile principles have been applied in the organization and leadership of Jabar Digital Service. In order to find out how the employee views the employee experience, the indicators used are a form of organizational appreciation for employees, civil servants, and expert contract employee at Jabar Digital Service. Meanwhile the focus group discussion considers for how employees perceive what organization doing by linking employee experience indicators.

Based on the focus group discussion result, majority agreed that Jabar Digital Service viewed employee appreciation as an activity which was routinely carried out. At the meantime, it also carried out not only by the Jabar Digital Service organizational, but at the middle level, such as in each Section and Sub Division, the division level under Sections and Sub-sections. Furthermore, the activity was also carried out by tribes or can be called per program because the organizational structure at Jabar Digital Service is based on two approaches, the formal approach to the organization and the tribe approach or per program.

Appreciation by the organization is carried out every month and also every week, such as an appreciation ceremony. Appreciation given by the organization can be in the form of additional incentives and the provision of learning in the context of upgrading employees. At this point, it is indicated that the organization in addition to giving appreciation to employees also provides opportunities for employees to develop themselves. The process of determining the appreciation cannot be separated from the assessment factor, as resulted from the focus group discussion. FGD found that there are differences in the assessment form applied by the Jabar Digital Service, namely the assessment form for civil servants who follow the standards of the parent organization, namely the West Java provincial government, as well as the assessment form for expert employees. This difference also underlies the difference in the appreciation of both incentives and upgrading opportunities for employees.

Jabar Digital Service Employees' Perception of the Relationship Between Agile Organizational and Leadership on Employee Experience (QUAN)

1) Description of Respondents Data

The quantitative research was conducted with a questionnaire distributed to 151 employees of expert employee Jabar Digital Service experts using the google form service and distributed through the WhatsApp which was accommodated by the research assistant at Jabar Digital Service.

Quantitative study was conducted by delivering questionnaires to 151 Jabar Digital Service expert employees via Google forms and WhatsApp, with the assistance of Jabar Digital Service research assistants. There were 91 expert employees who contributed to the completion of the questionnaire. Of the 91 data obtained, 72 met the criteria of having worked for more than a year. The identification of respondents based on gender, education, years of service, and division of divisions is provided below. The respondent's information is summarized in Table 5 below.

Table 5. Demographic Profile of Respondents

Demographic Classification	Description	Number of Respondents	Percentage (%)
Gender	Male	45	60
	Female	27	37
	Total 72		**100**
Education Background	Bachelor	62	86
	Master	10	14
	Total 72		**100**
Length of Working	12-24 Months	43	60
	More than 25 Months	29	40
	Total 72		**100**
Division	Analysis	11	15
	Data	13	18
	HR/GA	9	13
	Program Implementation	17	24
	IT Dev	16	22
	PR and Content	6	8
	Total 72		**100**

2) The Results of the Quantitative Research Validity and Reliability

a. Validity test

The validity test of the third stage of research data (QUAN) was carried out with a convergent validity test with loading factor and average variance extracted (AVE)

indicators, and discriminant validity tests were carried out with cross loading indicators. Prerequisites pass the validity test in which the loading factor value is greater than or equal to 0.7 (≥0.7) and the recommended limit value on the AVE is more than 0.5 (≥0.5)

Table 6 shows that the highest loading factor value is found on AO_3 indicators of 0.855, and the lowest loading factor value is

on the AL_3 indicator of 0.512, the overall value of the loading factor indicator for each variable has a value greater than 0.7 or equal to 0.7 with notation (≥0.7), except for indicators AO_1, AO_5, AL_3, EX_1 and EX_2. This shows that all indicators of the variables in this study can be declared valid which have met the rule of thumbs. AO_1, AO_5, AL_3, EX_1 and EX_2 indicators is maintained to represent one of the dimensions in the construct.

Table 6. Value of Loading Factor

Variable	Indicators	Mark Loading Factor (≥0.7)	Description
Agile Organization	AO_1	0.664	Valid
	AO_2	0.850	Valid
	AO_3	0.855	Valid
	AO_4	0.756	Valid
	AO_5	0.530	Valid
Agile Leadership	AL_1	0.793	Valid
	AL_2	0.837	Valid
	AL_3	0.512	Valid
	AL_4	0.723	Valid
Employee Experience	EX_1	0.550	Valid
	EX_2	0.633	Valid
	EX_3	0.781	Valid
	EX_4	0.785	Valid
	EX_5	0.802	Valid
	EX_6	0.816	Valid
	EX_7	0.720	Valid

The next validity test is the convergent validity test using average variance extracted (AVE) value. The reference value in this convergent validity test is greater than 0.5 or equal to 0.5 with the notation (≥0.5). In Table 7 it can be seen that the value of Agile Organizational variables (X1), Agile Leadership (X2) and Employee Experience (Y) with a value above the prerequisite 0.5 then the data in this study has met the requirements of the convergent validity test.

Table 7. Value of Average Variance Extracted (AVE)

Variable	AVE Value (≥0.5)
Agile Organization	0.741
Agile Leadership	0.727
Employee Experience	0.733

Furthermore, the next validity test is the discriminant validity test by looking at the cross-loading value. The prerequisite for the cross-loading value is considered feasible if the loading factor value between the questions on the variable being measured is greater than the loading factor value for the same question on other variables.

Table 8 shows the results of cross loading whereupon the indicators for each variable have a higher value than the other variables. Thus, the variables and questions on each variable can be said to be valid so that the research can be continued.

Table 8. Cross Loading Factor

Variable	Indicators	AO	AL	EX
Agile Organization	AO_1	**0.664**	0.128	0.221
	AO_2	**0.850**	-0.026	-0.240
	AO_3	**0.855**	-0.020	-0.265
	AO_4	**0.756**	-0.317	0.573
	AO_5	**0.530**	0.366	-0.282
Agile Leadership	AL_1	-0.264	**0.793**	-0.011
	AL_2	0.097	**0.837**	-0.259
	AL_3	0.273	**0.512**	0.141
	AL_4	-0.016	**0.723**	0.213
Employee Experience	EX_1	-0.235	0.331	**0.550**
	EX_2	0.002	0.340	**0.633**
	EX_3	-0.070	-0.123	**0.781**
	EX_4	0.179	-0.242	**0.785**
	EX_5	-0.015	-0.133	**0.802**
	EX_6	-0.034	-0.087	**0.816**
	EX_7	0.113	0.093	**0.720**

b. Reliability Test

Reliability testing is one of the processes to obtain optimal research by looking at the ability of the measuring instrument accuracy without any bias so as to ensure the consistency of the research instrument if it will be used in similar research. The reliability test in this study was carried out by looking at the value of Cronbach's alpha and composite reliability. In Table 9, it is found that the lowest Cronbach's alpha value for the agile leadership variable is 0.691 with a range of values between 0.691 to 0.852, referring to the value of the rule of thumb which is set to be greater than or equal to 0.6 with notation ≥0.7 in which Cronbach's alpha value is on each variable has met these prerequisites.

Table 9. Cronbach's Alpha Value

Variable	Cronbach's Alpha	Rule of Thumbs	Note
Agile Organization	0.784	≥0.60	Valid
Agile Leadership	0.691	≥0.60	Valid
Employee Experience	0.852	≥0.60	Valid

Table 10 shows that the lowest composite reliability value for the employee experience variable is 0.813 with a range of values between 0.813 to 0.889. It refres to the rule of thumbs value which is set greater than or equal to 0.7 with the notation 0.7 whereupon composite reliability value on each variable has met these prerequisites.

Table 10. Composite Reliability Value

Variable	Composite Reliability	Rule of Thumbs	Note
Agile Organization	0.856	≥0,70	Valid
Agile Leadership	0.813	≥0,70	Valid
Employee Experience	0.889	≥0,70	Valid

Based on the results of the reliability test on Cronbach's alpha and composite reliability in this study, each variable has met the prerequisites of the rule of thumbs. So this research can be said to be reliable in order to be used as a measurement tool in similar research or further research on agile organization, agile leadership and employee experience.

c.   Model Fit Test

The model fit test in this study looked at average path coefficient (APC), average R-square (ARS), and average variance inflation *(AVIF),* in which in Table 11, it was found that the APC value was 0.440 with *p-value* P<0.001 and the ARS value. It was found to be 0.539 with a p-value of P<0.001, the results of APC and ARS can be interpreted as significant because p-value is less than 0.05. The AVIF value was found to be 1.178 whereupon the model fit prerequisite was below 5 and with the ideal number at 1.178 if the AVIF value was still considered acceptable because it was still below 5, so the AVIF value indicates that the model fit in this study has been fulfilled.

Table 11. Model Fit and p-value

	Mark	p-value (α≤0.05)	Note
APC	0.440	P<0.001	Good
ARS	0.539	P<0.001	Good
AVIF	1.178	≤ 5	Good

d.   Structural Model Results

The results of structural model testing and hypothesis testing in this study can be seen in Table 12 and Figure 5 with the relationship between Agile Organizational (AO) variables and Employee Experience (EX) has a positive relationship direction which path coefficient value (β) is greater than the provision. The required path coefficient is greater than 0.1 (β≥ 0.1) with the relationship between AO and EX is found to be 0.449, as well as between Agile Leadership (AL) variables and Employee Experience (EX) has a positive relationship direction where the relationship between AL against EX was found to be 0.432.

Table 12. Structural Model Result

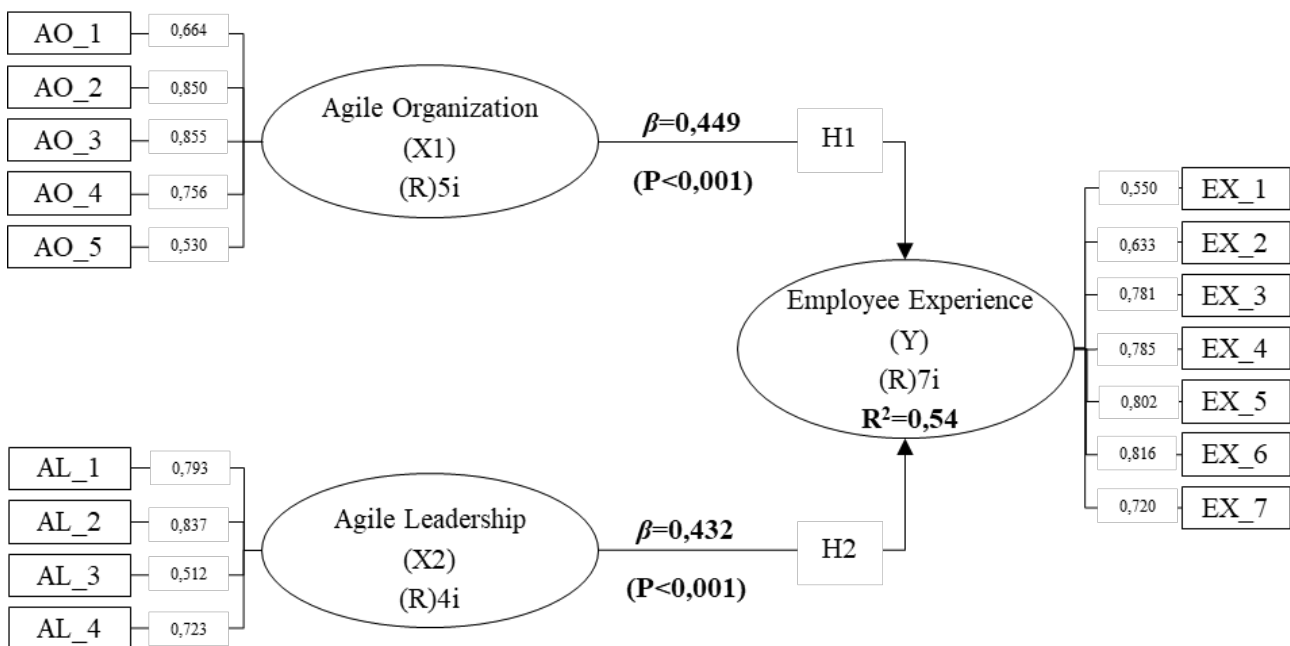| Relationship between Variables	Relationship Direction	Path Coefficient ($\beta>0,1$)	p-value (≤0.05)
AO → EX	Significant Positive	0,449	<0,001
AL → EX	Significant Positive	0,432	<0,001

Figure 5. Research Model

Seeing the significance of the relationship between variables seen in the p-value with the prerequisite for the hypothesis to be accepted is smaller than 0.05 (p≤0.05). The relationship between the AO variable and EX was found to be <0.001 which indicates that the relationship between the AO variable and EX has a significant relationship, while the relationship between the AL variable and the EX variable was found to be <0.001. This indicates that the relationship between the AL variable and the EX variable has a significant relationship.

e.   Hypothesis Testing Results

Based on the results of testing the structural model above, in order to explain the

hypothesis testing in this study, the following is an explanation of the results of hypothesis testing.

H1: Agile Organization Positive Effect on Employee Experience

The researchers' first hypothesis assumes that there is a positive relationship between agile organization and employee experience. The results of the structural model found that the path coefficient value (β) on the relationship between agile organizations and employee experience was 0.449. This value had met the prerequisites where the path coefficient value was above 0.1 (β≥ 0.1). This condition can be interpreted that there is a positive influence between the independent variable of agile organization and the dependent variable of employee experience.

The significant test in the first hypothesis is seen from the p-value with prerequisites smaller than 0.05 (p≤0.05). In this study, the p-value on the relationship of the agile organizational independent variable to the independent variable of employee experience attachment shows a p-value <0.001. This condition indicates that there is a significant relationship between the dependent variable of agile organization on the independent variable of employee experience.
Based on the two test results above, the first hypothesis is supported.

H2: Agile Leadership Positive Effect on Employee Experience

The researchers' second hypothesis assumes that there is a positive relation between agile leadership and employee experience. The results of the structural model found that the path coefficient value (β) on the relationship between agile leadership and employee experience was 0.432. This value had met the prerequisites where the path coefficient value was above 0.1 (β≥ 0.1). This condition

is interpreted that there is a positive influence between the independent variable of agile leadership and the dependent variable of employee experience.

The significant test in the second hypothesis is seen from the p-value with prerequisites smaller than 0.05 (p≤0.05). In this study, the p-value on the relationship of the agile leadership independent variable to the independent variable of employee experience attachment shows a p-value <0.001. This condition indicates that there is a significant relationship between the dependent variable of agile leadership on the independent variable of employee experience.
Based on the two test results above, the second hypothesis is supported.

Discussion

Implementation of Agile Organizational and Leadership at Jabar Digital Service

The following results were discovered based on qualitative data analysis outcomes:
1. The introduction of agile organization at Jabar Digital Service has been carried out successfully as outlined below.
   a. The scope of north star is embodied across the organization (strategy) in which the organization provides opportunities for employees to provide innovative ideas without the constraints of organizational hierarchy.
   b. The scope of the network of empowered teams (structure) in which the implementation of the concept of tribes permits flexible placement of teams according to tasks or projects. It can facilitate collaboration between teams and provide employees with the option to contribute more to the development of service innovations.

c. The scope of the rapid decision-making and learning cycle (process) that the implementation of the tribe idea can enable employees to experiment with in order to initiate the learning process and facilitate rapid decision-making in each tribe.

d. The scope of the dynamic people model that ignites passion (human resource), which subsequently leads to: The JDS Team is Jabar Digital Service's internal learning platform. In addition to the application of the tribal concept, they can accommodate empowerment, development, learning, and role mobility in employees by encouraging the sharing of problem-solving strategies and advice.

e. The scope of next-generation enabling technology (technology) with Jabar Digital Service service products is closely related to the application of technology, with the superior services being Pikobar (West Java Covid-19 Information Center), West Java Open Data, Digital Village, and other programs. Employees contribute to the process of developing innovative product services for Jabar Digital Service. JDS Team is a platform where the entire team has the ability to contribute to the sharing of knowledge and fresh information.

2. The deployment of agile leadership at Jabar Digital Service has been carried out effectively as outlined below.

a. The role of the leader as a co-creator is seen in the creation of a heterogeneous organization so that the process of creating common goals can be carried out quickly because there are no silos for each tribe concept in Jabar Digital Service.

b. The role of the leader as a facilitator is seen in the leadership of Jabar Digital Service, which provides opportunities for employees to develop themselves through self-improvement classes and the JDS Team platform.

c. The role of the leader as an experimenter is exemplified by Jabar Digital Service's use of the tribe idea, which allows employees the ability to participate in every phase of developing and generating innovations at the company.

d. The role of the leader in establishing culture is exemplified by the culture of Jabar Digital Service, which emphasizes performance and transparency.

3. In this qualitative study, perceptions regarding the experience of Jabar Digital Service personnel were developed after signs of implementing agile organization and agile leadership were reached. The indicators of organizational appreciation for employees were the indicators of agile organization and agile leadership in relation to employee experience. Jabar Digital Service implements employee appreciation through the provision of incentives and staff upgrading workshops in order to foster employee morale and give them with possibilities to grow professionally. This explanation demonstrates that organizational and leadership policies to deliver employee experience to employees have been developed, as well as a research foundation on the influence of agile organization and agile leadership perspectives on employee experience.

The Effect of Agile Organizational and Agile Leadership on Employee Experience Perception

Based on the discussion of quantitative research findings, it was determined that organizational and agile leadership have a favorable and strong association with employee experience. The strong positive association between agile organization and employee experience suggests that Jabar Digital Service may be able to influence employee perceptions such that employees feel they can express themselves inside the business, grow professionally, and contribute to the organization. In addition, agile organization promotes the idea that individuals have the opportunity to receive recognition from the organization, communicate and collaborate within teams, receive job challenges that are commensurate with their strengths, and engage in self-organization.

Similarly, a strong positive relationship between agile leadership and employee experience demonstrates that leaders at Jabar Digital Service can shape employee perceptions so that employees can interpret their position within the organization, develop themselves and contribute to the organization, and ultimately shape their own perceptions. Employees can have the opportunity to receive praise from their boss and the company, to work with other teams, to face challenges commensurate with their skills, and to manage the organization independently.

A positive employee experience can be indicative of employee happiness, and the amount of employee happiness in a business can influence employee performance. According to the employee experience hypothesis proposed by Morgan, Bridger, and Gannaway, the amount of pleasure and comfort of an organization's employees can be determined by the extent to which the business allows employees to develop their sense of self, self-appreciation, and self-expression. Therefore, corporations must consider employee experience while adopting regulations pertaining to employees.

The Jabar Digital Service case demonstrates, based on the discussion of the impact of organizational and agile leadership on employee experience, that the implementation of agile principles in organizational culture and leader culture can have an effect on employee experience, which can have direct effects on employee performance and organizational performance.

Implications of Improvements in Jabar Digital Service

Jabar Digital Service has, on the whole, embraced agile organization and leadership. This refers to the outcomes of interviews and focus group discussions in comparison to the theoretical state of inactivity, with both organizational culture and leadership culture theories referencing this research. There are, nevertheless, a number of indications with low perceptions of the use of agile organization, agile leadership, and employee experience perceptions among employees.

The agile organization indicators with the lowest average indicator value, based on employee perceptions, are indicators of rapid decision and learning cycle, as well as poor average employee perceptions of the execution of decision-making processes at Jabar Digital Service. However, in comparison to other indicators, the indication of a speedy decision-making and learning cycle has a poor reputation.

This is intriguing because one of the primary principles of the agile manifesto is the notion of agile responsiveness in decision making. Organizations must pay close attention to the decision-making process, particularly with regards to changes in Jabar Digital Service's program business operations. Organizations must empower Division Coordinators and Tribe Coordinators

to make decisions regarding minor and moderate adjustments.

Indicators of the leader's role as an experimenter on agile leadership have the lowest average indicator value among other indicators on agile leadership based on employee perceptions; however, the low average employee perception of the leader's role as an experimenter at Jabar Digital Service is still in the high category. However, compared to other indications, the view of the leader's function as an experimenter is low. The leader alluded to in employee perception is the Head of Jabar Digital Service, Head of Section, Head of Division, Coordinator subdivision, and Tribe Coordinator.

According to employee perceptions, leaders in organizations should be able to create more possibilities for employees to contribute to the production of service innovations, as this is one of the lowest-scoring agile leadership indicators. This applies to executives at the Head of Jabar Digital Service, Head of Sections, and Division levels, as well as sub-division coordinators and Tribe coordinators who need to re-campaign the program and adopt ways for producing innovative service offerings. The leader must engage in brainstorming during program planning campaigns, such as the campaign team to align the team with organizational goals, the value proposition campaign to meet user needs with service products offered by the organization, and the customer journey or customer persona canvas to identify user personas and map user decisions on service products offered by Jabar Digital Service.

In addition to re-canvassing, Jabar Digital Service directors must sprint every program development. Sprints are essential to scrum and agile, where sprints are the allocation of time required to align the program with changes and the Jabar Digital Service work area, which involves multiple stakeholders. In the case of this research, the sprint is comprised of tribe employees, tribe coordinators, the Head of Digital Data Implementation Section, the Head of Digital and Information Services Section, and/or the Head of Jabar Digital Service, as well as user representatives in order to obtain user feedback and user experience. Leaders in the sprint play a crucial role, with the leader, both at the Head of Jabar Digital Service and each Head of Section and Field, serving as conductors. This can indicate that the leader is fulfilling his job as an experimenter, making the leader's engagement in the sprint vital to the development and production of service innovation.

The appreciation indicator is the employee experience indicator with the lowest average indicator value among other indicators based on employee perspectives. The low average employee view of the execution of appreciation at Jabar Digital Service remains in the top category, but generally, the perception of the appreciation indicator is low compared to other indicators.

Organizations must be capable of appreciating their people proportionally. It is necessary to reconsider the use of rewards and incentives as forms of appreciation. Awarding employees with access to self-improvement courses should not be limited to those with exceptional performance. It can be delivered to all employees, or self-development, self-assessment, and additional JDS Team content can be added.

For expert employees to receive self-improvement classes and rewards, the form or evaluation form must be reviewed. The evaluation can be conducted independently or by self-assessment, and will be double-checked by the tribal coordinator, subdivision coordinator, and Head of Section or Division. With the availability of self-assessment, the leader can abbreviate staff performance evaluations by focusing solely on reviewing, enhancing, or aligning the proper values. Thus, employee understanding of what he works for the organization is expanding, and appreciation for employees is transparent.

On the basis of the aforementioned policy implications of Jabar Digital Service, it generates implications for improvement and input to Jabar Digital Service in order to enhance performance in the implementation of agile organizational culture and agile leadership culture, as well as employee performance based on employee experience.

Conclusion

As a public organization, Jabar Digital Service has demonstrated the application of agile organizations and agile leadership, whereas public companies are typically rigid and resistant to change. This is challenged by Jabar Digital Services, such as the Jabar Command Center, which was originally designed to watch and collect data but afterwards renamed Pikobar. During the Covid-19 epidemic, Jabar Digital Service continues to administer government bureaucratic procedures. Thus, in developing the perception of 'agile government,' the authors consider the notion of 'agile government' to be the correct step in which Jabar Digital Service presents an acceptable and successful program of digitizing services to the community and continues in the corridor. In addition, this idea represents a stage in the transition from conventional to agile companies.

The implementation of the tribal idea by the leadership of Jabar Digital Service demonstrates that public organizations can implement the concept of heterogeneity inside sub-organizations. With the majority of sub-organizations within public organizations applying the concept of homogeneity, the concept of tribe applied by the leadership of Jabar Digital Service is consistent with the concept of agile leadership, which can accommodate the process of establishing shared objectives and employee development processes.

The impact of agile organization and leadership on employee experience at Jabar Digital Service demonstrates that the application of agile principles to organizational culture and leader culture can have an effect on employee experience engagement, which can have a direct impact on employee performance and organizational performance, as evidenced by a number of awards. The results acquired by Jabar Digital Service, which was recently created in 2019, include Best Team Under 35 from GovInsider Digital Innovation 2020, Top Digital Implementation #Level Starts 4 from Top Digital in 2020 and 2021, as well as further accolades.

All of this study's findings indicate that public companies can adopt the notion of agile organization to their organizational culture and agile leadership to their leadership culture with few alterations within the bureaucratic corridors. Consequently, the objective of bureaucratic reform, which is to provide world-class government services, can be achieved through the implementation of agile organizational and leadership practices in public organizations, including both ministries and local governments.

Acknowledgment

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Mahathir Mohamad in Public Policy and Politics of Malaysia

Endi Haryono and Patrick Ziegenhain

Department of International Relations, President University, Cikarang, Indonesia

Corresponding Author: Endi haryono (email: endi@president.ac.id)

Abstract

This article deals with the political and social achievements, but also the shortcomings of Mahathir Mohamad as long-term prime minister of Malaysia. Based on a thorough and critical literature review the authors discuss first Mahathir's reaction to the financial crisis in 1997/98 and the upcoming *reformasi* movement. Then, they analyse the conditions for the re-emergence of Mahathir as opposition leader in mid-2010s and his role in the surprising election victory of the *Pakatan Harapan* coalition in 2018. Mahathir, charismatic leader in Malaysia during the 1980s and 1990s, has contributed important role in development and change of politics in Malaysia. The victory of the opposition coalition in the 2018 election would be hardly possible without him. His political comeback prior to the election made headlines in Malaysian media and raised high hopes for a more democratic Malaysia.

Keywords: Malaysia; politics; Mohamad Mahathir; Prime Minister; government; development

Introduction

Malaysia enjoyed a long period of political stability and relative inter-ethnic harmony under PM Mahathir Mohammad first administration from 1981 to 2003 and was able to build several mega infrastructure projects which brought Malaysia prestige and recognition around the world (Shamsul, 2006). Mahathir was able to overcome the social and political damages (such as a negative GDP of 6.7 percent in 1998, large portfolio outflows, and massive decline of equity and property values) caused by the 1997-1999 Asian financial crisis relatively quickly and led Malaysia to be the first country that fully recovered from the crisis. When he resigned from office on 31 October 2003, he left a stable and generally well-managed Malaysia to his successors.

In 2018, Mahathir at the age of 92 years was once again elected to be the PM of Malaysia following the 14th general elections at the same year. The dynamics of politics of the country, and especially people's rage and mounting anti-government protest related to corruption scandal involving PM Najib Razak, attracted Mahathir to once again entering the politics of Malaysia. Soon after becoming PM for the second time, Mahathir worked to deliver his election campaign promises into actions, among them were to bring about a clean government, eradicating corruption, and opening an investigation for the spectacular 1MDB corruption scandal.

Theoretically, Mahathir could have been in power until the next regular general elections that is scheduled for 2023, but due to political miscalculations he resigned from his office as prime minister in February 2020.

There is an academic consensus that the historic election victory of *Pakatan Harapan* led by Mahathir and the first election loss of the *Barisan Nasional* coalition contributed to the democratization of Malaysia (Ostwald and Oliver 2020: 676; Dettman, 2020: 1047), but there were also doubts if this democratic impetus could be sustained in the years to come (Tayeb, 2021: 104). This second political debut of Mahathir in Malaysia politics seemed to end as he lost parliamentary seat in the 2022 general election.

Methodology

There is no doubt that Mahathir is one of the most decisive political figures in modern Malaysian politics. This article will critically analyse Mahathir's role and contributions to Malaysia's political system in the 1980s and 1990s, his political comeback before the 2018 general elections and his second administration as Malaysian Prime Minister (PM) from 2018 until 2020. There is already a number of academic articles on Mahathir's life, his policies and achievements, but mostly they only deal with specific aspects and are often focussed on either his first years as prime minister or his recent comeback. This article, however, aims to provide an overall and critical up-to-date analysis based on a thorough literature review. The authors decided not to use quantitative indicators but a literature review since they thought that this would be the most suitable method to provide a fresh and innovative perspective on the achievements and shortcomings of Mahathir Mohamad.

This article is written based on the qualitative data and analysis. This article is based on a thorough review of academic literature and mostly media reporting. The authors, who both lived and worked in Malaysia for many years, selected and analysed the relevant academic articles and publications about Mohamed Mahathir in specific and Malaysian politics in general.

In addition to academic record of Mahathir and his political actions, the data for this article were mostly collected and from both the media reporting and media analyzing of the 2018 general elections and other political events after. The statements and political actions of Mahathir, as both the leader of opposition coalition Pakatan Harapan and former Prime Minister, made a big attraction and impact to the media and people in Malaysia.

Discussion

Mahathir and Malaysian Public Policy

Mahathir was inaugurated as the 4th PM of Malaysia in 1981. During his 22 years in office, Mahathir has transformed Malaysia from a low-income country into a high middle-income and a newly industrialized country. According to the World Bank Development Indicators the Gross National Income of Malaysia rose from 24.13 billion US-Dollar to 104.27 billion US-Dollar in 2003 (World Bank Development Indicators 2022a). Consequently, the World Bank praised Malaysia for managing to drastically reduce the incidence of poverty while achieving rapid economic growth (Choy, 2006: 865). Malaysia even produced several high-tech industrial products. Mahathir believed in the appropriateness of the authoritarian political arrangement due to the social structure of the society and the national demand to achieve economic prosperity in shortest time possible. In other words, Mahathir needed an authoritarian political regime as the social bases to support modernization projects he proposed for Malaysia.

In order to modernise Malaysian state companies, in the mid-1980s Mahathir launched a policy of economic liberalization. In the early 990s, as the Malaysian economy grew, Mahathir introduced a blueprint for development called Vision 2020. Under this plan, Malaysia set an ambitious plan to be a

modern developed industrial country in 2020. Several mega projects infrastructures were built in the early and late 1990s, including the Petronas Twin Towers, Kuala Lumpur International Airport (KLIA), and several technology-driven "smart cities" in Malaysia. At the same time, Mahathir introduced reforms in government bureaucracy to be clean dan effective but at the same time control political participation in Malaysia. Following economic initiatives and limited reform to government, the World Bank in 1993 report included Malaysia as one of 'the East Asian Miracle' and one of the 'High Performing Economies (HPAEs)' in Asia (World Bank, 1993).

Prime Minister Mahathir also used sports as a tool for advertising the Malaysian nation and its progress in becoming a developed country. Malaysia's successful bid to host the 16th Commonwealth Games in 1998 was significant because it was not only the first Commonwealth Games ever to be held in Asia, but it was only the second to be hosted by a developing country after Jamaica in 1966 (Westhuizen, 2004:1277). In addition, the Malaysian government was able to convince the Formula One racing bosses to allocate regular races to Malaysia. The Sepang Circuit situated 85 kilometres from Kuala Lumpur was officially opened on March 9, 1999, by the Prime Minister himself. Malaysia also applied for the 29th Olympic Summer Games in 2008 but lost to Beijing (Bullinger and Ziegenhain, 2011: 10f.).

Between 1990 and 1996 Malaysia experienced GDP growth rates of more than 9 percent annually (see World Bank Development Indicators, 2022b). It was during this good time of enormous economic growth that Malaysia was confronted with its worst financial crisis. The Asian financial crisis sent shock waves through the affected Southeast Asian countries in 1997. Malaysia was not spared from this economic nightmare. In Thailand, due to the financial crisis, a new constitution with a new political system was drafted, which eventually led to the rise of Thaksin Shinawatra. In Indonesia, the autocratic rule of strongman Suharto was stopped after 32 years in power led to democratic elections in June 1999. In Malaysia, however, the 1997 financial crisis led to the rise of the *reformasi* movement in 1998, following an internal conflict within UMNO and the rift between Mahathir and his deputy, Anwar Ibrahim

As Mahathir sacked Anwar from UMNO and his government after a hard conflict in how to respond to the financial crisis, a splinters group within UMNO was formed and opposition parties joined forces behind Anwar to dethrone Mahathir from power. The challenge for Mahathir, this time around was not through party elections within UMNO or the normal general elections, but it was mostly through mass demonstration similar with the *reformasi* movement in Indonesia just several months before. Anwar's supporters also named this anti-Mahathir movement as *reformasi*. This mass demonstration of *reformasi* was unprecedented in Malaysian politics and was mostly supported by the Malaysian urban middle class that aspired for a new dawn of democracy in Malaysia.

Reformasi had led to new situations in many parts of the Malaysia as the urban middle class became actively involved in politics and voiced their criticism openly to the government (Embong, 2011:5). These traditional orientations became slowly and incrementally less relevant and were partly replaced by more universal orientations like freedom, democracy, and social justice (Shamsul, 2001). *Reformasi* brought about a new culture and innovative ideas into the politics of Malaysia (Weiss, 1999: 446). The emergence of the Malaysian middle class and their active movement in politics gave birth to what is now popularly called "new politics", which as a new terminology refers to politics in which ethnicity and communal identifications are no longer the primary points of political identification.

The *reformasi* movement significantly changed the political landscape and the social situation in Malaysia have consequences until today. For the first time in Malaysian history, activists of the opposition parties, non-governmental organizations (NGOs), and other civil society movements were united under the reform umbrella as they launched protests and street demonstrations to call for the change in the political regime and the end of the Mahathir administration. This movement was "the most overt and unambiguous statement by a huge segment of the Malaysian society as there was a demand for major and meaningful changes in the country's political system" and also "shook the foundations of Malaysia's long entrenched authoritarian system" (Gomez, 2007). Mahathir successfully handled the economic crisis 1998-1999. In October 2003, five years after the Asian financial crisis and the start of the *reformasi* movement, then 78-year-old Mahathir resigned and handed over his premiership to his deputy Abdullah Ahmad Badawi.

There were several UMNO leaders who contributed to shaping Malaysia into what it looks today. Mahathir undoubtedly has a special place in among them, not only that he served the longest compared to all of them but, as Shamsul (2006) wrote, he has "built Malaysia into what it is now". Mahathir as leader with a clear vision on modern Malaysia with a strong will to realize it. In addition to this, Gomez (2004) noted that Mahathir was also the prime minister who strengthened the authoritarian political system as the autonomy of other government institutions was reduced. The monarchy, judiciary and parliament were "reputed to have lost the capacity to check the executive, while the bureaucracy, military and police have apparently become extremely subservient to the office of the prime minister where enormous power has come to be concentrated" (Gomez, 2004).

Mahathir and Malaysian Politics

In 2014, after the general elections that reaffirmed the mandate of PM Najib Razak, Mahathir continued to publicly comment on his successors became more and more dissatisfied with their performance. As a "Father Knows Best" leader, Mahathir became deeply concerned about the present situation and the future of the society that he shaped to a great extent in the last decades (Jaes et al., 2020: 49). Not least to his paternal leadership style who likes to manage his community like his own children who needs to develop their potential and talents in development (Jaes et al., 2020: 49), Mahathir Mohamed turned out to become one of the strongest critics of Najib Razak's administration in the mid-2010s (Nadzri, 2018: 18). Mahathir particularly focused on the mismanagement and corruption surrounding one of the government's investment arms, the 1Malaysia Development Board (1MDB).

Eventually, in February 2016 Mahathir decided to quit UMNO, the party whose leader he was for more than 20 years. Mahathir stated that he wanted to leave UMNO because it was no longer the UMNO he knew: "It is now a party dedicated to protecting Najib. I can't be a member of such a party. I feel embarrassed that I am associated with a party that is seen as supporting corruption. It had caused me to feel ashamed" (Paddock, 2016). Mahathir's bold step sent shockwaves throughout the country and Najib Razak was deeply disappointed.

In mid-2016, now already 90 years old, Mahathir decided to re-enter Malaysian politics formally. First, he officially joined the opposition movement against the *Barisan Nasional*, and then formed together with Muhyiddin Yassin and his son Mukhriz Mahathir a new political party, *Parti Pribumi Bersatu Malaysia* (PPBM). As the word *pribumi* already indicates, PPBM or shortly named *Bersatu* was an exclusive Malay political party, and its members were mostly

former UMNO members which were either sacked for their disloyalty towards Najib Razak or decided on their own to follow their patron/idol Mahathir.

Bersatu was an "UMNO-clone opposition party", which "limited its membership to Malays (and other Bumiputera) and maintained the objective of upholding the special position of Islam and the Malays" (Ostwald and Oliver, 2020: 667). The new party quickly drew in other UMNO defectors. Mahathir, in his capacity as chairman of the party, repeatedly proclaimed that *Bersatu*'s intention was to take over UMNO's role as the main political party for ethnic Malays (Wan Saiful Wan Jan, 2020: 7).

In the preparation for the 2018 general elections, the opposition leaders gathered to form a coalition. Due to Malaysia's first-past-the-post election system in single member constituency, the opposition must be united to have a real chance at defeating the ruling *Barisan Nasional* coalition. The biggest problem was to get the two top opposition leaders, Anwar Ibrahim and Mahathir Mohamad into that coalition. As have been mentioned before, Anwar was sacked by Mahathir in 1998. Mahathir was also responsible for accusing Anwar of homosexuality and corruption. The Malaysian judiciary on these two charges, subsequently sent Anwar to prison in 1999. He was not released until 2004, a year after Mahathir stepped down as prime minister.

In the end, Mahathir and his (former) foe Anwar could find a compromise and Mahathir "expressed his surprise and gratitude to Anwar for his willingness to prioritize the country over personal grudges" (Wan Saiful Wan Jan 2020: 10). Mahathir successfully persuaded Anwar to let him assume the position of prime minister-designate. In return, Mahathir promised to secure Anwar's release from prison through a royal pardon and to hand Anwar the prime minister after two years (Kassim, 2018: 2).

Interestingly, most analysts commented that the exact time and terms of the promised succession were never spelled out (Moten, 2020: 393). The pact between Mahathir and Anwar was most decisive "in assuring the old *reformasi* activists that Mahathir would only be an interim prime minister and that Anwar would take over some time after his release from prison" (Ufen, 2020: 177).

After the deal between Mahathir and Anwar the opposition was more united, but within the opposition movement, many criticized the inclusion of Mahathir, since they could not forgive Mahathir for his past authoritarian rule, that included jailing Anwar and many other senior opposition politicians (Chin, 2017). In addition, Mahathir never showed any regrets for his authoritarian actions. Resistance was particularly high in the non-Malay opposition movement, which well-remembered Mahathir's stance on *Ketuanan Melayu* (Malay supremacy) and *Ketuanan Islam* (Islam supremacy). In the past, the Chinese-based DAP was the main victim of Mahathir's authoritarian rule when he was in power. DAP's top politicians, the Chinese-Malaysian Lim Kit Siang and his son, Lim Guan Eng, were jailed several times for political reasons during Mahathir's tenure (Chin, 2017).

The decision of Mahathir from a long-term UMNO ruler in Malaysia to become the chief opposition against his own former party UMNO in coalition with his long-term opponent Anwar Ibrahim came as a surprising and "unprecedented political turnaround" (Malhi, 2018) in Malaysian politics. During the election campaign Mahathir frequently used "emotional appeals – taking his weakness (then being 92 years of age) as, in fact, a strength, to build up a sense of sacrifice to enhance his "saviour" role." (Welsh, 2018: 96). Mahathir also portrayed himself as a 92-year-old man under attack, with claims that his campaign was being sabotaged – and thus further evoking sympathy and anger.

On the 2018 general election, the victory of PH was in many ways remarkable. The landslide victory of the PH coalition meant that then 92-year-old Mahathir became the Prime Minister once again. Mahathir then became the oldest leader in the world. The man who ruled for 22 years with UMNO, the party he had just defeated. For the first time in 61 years, UMNO had been removed from power. For the first time since independence from the British in 1957, the government has changed. The UMNO government had stood for twice as long as the Berlin Wall, but now one by one the bricks were being dismantled (Blakkarly, 2020) by a coalition headed by Malaysia's greatest transformer.

Mahathir's contribution to the electoral win of the opposition was significant. As the "chairperson and prime minister candidate for PH, he provided leadership and stability within the opposition coalition. More importantly, Mahathir provided trust and security among the Malay electorate – a crucial voter segment whose support is imperative for victory in Malaysian elections" (Chan Tsu Chong, 2018: 111). The inclusion of Mahathir in PH moved many Malays to put more faith in the opposition to be the new government, something that had never be achieved by any opposition forces in the past" (Nadzri, 2018: 160).

Mahathir arguably offered a realistic alternative to the unpopular then Prime Minister Najib especially among the conservative and somewhat nostalgic Malay voters who were concerned with the erosion of Malay primacy a "return" to a more confident era of UMNO-led politics. In that sense, Mahathir and *Bersatu* assumed the role of an alternative UMNO, one based on many of the same principle, but with different and less tarnished faces: "same same, but different" (Ostwald and Oliver, 2020: 672). In addition, Mahathir (and Anwar as the designated successor), as respectable Malay leaders mitigated fears of a potentially tumultuous regime change. Therefore, the PH was very strong compared to previous opposition coalitions who could not give this assurance (Ufen, 2020: 180)

Did the electoral win of PH really lead to a "democratic breakthrough" (Chan Tsu Chong, 2018)? Certainly not from one day to another, because one election alone cannot lead to an immediate change of all institutions, processes, and regulations. Nevertheless, Malaysia had finally become a democratising country. In so far, the first power transfer in Malaysia since independence opened "the possibility of democracy as conceived in the 1957 constitution" (Funston, 2018: 58). In 2019, the Economist Intelligence Unit gave Malaysia its highest democracy score since the rating was created in 2006, a clear nod to the country's democratic progress (Tayeb, 2021: 105). Other democracy indices such as Freedom House lifted Malaysia from 45 to 52 points in their ranking on civil rights and political liberties, but judged the country still only as partly free, but with similar ratings as the regional peers in terms of democracy, Indonesia, and the Philippines.

Mahathir and 2nd Mandate as Malaysian PM

Then new prime minister Mahathir emphasized that his government would be the government committed to democracy, rule of law and respect the wishes of people as important values of new politics (The Star, 2018). This was a huge task, having in mind that before PH's election victory almost all the country's key institutions such as the upper echelons of the civil service, the judiciary, the security services, parliament and the religious bureaucracy were all controlled by UMNO and their leader Najib Razak. Prior to 2018, "the entire government machinery acted more like a branch of UMNO party rather than as independent public institutions" (Chin, 2018: 535). Consequently, major institutional changes were necessary in order to create a more democratic government whose policies are intended for the whole Malaysian society.

Delivering clean government and good governance were important promises made by Mahathir during the election campaign. Corruption was the most worrying problem in Malaysia since Mahathir himself was passionate about it and he was expected to eradicate corruption in Malaysia. Mahathir said, in an interview cited by Bernama News Agency, that he had removed 'a lot of personnel' as well as senior civil servants in bureaucracy because they openly campaigned for the previous ruling party (The Straits Times, 2018). This idea of clean government and eradicating corruption in bureaucracy was clearly one of Mahathir's top priorities after assuming power in 2018.

With regard to the 1MDB scandal, Mahathir committed to what he promised before the elections. Less than one month in power, he instructed a full, open and transparent investigation on the scandal, starting with the key person, former prime minister Najib Razak. In addition to having adopted democratic ideas related to people's aspiration for new politics of the *reformasi* movement in 1998 Mahathir appointed DAP politician Yeo Bee Yin, then 35 years old, to be the Minister of Energy, Technology, Science, and Climate Change and young *Bersatu* parliamentarian Syed Saddiq, then 25 years old, as the Minister of Youth and Sports. Both Yeo and Saddiq represented the educated and hard-working millennial generation of Malaysia, which were heading for a modern and more democratic Malaysia free from corruption. Mahathir seemed to be committed in accommodating both the political legacy of the *reformasi* movement from 1998 and the new political understanding of the millennial generation.

However, soon after becoming the 7th Prime Minister of Malaysia, Mahathir had to realize that he did not have the full decision-making power that he exercised as the Prime Minister of Malaysia from 1981 to 2003. As his party, *Bersatu*, was the smallest party in the PH coalition, Mahathir was obliged to heed the voices of his partners in Anwar Ibrahim's PKR, the Chinese dominated DAP, and the moderate *Parti Amanah Negara* (PAN), and hence he could not take major decisions. The coalition parties did their best to "train Mahathir to doff his ingrained authoritarian habits" (Weiss, 2020: 208). Mahathir was aware of this and stated that he was "leading a coalition of parties which were very much against me before, so I have to be rather careful about how their sensitivities are treated" (Massola, 2019).

The mechanisms of shared powers in a coalition government were not only new to prime minister Mahathir, but also to the Malaysian general public. The Malaysians were used to having a united coalition led by a dominant UMNO for decades. So, the relative equality among PH's component parties created a perception that they were incoherent and weak, although there was a strong figure like Mahathir leading them (Wan Saiful Wan Jan, 2020: 9.)

After the election victory of *Pakatan Harapan*, the coalition and its prime minister surfed on a wave of public support and enthusiasm. As time passed by, however, the initial euphoria faded away and the support rates for the PH government and also for Prime Minister Mahathir fell significantly. Mahathir's popularity plunged from 71 percent in August 2018 to a mere 46 percent in April 2019 according to a representative survey by the Merdeka Center for Opinion Research. In the same poll, the support for PH fell from 66 percent in August 2018 to only 39 percent (Hassan, 2019). In October 2019, another survey by the Merdeka Centre for Opinion Research found that there was only 35 percent support for the PH government.

There were several reasons for the decline of public trust in Mahathir and its government. The most important ones were the lack of decisive economic and political reforms, the stubbornness of Mahathir to remain in power and not letting Anwar Ibrahim become PM as agreed before the elections,

and the perception among Malay voters that PH was not looking after their interests.

Mahathir declared his resignation as Prime Minister and *Bersatu* chairman on 24 February 2020. Probably, he hoped to be reappointed by the King a few days later. His former ally, and vice-chairman from *Bersatu*, Muhyiddin Yassin, however, had a grand strategy and ousted Mahathir in backdoor dealings within *Bersatu*. In early March 2020 Muhyiddin Yassin was sworn in at Istana Negara, after a week full of political intrigue (Latif, 2020: 146).

Mahathir left his prime minister post full of anger, but with dignity. UMNO secretary-general, Tan Sri Annuar Musa remarked later "We understand the situation that Dr Mahathir is facing. However, Dr Mahathir was also responsible for some matters related to the current turmoil" (quoted in Latif, 2020: 157). Mahathir later stated that he felt betrayed by his long-term ally Muhyiddin, whom he accused of plotting to take the prime minister post from him (New Straits Times, 2020). Muhyiddin replied publicly that he did not "dream of the post of prime minister" and initially had supported Dr Mahathir to return as prime minister. But, according to Muhyiddin, Mahathir failed to gain the majority backing of the new PN coalition, which has instead expressed its support for Muhyiddin (New Straits Times, 2020).

Conclusion

The 14th general elections in 2018 in Malaysia were not only drastically changed the political regime to a more democratic system but also brought new politics to the country. In the age of 92, when Mahathir was re-elected as PM, he surprised many when he brought a spirit of the new politics of Malaysia of pro-democracy, pro-millennials, and pro-change and also appointed both clean and new figures in cabinet to deliver his promises for clean government in Malaysia. He also fulfilled the people's expectation

to open investigation on 1MDB corruption scandal.

In his first time as Prime minister from 1982 until 2003, Mahathir was a nationalist Malay leader who made decisions pragmatically and sometimes controversially based on his subjective perception to benefit for Malaysia. He was able to do that because of a string support from both his party and a semi-democratic political system of Malaysia. He was ready to take the risk of his political decision, even the most controversial, and never hesitated to resort to authoritarian actions in order to achieve the interest of the people and Malaysia according to his view. Among these controversial decisions he made were implementing selected capital control, bailing-out national companies, and expelling Anwar Ibrahim from his position as deputy prime minister and cabinet member in 1998.

The political choice and the political strategy of Mahathir should indeed be counted as important factor for political change in Malaysia during and after the 2018 general elections, but this only made possible as it was already large independent middle-class Malaysia supportive to democracy and clean government. Mahathir's role and contribution must be mentioned as an important factor for the election result and for the transformation of Malaysian politics. While committed to clean government he promised during the elections campaign, Mahathir has also embraced ideas brought by the *reformasi* movement such as clean government, equality, and social justice for all Malaysians.

After only one year in power, however, he returned to his political roots as a representative of the Malay ethnic group and a protagonist of Malay domination in multi-ethnic Malaysia. An all-Malay government by UMNO, PAS and his *Bersatu* party became his new target, together with the ousting of the Chinese-dominated DAP from government and preventing his old rival Anwar Ibrahim from becoming prime minister.

All this came finally true in the turbulent last days of February 2020, but Mahathir himself was outmanoeuvred and his former ally Muhyiddin took over as prime minister. The breakdown of the Mahathir government showed the fragility of Malaysia's democracy.

Mahathir had made a mistake by stepping down as Prime Minister instead of using the power of his office to control the situation. In this case, Mahathir was blinded by his political ego that Malaysia could not live without him. He unable to contemplate the idea of letting go of power which he thought that the politicians from all Malay parties would come begging to him to continue serving as the prime minister. Mahathir was lost to the Malaysian style of politics. The dynamics of Malaysian public policy and politics now becomes the task of politicians both old and new generation without Mahathir.

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Innovation of Utilization of Materials Research and Development Results in the Framework of Fulfilling the Defense Equipment of the Indonesian Army (Case Study of Battlefield Management System)

Yudho Setiarsono[1], Hakimul Ikhwan[2], and Umi Listyaningsih[3]

[1]The Graduate School of Leadership and Policy Innovation, Post Graduate Universitas Gadjah Mada, Yogyakarta [2]Faculty of Social and Political Sciences, Universitas Gadjah Mada, Yogyakarta, [3]Faculty of Geography, Universitas Gadjah Mada, Yogyakarta, Indonesia

Corresponding Author: Umi Listyaningsih (email: umilis@ugm.ac.id)

Abstract

This study aims to map policy innovations downstream of material R&D results, especially the Battlefield Management System (BMS) in fulfilling the independent and modern defense equipment of the Indonesian Army. This research was conducted using a qualitative method and a case study strategy. The determination of the research location is based on the existence of phenomena in research and development activities carried out within the Indonesian Army. This study used qualitative research methods to explain the research problem in-depth. Determination of informants/resource persons based on purposive sampling resulted in six people consisting of officials who formulate the R&D policies of the Indonesian Army, officials from elements of R&D activities implementing the Battlefield Management System, elements from domestic defense industry actors in the R&D activities of the Battlefield Management System, as well as elements from researchers/teachers and military observers from non-governmental organizations. Furthermore, the data analysis was carried out based on the theories and concepts of public policy and then the data interpretation process was carried out. The result of this study is the public policy innovations in realizing downstream policies. BMS is the result of innovation which is proven to meet the 13 determinants of innovation. Downstream policies play a role in realizing BMS products in the fulfillment of the defense equipment of the Indonesian Army. BMS is a modern defense equipment of the Indonesian Army, fulfilling aspects of complexity, technological progress and speed. Although not-yet fully realized due to the not-yet optimal of the triple helix policy, BMS products based on independence still face problems that there are still conflict of interests, research funding, production costs and indications of weak political will of the Indonesian Army to use domestic products. Recommendations from this research are the need for prioritization, continuous and consistent budgeting and procurement (mass production) and budgeting for superior material R&D results as a form of reward. In addition, there is a need for policies and regulations that can protect the products of material R&D against the competitiveness of similar products from abroad.

Keywords: policy innovations; downstreaming; defense equiptment; modernization and independence

Background

The independence of the Defense Equipment of the Indonesian Army is one of the national agendas being realized by Indonesia. Several products created by Indonesia in the form of superior defense equipment have been exported to Malaysia and South Korea, including the SS1 V2 Weapon, the Anoa 6x6 Personnel Transport Vehicle and the CN-235 Aircraft (Putra, 2018). There are Defense Equipment products used by the Indonesian Army which are the result of research and development (R&D) of the Indonesian Army materials. In the period 2010 to 2021, 343 material R&D activities have been produced, of which, amid budget constraints and unbiased regulations, 9 types of materials have been selected and mass-produced innovations. The Battlefield Management System (BMS) is one of the R&D innovation best practices. BMS R & D innovation is expected to contribute to the fulfillment of the Defense Equipment of the Indonesian Army based on independence and modernization. In addition to policy innovation, in order to fulfill this, a downstream policy is required in which mass production is part of the downstream process.

Problems related to the independence of the Defense Equipment of the Indonesian Army also occur in the process of R&D activities, including the not-yet-optimal implementation of the triple helix policy. The parties with an interest in realizing the synergy of R&D activities on the triple helix are the Government (the Indonesian Army), universities (academics), and industry. This was also stated by Wibowo (2016), that the problem is in applying the triple helix concept to the defense industry. Furthermore, there is still a conflict of interest, that there is still a push towards the fulfillment of the Defense Equipment which were classified as imported products, even though there are already similar products that can be produced domestically. There is also inconsistency in budgeting for research activities and procurement of R&D products. The production costs can burden the defense industry so that it is able to produce competitive products when compared to foreign products. In addition, there is still a weak political will of the Indonesian Army to utilize domestic products.

According to Wibowo (2016), Defence and Security Equipment is needed in order to pursue the achievement of the planned basic strengths. The fulfillment of the defense industry's needs is carried out by the domestic defense industry, but there are still problems to be solved, namely the application of the triple helix concept of the defense industry, the problem of the defense industry cluster concept and trade balance issues, local content problems and offsets for the defense and security equipment procurement.

Annisa (2021) mentioned that the state had tried to modernize the defense equipment system, but it was still not optimal. There are six challenges in the effort to modernize the Main Tool of the Indonesian Armed Forces' Weapon System (*Alutsista*), namely budget, procurement transparency, achievement of EF fulfillment targets, low quantity and quality of human resources, the defense industry is not-yet independent, and the welfare of soldiers is still in question. Therefore the process of fulfilling EF requires a strong commitment and systematic planning as well as strengthening synergies between ministries and agencies in meeting EF's needs for foreign defense equipment procurement.

Ependi (2019) explained that the P 100 Live bomb has been mass-produced, but the production still encounters a number of problems as follows. First, PT Dahana acts as a lead integrator. Second, there are six aspects that stand out, namely aspects of technology/machinery, regulatory aspects, capital aspects, HR aspects, management aspects, and material aspects. Among these six aspects, the inhibiting factors are material,

human resources, and capital aspects, while the driving factors are aspects of technology/machinery, regulation, and management.

In Grahadi's opinion (2018), PT DI is expected to be able to produce defense equipment components, and aircraft of various sizes according to the specifications required by the Indonesian Air Force. The inhibiting factors for the empowerment of the defense industry for the independence of the modernize Main Tool of the Indonesian Armed Forces' Weapon System are the lack of common understanding between parties in viewing the development of national defense, various policies issued which are not in line with the development of the defense industry and modernization of the machinery/production facilities of the defense industry, there is still a weak political will and the commitment of the government and the Indonesian Army to use domestic production and technological capabilities still depend on the principal state.

In accordance with the concept presented by Susdarwono (2020), the state can take advantage of its defense industry R&D activities. In addition to strengthening war machines, the research results are used to support commercial activities (non-military industry). The symbiotic pattern of mutualism of military technology for use in the general public (commercial) is known as the concept of dual-use technologies. The concept of dual-use technologies is then applied in the form of a tiered tree which describes the roots of R&D for a product or technology in general which must be developed and then grows like branches to specific military or commercial specifications.

Based on the description above, this study aims to see the extent to which policy innovation and downstream material R&D results in the fulfillment of the army Defense Equipment of the Indonesian Army case study Battlefield Management System (BMS) and the determinants of innovation in creating modernization and independence.

Research Methods

This research was conducted with a qualitative method and utilized a case study strategy. The technique used by the researcher is the study of academic literature in the field of public policy in order to obtain concepts relevant to the study of public policy innovation. Determination of research locations is based on the existence of phenomena in research and development activities carried out within the Indonesian Army, including elements of policymakers and implementers of R&D activities in the Indonesian Army, elements of the domestic defense industry, and elements of academics from universities or R&D bodies as well as elements of non-governmental organizations (Non-Government Organizations). This study uses qualitative research methods to explain the research problem in-depth. Six people are determined as the informants/resource persons based on purposive sampling, consisting of officials who formulate the R&D policies of the Indonesian Army, officials from elements of the material R&D activities of the Battlefield Management System, elements from domestic defense industry players in the R&D activities of the Battlefield Management System, as well as elements from researchers/teachers and military observers from non-governmental organizations. The stages of data analysis were carried out through three main stages, namely data reduction, data presentation, and conclusion drawing.

Results and Discussion

Innovation of the Research and Development Results of the Battlefield Management System (BMS) Material

According to Nasution and Kartajaya (2018), innovation is a continuation of the invention. The discovery of an idea and the idea is the result of the thought called innovation.

Likewise, BMS material R&D is one form of Defense Equipment innovation obtained from the results of the Indonesian Army's digital transformation. The change from the conventional combat era to a digital war based on modernization and independence can be realized by the Indonesian Army through innovation in the field of research and material development. The results obtained from the innovation of BMS R&D results in supporting the development of national defense are the realization of the Indonesian Army's Defense Equipment which is accurate, precise, safe, effective, and efficient. The ease of a defense equipment tool it is easy to operate by the soldiers in supporting the main tasks of the Indonesian Army shows that the innovation of R&D results applied in BMS material R&D activities can be realized.

According to Hoetman (2014), increasing added value and able to increase product competitiveness are the main supporting factors for the driving force of the industry. Research and development are a form of innovative research according to Putra (2011). Innovations that occur in R&D activities for BMS materials are the discovery of domestically made BMS materials that are able to answer user problems and needs. In the period 2010 to 2021, there are at least 343 material R&D results, but not all of them have been allocated a budget to support mass production. In the period 2016 until now, the results of R&D BMS have been mass-produced counted to 555 units.

This shows that BMS is an innovation that is beneficial for the Indonesian Army units. Innovation in the implementation of R&D activities also contributes to the success of R&D activities. Starting from planning activities, the preparation of planning documents in the form of a framework of reference (*Kerangka Acuan Kerja*/KAK) and a budget plan (*Rencana Anggaran Biaya*/RAB). The selection of KAK and RAB for material R&D activities is carried out strictly and thoroughly so that the selected R&D activity proposals are the result of verification and review of the R&D activity proposal. Reduction of bureaucracy or stages of activities that are less effective and efficient can reduce the need for costs for activities. The addition of the R&D assessment mechanism aims to determine the readiness of Balakpus and its partners to work and the ability to complete their work. At each stage of R&D activities, regulations must be guided and implemented so as to reduce potential findings from the internal and external audit teams. There is an adjustment to the regulation of material R&D activities so that it can cut the bureaucracy which is too long, and change it to become more effective and efficient. This bureaucratic change is one of the policy innovations in the field of software or policy deregulation through the revision of implementation guidelines regulated through regulations and decisions of the Head of the Indonesian Army.

The innovation of the R&D material policy of the Battlefield Management System will be influenced by several factors which encourage the creation of an innovation. There are at least 13 factors driving innovation (Elijah, 2010) as follows.

a. Improvement of customer experience
    Product improvement as a result of BMS R&D in the form of increased convenience in operating the UI (user interface) of the BMS software. BMS R&D products are integrated with other communication equipment, making it easier for users to control electronic equipment in the armored fighting vehicle (*Ranpur*), such as radio equipment, intercoms, fire control systems, and others.

b. Demand of customer
    The features which users can benefit from our navigation, recognition of the position of an ally (blue force tracking), recognition of enemy positions both from

intelligence data and sensors deployed, and command features that are displayed in various forms of text, images, lines. as well as videos.

c. Cost reduction
Products resulting from BMS R&D have a competitive advantage in cost reduction because foreign BMS products offer prices 2 to 3 times or even more than the value of products produced from BMS R&D.

d. Organization culture
The organizational culture of the company with a vision and mission is to always make products that are useful for users and will continuously encourage the creation of sustainable innovation. Through the sustainability of these activities, it will continue to trigger the development of products that are more strategic and in accordance with user needs.

e. Need to change or reduce raw material
Changes in raw materials in product development will always be carried out to obtain product reliability goals. It is to obtain reliability requires iteration which occurs continuously.

f. Regulatory requirement
In general, regulations to support BMS R&D products are Law No. 16/2012 concerning the Defense Industry. Although there are already regulations that encourage the independence of the Indonesian Army's Defense Equipment, it is the contrary in their implementation.

g. Competitive positioning
The results of R&D BMS have a competitive advantage, in which currently BMS holds a key position in the integration of military electronic equipment so that military equipment containing electronic systems can

no longer be imported without being integrated with the BMS.

h. Minimization of environmental impact
BMS R&D products have standardized IS0 9001:2008 and OHSAS 18001:2007 so that standardization in development and production is carried out with better quality management to avoid impacts on the environment.

i. Gap in the market
BMS is a gap in the Indonesian market in fulfilling the Defense Equipment, in which the defense industry must be able to realize products that suit user needs.

j. Improving quality
Improvements in product quality as a result of BMS R&D are continuously carried out, both hardware and software in order to meet user needs.

k. Reducing of energy expenditure
The product resulting from the BMS R&D is a Dense Equipment which has been designed to be efficient, both in operation and during the production process.

l. Differentiation
The R&D product of BMS is a product that has been adapted to the needs of the Indonesian Army, namely in accordance with the doctrine and tactics of combat. This differentiates it from similar products because the average foreign product refers to the standard NATO doctrine.

m. Enhancing flexibility
BMS R&D products have flexibility in their use and future development because they are capable of producing derivative products, such as weapons control systems, electronic optical systems, surveillance systems, artificial intelligence, big data, and others.

Downstream Policies in Fulfilling the Defense Equipment of the Indonesian Army based on Modernization and Independence

Downstream of R&D results from the Battlefield Management System is the best practice and can be used as a role model in other material R&D activities. The current condition of the Indonesian Army's material R&D has shown positive developments, such as the encouragement to utilize the results of material R&D in the fulfillment of the Defence Equipment of the Indonesian Army. There is an additional budget for defense research and higher education programs to support material R&D activities. The emergence of several new regulations which can stimulate the use of R&D products, including the Circular Letter of the Minister of Defense of the Republic of Indonesia No. SE/59/III/2022 dated March 15, 2022, concerning Commitment to the Use of Domestic Products for the Procurement of Goods and Services within the Ministry of Defense and the Indonesian Army, Decree of Head of Indonesian Army No. Kep. /159/III/2022 dated March 17, 2022, regarding the Team to Increase the Use of Domestic Products for the Indonesian Army and Head of Indonesian Army Letter No. B/1010/III/2022 dated March 18, 2022, regarding the Delivery of a Statement of Commitment to Spending on Domestic Products for the Indonesian Army's Operator Unit.

The implementation of planning activities carried out by the supervisor of R&D activities is in the form of a strict selection of proposals for material R&D activities. The selection is based on the aspect of benefit value and use value. Proposals for material R&D activities that only have low value and use value will not be followed up for inclusion in the Work Plan and Budget. So that the proposed material R&D activities which are really needed and can answer the problems will be followed up in the Work Plan and Budget to be further programmed in material R&D activities.

Regulations are applied in detail at the planning stage because they determine the budget allocation which will be given in financing material R&D activities. The review/assessment of the Budget and Cost Plan (RAB) is carried out in detail, assessed based on the aspect of benefits, Standard Cost of Output (*Standar Biaya Keluaran*/SBK), and the norm index in the Indonesian Army's environment. So that the implementation of the Budget and Cost Plan can be prepared more effectively, efficiently, and accountably. All regulatory mechanisms are implemented in detail with the aim of avoiding errors. Supervisors of R&D activities also seek to encourage the sustainability of R&D activities, among others, through prototype certification activities and programming R&D activities in accordance with the Roadmap and national priorities. The expected regulations are regulations that are able to not only encourage, but require the use of R&D products produced by the domestic defense industry. Improvements in the procedures and mechanisms of R&D activities from the planning stage to the end have received a response from the market as feedback, namely encouraging the increase of mass-produced material R&D results.

The factors which support downstream according to Hoetman (2014) are implementing import product substitution, increasing added value, and increasing product competitiveness. Based on these three factors, the products resulting from BMS R&D will be studied further, so that it can be seen how far the downstream process is applied to these products and the extent to which these innovations can realize the results in the form of mass products.

This downstream policy will function as a filter for the material of R&D activities. Only material R&D activities which meet the determinants of downstream can finally be continued for the fulfillment of the Defense Equipment of the Indonesian Army. BMS as a product of material R&D is the result of

innovation and has fulfilled the determinants of downstream, namely as a substitute for imported products, increasing added value and increasing competitiveness.

Determination Factors of Innovation based on Modernization and Independence

Several innovation determinants based on modernization and independence encourage the realization of material R&D results in innovations to fulfill the Defense Equipment. Modern Defense Equipment is not necessarily independent, therefore it will be seen to what extent modernization and independence can be realized in the material R&D activities of the Battlefield Management System.

The driving factors state that the Defense Equipment is categorized as modern or has undergone modernization when the factors have complexity, technological progress, and speed (Sari, 2021). The Battlefield Management System as a result of the Indonesian Army's material of R&D can be categorized as a modern product because when viewed from the aspect of complexity, aspects of technological progress, and aspects of speed, all of these aspects have been fulfilled. This shows that the BMS product is a modern product. It is due to the fact that apart from having fulfilled the determinants of BMS modernization, it is also a form of digital transformation in the Indonesian Army's environment. Previously the business processes were carried out manually and conventionally, but now these activities can be carried out using digital technology and automation which reflects the modernization of the Defense Equipment in the Indonesian Army's environment.

There are nine factors that influence the independence of the Indonesian Army's Defense Equipment Battlefield Management System, namely the quality of R&D, stakeholder policies (triple helix), R&D financing and the defense industry, upstream to downstream industry synergies,

the industry as a political tool (pull of interest), production costs (tax, monetary, fiscal policies), mastery of technology, the readiness of machines/production facilities, the weak political will of the government and the commitment of the Indonesian Army to use domestic products (Grahadi, 2018).

The quality of R&D, mastery of technology, synergy of upstream to downstream industries, and readiness of machines/production facilities can contribute positively to the realization of an independent Battlefield Management System. Meanwhile, there are still notes and obstacles in several aspects which should if implemented properly can encourage the realization of the independence of the Battlefield Management System faster and better. These aspects include stakeholder policies (triple helix), R&D financing and the defense industry, industry as a political tool (attraction of interest), the burden of production costs (tax, monetary, fiscal policies), the weak political will of the government and the Indonesian Army's commitment to using domestic products.

Conclusions

The results of this study are as follow. 1) BMS material R&D is one of the innovative products which is proven to meet 13 determinants of innovation, namely, among others, improvement of customer experience, demand/user of the customer, cost reduction, organization culture, need to change or reduce raw material, regulatory requirements, competitive positioning, minimization of environmental impact, the gap in the market, improving quality, reducing energy expenditure, differentiation, enhancing flexibility. Downstream policies play a role in realizing BMS products in the fulfillment of the Defense Equipment of the Indonesian Army. 2) BMS is an innovative product that prioritizes modernization and independence. BMS fulfills all the determinants of modernization-based innovation and fulfills

some of the determinants of independence. This is realized for two reasons. First, BMS is a modern Army Defense Forces, fulfilling aspects of complexity, aspects of technological progress, and aspects of speed. Second, BMS is a product that is produced based on independence, the determinants of independence that are fulfilled, namely the quality of R&D, mastery of technology, synergy of upstream to downstream industries, and readiness of machines/production facilities. Meanwhile, the factors which have not been fully realized in independence are the not-yet optimal triple helix policy, the conflict of interests, research funding, production costs, and indications of weak political will of the Indonesian Army to use domestic products.

Recommendations

1. There is a need for prioritization, continuous and consistent budgeting and procurement (mass production), and budgeting for superior material R&D results as a form of reward.
2. There is a need for policies and regulations which can protect the products of material R&D against the competitiveness of similar products originating from abroad.
3. There is a need for a formulation to provide cost relief in the form of tax incentives for the purchase of raw materials as well as the sale and purchase of R&D products from the defense industry.
4. There is a need for working capital financing support through bank loans to obtain a special lower interest rate facility for the Defense Equipment products produced by the defense industry.
5. There is a need for structuring and mapping the supply needs of basic components for the defense and commercial product market.
6. It is necessary to hold a forum between users and the domestic defense industry to comprehensively discuss the products of the domestic defense industry.
7. Universities need to respond to the implementation of the involvement of researchers from universities in R&D activities by jointly helping the private sector and industry compete in creating innovations in the field of basic science and applied science to support the realization of quality and highly competitive Defense Equipment.
8. In order to realize the implementation of R&D activities that are efficient and have high use value and avoid state losses, although R&D activities are allowed to fail, it is necessary to carry out good planning activities, considering the value of benefits, effectiveness, efficiency and reflecting real work and eye-catching at the level of supervisor of R&D activities. as well as implementing R&D activities.

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Picture 1 Sceme of Social Assessment Channeling

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