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Impact of Technology, Military, and Socio-Economic Welfare on Conflict in Indonesia and Japan

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Abstract

Conflicts are driven by various factors, but over time, conflicts have evolved in nature and complexity. In addition to traditional factors, the emergence of technology has played a significant role in shaping conflicts. Technological advancements also have been a driving force in shaping societies and economies, and impacting various sectors and aspects of life. Our research uses Structural Equation Model (SEM) analysis. We will analyze the direct and indirect impacts of digital connectivity, technology trade, military expenditure and personnel, and socio-economic welfare on conflicts and tensions in Indonesia and Japan. The findings of our study suggest that technology variables such as digital connectivity and technology trade have a positive effect on socio-economic welfare in Indonesia with coefficients 0.311 and 0.457. A similar thing also happened in Japan with coefficients 1.312 and 0.310. However, technology trade can increase conflicts and tensions in Indonesia with coefficients 0.796, and digital connectivity can increase conflicts and tensions in Japan with coefficients 0.761. Additionally, socio-economic welfare significantly reduces conflict in Japan.

Keywords: Conflicts and Tensions, Military Expenditure and Personnel, Socio-Economic Welfare, Technology

INTRODUCTION

has been a persistent phenomenon throughout human history, driven by various factors such as differences in ideology, religion, ethnicity, and resources. These factors have fueled tensions and disputes between individuals, communities, and nations, leading to conflicts of varying scales and intensities. Over time, conflicts have evolved in nature and complexity. In addition to traditional factors, the emergence of technology has played a significant role in shaping conflicts (Leidner & Kayworth, 2006).

Technology today has made remarkable progress, touching every part of our lives. From the internet to artificial intelligence, technological advancements have transformed the way we communicate, work, and engage with the world. The impact of technology extends beyond convenience and efficiency; it has the power to fundamentally change human life in profound ways (Chin, 2019). Technology has become an integral part of modern warfare and security strategies. Digital technology, such as policing apps, drones, and body-worn cameras, has played a critical role in enhancing security management and crime prevention. These technologies enable law enforcement to improve their surveillance capabilities, response times, and overall efficiency in handling criminal activities (Laufs & Borrion, 2022). Technology, such as smartphones and social media, can facilitate communication and information sharing among individuals and communities. It enables rapid dissemination of information, coordination of efforts, and mobilization for peaceful protests or conflict resolution (Clark, 2019).

Moreover, technology's influence on socioeconomic welfare cannot be understated. The increasing use of information and communication technology (ICT) has become a prerequisite and a critical factor in achieving socio-economic development objectives (Khorshid, M., & El-Sadek, 2011). Technological advancements have been a driving force in shaping societies and

economies, impacting various sectors and aspects of life. The adoption and integration of technology in industries have led to increased productivity, efficiency, and economic growth. Automation and digitalization have transformed manufacturing, logistics, and service sectors, altering employment patterns and skill requirements. New technologies contribute to addressing societal challenges and fostering welfare. It argues for a broader notion of well-being that includes non-economic factors and capabilities alongside income and material wealth. Additionally, welfare analyses of innovation should consider equity and social justice alongside efficiency and economic performance (Castellacci, 2022). Technology of AI can positively impact sustainable development goals, such as increasing productivity, promoting equality and inclusion, and addressing environmental challenges. AI technologies can help in optimizing resource allocation, data analysis, and decision-making processes, contributing to achieving various SDGs (Vinuesa et al., 2020).

The military strength of a society is another critical factor that can significantly influence its socio-economic welfare. Military expenditure contributes to national security and stability, which are essential foundations for socio-economic development. By investing in defense capabilities and maintaining a strong military presence, Indonesia can protect its borders, deter external threats, and maintain internal stability (RAND Corporation, 1990). A secure and stable environment is crucial for attracting investments, promoting economic activities, and ensuring the well-being of citizens. The development and utilization of military technology also have played a pivotal role in shaping conflicts and the outcomes of wars. Technological advancements in weaponry have revolutionized the nature of warfare. The invention of machine guns, tanks, and aircraft has made warfare more lethal, destructive, and capable of causing widespread devastation. Military technology has not only influenced the strategies and tactics employed in conflicts but has also impacted societies' resource allocation, research and development priorities, and economic structures (Roland, 2009).

While technology has undoubtedly brought numerous benefits to society, it also poses risks and challenges. The same technological advancements that make everyday life easier and more efficient can introduce new threats and even contribute to conflicts. Technology can be used to spread disinformation, propaganda, and hate speech, which can fuel conflicts and contribute to polarization. The rapid spread of false information through social media platforms can manipulate public opinion and exacerbate existing tensions (Clark, 2019). The interconnectedness of digital systems has made societies vulnerable to cyberattacks, where the misuse of technology can disrupt critical infrastructure and compromise security. Additionally, the development of advanced weaponry and military technologies can escalate tensions and trigger arms races among nations. Furthermore, technology can have adverse effects on the environment, contributing to pollution and resource depletion. Technological advancement can also disrupt existing industries and displace jobs. The digital divide, unequal access to technology, and the challenges of adapting to rapid technological changes are factors that can exacerbate socioeconomic inequalities (Le et al., 2022).

Technology facilitates connectivity, excessive reliance on digital platforms can lead to social isolation, reduced face-to-face interactions, and decreased community engagement. Additionally, unequal access to technology can exacerbate existing social inequalities and create a digital divide between different socioeconomic groups (Gebler et al., 2022). Economic inequality has been linked to negative impacts on happiness and mental health. Higher levels of inequality within societies are associated with a greater prevalence of mental illness. Socioeconomic disadvantage, such as unemployment, low income, poverty, debt, and poor housing, is consistently associated with poorer mental health (Macintyre et al., 2018). Increased technology usage during the COVID-19 pandemic has raised concerns about its impact on children. Excessive screen time and technology use have been associated with potential negative

effects on emotional and social intelligence, technology addiction, and disrupted sleep in children (Limone & Toto, 2021).

This study aims to determine to explore the impact of technology, the military, and socio-economic welfare on conflict through a comparative study in Indonesia and Japan. By examining these interconnected aspects, we can gain a deeper understanding of the complex dynamics that shape contemporary conflicts and their implications for societies. In this study, technology and military are exogenous variables. For socio-economic welfare will be the intervening variable while the exogenous variable in our study is conflicts and tensions. Descriptive and inferential analysis methods are needed to produce relevant analysis. For this reason, we propose to use a structural equation model to estimate the impact on conflicts and tensions in Indonesia and Japan if changes occur in technology, military, and socio-economic welfare. By examining the impact of technology, military strength, and socio-economic welfare on conflict, this comparative study in Indonesia and Japan aims to shed light on the intricate relationship between these factors. Understanding how technology shapes conflicts and influences socio-economic welfare can provide valuable insights for policymakers, researchers, and stakeholders in fostering peaceful coexistence, promoting socio-economic development, and mitigating the negative consequences of conflicts.

RESEARCH METHODS

Types and Sources of Data

For the purposes of this study, we used secondary data. Data was gathered from several sources including the Stockholm International Peace Research Institute (SIPRI), World Bank Indicators, PRS Group (International Country Risk Guide), and UNDP. The data utilized in this research covers a time span ranging from 1990 to 2021 in Indonesia and Japan. By accessing multiple reliable and reputable sources, we aim to ensure the accuracy and validity of the data used in our analysis.

Table 1. Data Sources

Variables	Indicators	Sources	Label
Digital Connectivity (X1)	Fixed broadband subscriptions (per 100 people)	World Bank	DC1
	Fixed telephone subscriptions (per 100 people)	World Bank	DC2
	Individuals using the Internet (% of population)	World Bank	DC3
	Mobile cellular subscriptions (per 100 people)	World Bank	DC4
Technology Trade (X2)	ICT goods exports (% of total goods exports)	World Bank	TT1
	ICT goods imports (% total goods imports)	World Bank	TT2
	Medium and high-tech exports (% manufactured exports)	World Bank	TT3
	Military expenditure (% of GDP)	SIPRI	MEP1

Variables	Indicators	Sources	Label
Military Expenditure and Personnel (X3)	Military Expenditure Growth	SIPRI	MEP2
	Military Expenditure Per Capita	SIPRI	MEP3
	Armed forces personnel (% of total labor force)	World Bank	MEP4
Conflicts and Tensions (Y)	Internal Conflict Index	PRS Group (International Country Risk Guide)	CT1
	External Conflict Index	PRS Group (International Country Risk Guide)	CT2
	Religious Tensions Index	PRS Group (International Country Risk Guide)	CT3
	Ethnic Tensions Index	PRS Group (International Country Risk Guide)	CT4
Socio-economic Welfare (Z)	Labor force participation rate for ages 15-24, total (%) (modeled ILO estimate)	World Bank	SW1
	Life Expectancy Index	UNDP	SW2
	Education Index	UNDP	SW3
	GNI Index	UNDP	SW4

Source: author's calculation

Research Methods

Data analysis is a systematic examination conducted subsequent to acquiring all the requisite data required to address the research problem in its entirety (Wekke et al, 2019). This research will use descriptive analysis and inferential analysis. According to Singarimbun and Effendi (1989), descriptive analysis is the simplest analytical method but has strong enough explanatory power to explain the relationship between variables. Descriptive analysis in this study will be applied to describe conflict, technology, military expenditure, and human development index in Indonesia and Japan in the form of graphs.

The analytical method used in this research is Partial Least Square (PLS) based SEM analysis (SEM-PLS). This method is very useful in management science to calculate, create, and validate models (Ghozali, 2014). This model also explains causal mechanisms and validates theoretical hypotheses empirically and implements predictive-oriented measures (Rigdon, E.E., Sarstedt, M. and Ringle, 2017). SEM-PLS aims to test and develop models, so this analysis provides an opportunity to draw a path model between variables and to determine indicators to variables. Another advantage is that this path modeling technique allows for a smaller sample size and does not require the assumption of normality distribution (Shmueli et al., 2019). Meanwhile, the tool/software used to test the primary data is SmartPLS generation 3.2.9. Based on the framework, the research model in this study is:

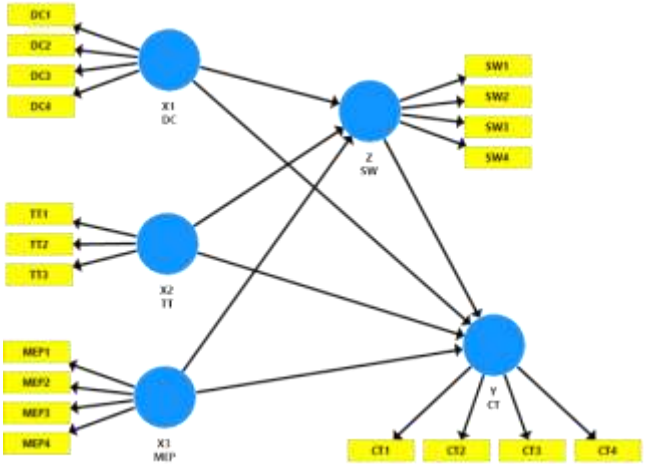

Figure 1. Research Model

Based on research design above, there are 7 hypotheses:

- H1: There's an effect of Digital Connectivity (X1) on Socio-economic Welfare (Z)
- H2: There's an effect of Technology Trade (X2) on Socio-economic Welfare (Z)
- H3: There's an effect of Military Expenditure and Personnel (X3) on Socio-economic Welfare (Z)
- H4: There's an effect of Digital Connectivity (X1) on Conflict and Tensions (Y)
- H5: There's an effect of Technology Trade (X2) on Conflict and Tensions (Y)
- H6: There's an effect of Military Expenditure and Personnel (X3) on Conflict and Tensions (Y)
- H7: There's an effect of Socio-economic Welfare (Z) on Conflict and Tensions (Y)

RESULT AND DISCUSSION

Descriptive Analysis

From Figure 2 it can be seen that Indonesia is more vulnerable to internal conflict. This can be shown on the graph, Indonesia's Internal Conflict Index is always higher than Japan. One of the main reasons is the country's diversity, which has resulted in ethnic, religious, and linguistic differences that have led to conflicts. Indonesia is home to over 300 ethnic groups, and the government has struggled to manage these differences effectively. The country has experienced several violent conflicts, including the separatist movements in Aceh and Papua, communal violence in Ambon and Poso, and religious conflicts in Maluku and Sulawesi (Reilly, 2002). These conflicts have been fueled by a range of factors, including political, economic, and social issues.

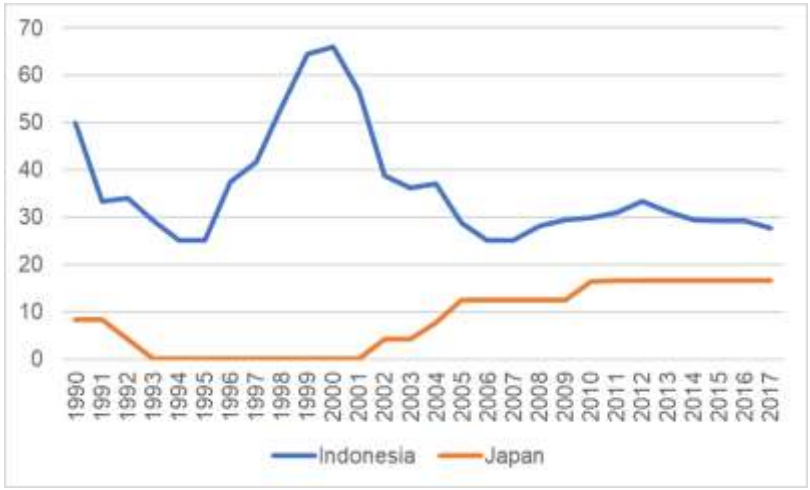

Figure 2. Internal Conflict Index
Source: PRS Group, author's calculations

Another factor that contributes to Indonesia's internal conflict is its colonial history. The Dutch colonial government's policies in Indonesia set the stage for many of these conflicts, and the country's struggle for independence was marked by violence and bloodshed (Jones, 2022). The country's political system is also a contributing factor. Indonesia's democracy is relatively young, and the country has struggled with corruption, weak institutions, and political instability. The government's inability to address these issues has led to public dissatisfaction and protests, which have sometimes turned violent.

In contrast, Japan has a more homogeneous society, with a strong sense of national identity and a relatively stable political system. The country's history is marked by a strong central government, which has helped to maintain social order and prevent internal conflicts. Japan's political system is also more stable than Indonesia's, with a well-established democratic system and strong institutions (Sluimers, 1996). The country's economic success has also contributed to its stability, as it has helped to create a strong middle class and reduce social inequality. Japan's political and social stability, combined with its strong national identity, has helped to prevent internal conflicts.

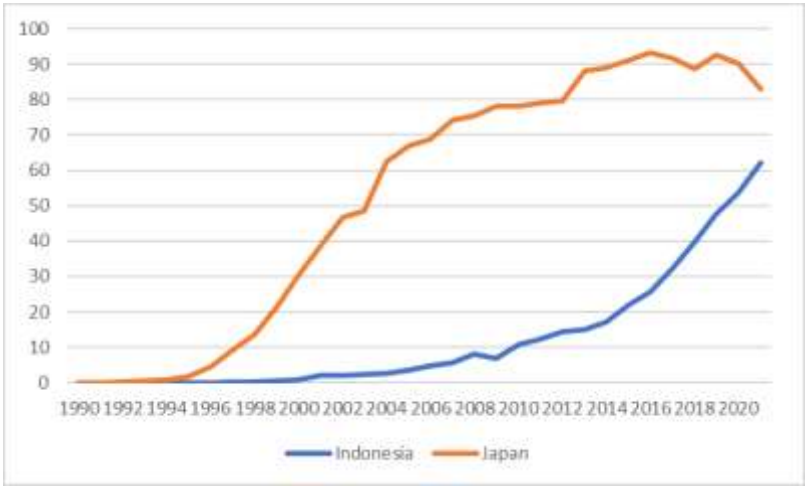

Figure 3. Individuals Using the Internet/population
Source: World Bank

From Figure 3 it can be seen that Japan is one of the countries with the highest number of individuals using the internet/population in the world. The average internet user in Japan in the 2015-2021 period was 90% while Indonesia in the same period was only 40.47%. However, in terms of the total number of Internet users, Indonesia surpasses Japan. In 2021 there are as many as 170 million Indonesians who have used the internet, while Japan has 104 million people.

Japan stands out as one of the countries with a high number of individuals using the internet in proportion to its population. This can be attributed to several key factors. Firstly, Japan has a well-developed technological infrastructure. The country has made significant investments in telecommunications and broadband networks, ensuring widespread access to high-speed internet connections (Statista, 2023). This reliable infrastructure facilitates seamless internet usage for its citizens, fostering a favorable environment for internet adoption. Japan has a high level of technological literacy among its population. The country places a strong emphasis on education, particularly in Science, Technology, Engineering, and Math (STEM) subjects and digital skills. As a result, many Japanese citizens are proficient in using technology, including the internet. This technological literacy plays a crucial role in driving internet adoption across various age groups, contributing to Japan's high internet usage rate.

Japan's cultural inclination towards technology also contributes to its high internet usage. The country has a strong fascination with technological innovations and has been at the forefront of technological advancements. This cultural mindset, combined with a favorable environment for innovation and entrepreneurship, has led to the development of numerous digital services and platforms in Japan. These services, ranging from social media platforms to e-commerce websites, have further fueled internet usage among the population.

On the other hand, Indonesia faces several challenges that limit its internet usage compared to Japan (Statista, 2023). One major challenge is its geographical landscape. Indonesia is an archipelago with a diverse geography, making it difficult to provide reliable and affordable internet access to remote areas. The logistics and costs associated with extending internet infrastructure to these regions pose significant obstacles to widespread internet adoption. Indonesia also has a large rural population and income inequality. Many individuals in rural areas and those with lower incomes may struggle to afford the necessary devices and data plans required for internet access. This affordability barrier hampers internet adoption among a significant portion of the population. Furthermore, digital literacy is still a challenge in Indonesia. While efforts have been made to improve digital skills and literacy, there remains a gap in technological proficiency among the population. Limited awareness and understanding of the internet and its benefits act as barriers to internet usage in the country.

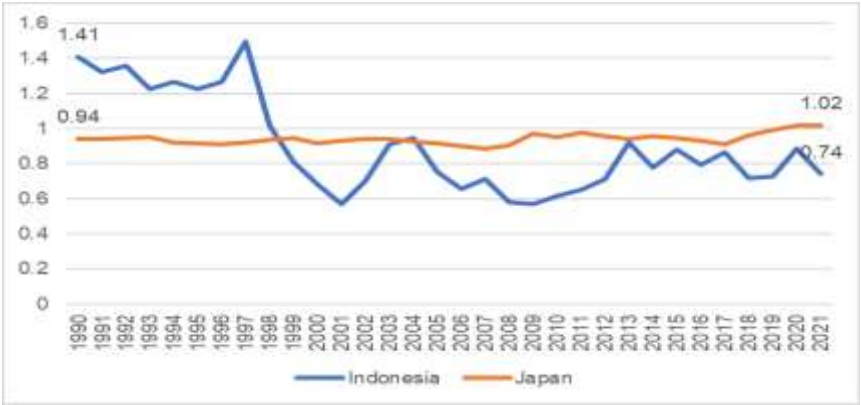

Figure 4. Military expenditure (% of GDP)
Source: SIPRI

From Figure 4 it is known that Japan always maintains the percentage of military expenditure to their GDP. From 1990 to 2021 the percentage of military expenditure to Japan's GDP is in the range of 1%. In 1990 the percentage of military expenditure to Japan's GDP was 0.94% and in 2021 it will be 1.02%. In contrast to Japan, the percentage of military expenditure to Indonesia's GDP tends to be more volatile. In 1990 the percentage of military expenditure to Indonesia's GDP was 1.41%. Even during this period when compared to Japan, Indonesia had a higher percentage. However, since 1998 the percentage of military expenditure to Indonesia's GDP has decreased significantly.

The percentage of military expenditure to Indonesia's GDP has decreased significantly since 1998 due to several factors. Firstly, the Asian financial crisis in 1997-1998 had a significant impact on Indonesia's economy, leading to a sharp decline in GDP growth and a decrease in government revenue (Widodo, 2006). As a result, the government was forced to cut spending, including military expenditure. Secondly, the fall of Suharto's regime in 1998 marked a turning point in Indonesia's political history. The new government that came to power was more focused on democratization and economic development, which led to a shift in priorities away from military spending. The government began to prioritize social spending, such as education and healthcare, which helped to improve the welfare of the population.

Another factor that contributed to the decrease in military expenditure was the changing security environment in Southeast Asia. The end of the Cold War and the rise of China as a regional power led to a shift in the security landscape, with a greater emphasis on non-traditional security threats such as terrorism, piracy, and natural disasters. As a result, the government began to shift its focus away from traditional military spending towards non-traditional security measures, such as disaster relief and counter-terrorism. This shift in priorities was reflected in the decreasing percentage of military expenditure to GDP.

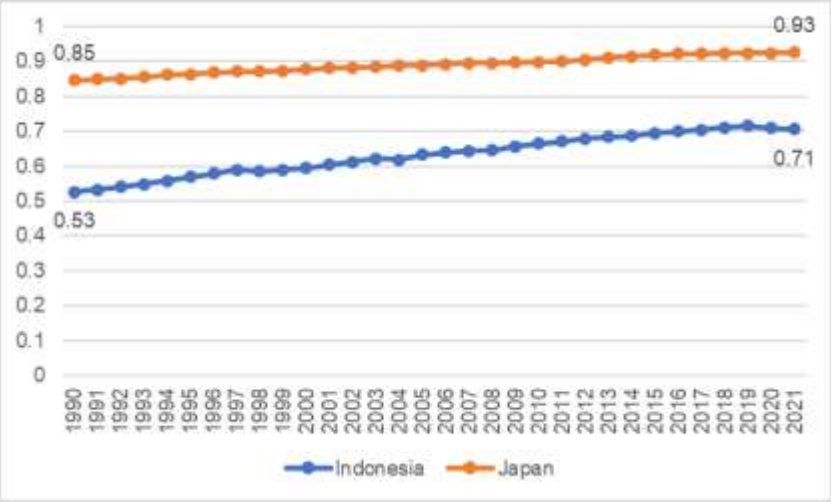

Figure 5. Human Development Index (HDI)
Source: UNDP

From Figure 5 it is known that Japan's HDI is one of the highest in the world. In the period 1990-2021 HDI Japan has always been categorized as very high human development. In 2021 Japan's HDI value is 0.93 which is ranked 19th in the world. Meanwhile, Indonesia in the 1990-2021 period did tend to experience an increase from year to year. In 1990 Indonesia's HDI value was 0.53 or it could be categorized as low human development. However, in 2021 Indonesia has recorded an HDI of 0.71 which is ranked 114th.

One of the key factors is Japan's strong focus on education and knowledge. The country has made significant investments in its education system, ensuring high literacy rates and providing quality education to its citizens. This emphasis on education has contributed to a skilled and knowledgeable workforce, which is vital for economic growth and development (Japan Times, 2020). Japan also has prioritized healthcare and public health measures, leading to a long and healthy life expectancy for its citizens. The country has a well-developed healthcare system, which provides accessible and quality healthcare services to its population. Japan's focus on preventive healthcare and advancements in medical technology have played a significant role in improving life expectancy and overall well-being.

Furthermore, Japan's robust economy and high per capita income have contributed to its success in increasing HDI. The country has a strong industrial base, with leading sectors such as automotive, electronics, and technology. This has resulted in high levels of employment, income stability, and a decent standard of living for its citizens. Japan's economic growth and stability have provided resources for investments in education, healthcare, and social welfare programs, further enhancing human development.

On the other hand, Indonesia faces several challenges that hinder it from achieving a very high HDI. One of the primary challenges is income inequality and poverty. Despite overall improvements in HDI, Indonesia still struggles with a significant portion of its population living below the poverty line. Income disparities between urban and rural areas, as well as among different regions in the country, contribute to this challenge. Addressing income inequality and poverty requires targeted policies and investments in social welfare programs, infrastructure development, and job creation.

Another obstacle for Indonesia's HDI is limited access to quality education. While Indonesia has made progress in improving educational indicators, such as literacy rates, there are still disparities in access to quality education, particularly in rural and remote areas. Enhancing educational infrastructure, teacher training, and curriculum development can help bridge these gaps and improve educational outcomes, contributing to higher HDI. Healthcare is another area where Indonesia faces challenges. Although the country has made strides in improving healthcare services and infrastructure, there are still issues of accessibility, particularly in remote and rural areas. Maternal and child health, as well as preventive healthcare measures, require further attention and investment to improve overall health outcomes and increase life expectancy.

Inferential Analysis

Measurement Model (Outer Model)

The evaluation of the SEM–PLS model (outer measurement) is a reflective measure that is assessed using validity and reliability. Validity measurement is divided into 2 (two) criteria, namely construct validity is done by calculating convergent validity and discriminant validity. Convergent validity is a set of indicators (items) that represent one latent (unobserved) variable. The value of convergent validity is known through the loading factor of each item. An instrument is said to meet the convergent validity testing criteria if its weight has a value above 0.7 (Hair et al., 2017). Based on the test results listed in table 2, it can be seen that there are several indicators that measure variables that have a value less than 0.7. Thus, variable indicators are declared invalid and must be removed from further calculations.

Table 2. Convergent Validity (Outer Loading)

	Indonesia					Japan				
	X1_DC	X2_TT	X3_MEP	Y_CT	Z_SW	X1_DC	X2_TT	X3_MEP	Y_CT	Z_SW
CT1				**-0.187**					**0.931**	
CT2				**0.726**					**0.953**	
CT3				**0.954**					**0.091**	
CT4				**0.927**					**0.969**	
DC1	**0.929**					**0.985**				
DC2	**0.403**					**0.217**				
DC3	**0.921**					**0.983**				
DC4	**0.960**					**0.986**				
MEP1			**-0.791**					**0.64**		
MEP2			**0.033**					**-0.064**		
MEP3			**0.705**					**0.829**		
MEP4			**0.802**					**0.753**		
SW1					**-0.919**					**-0.305**
SW2					**0.953**					**0.988**
SW3					**0.986**					**0.985**
SW4					**0.967**					**0.940**
TT1		**-0.96**					**0.959**			
TT2		**0.947**					**0.963**			
TT3		**0.744**					**0.960**			

Source: author's calculation

Discriminant validity was evaluated using a cross loading table. The Sem-PLS criterion states that the correlation if the latent variable with each item (manifest variable) is greater than the correlation with other latent variables, then the latent variable can predict the item well compared to other latent variables (Rigdon, E.E., Sarstedt, M. and Ringle, 2017). Based on the test results, there are several indicators that measure variables that produce a smaller value compared to the values of other variables. Thus, each of these indicators will be omitted, while indicators that produce a value that is greater than the value of the other variables are considered to be able to measure the latent variable corresponding to the item.

Table 3. Discriminant Validity (Cross Loading)

	Indonesia					Japan				
	X1_DC	X2_TT	X3_MEP	Y_CT	Z_SW	X1_DC	X2_TT	X3_MEP	Y_CT	Z_SW
CT1	-0.493	-0.394	-0.315	**-0.187**	-0.469	0.907	-0.897	0.72	**0.931**	0.86
CT2	0.524	0.461	0.438	**0.726**	0.472	0.908	-0.857	0.71	**0.953**	0.892
CT3	0.562	0.71	0.689	**0.954**	0.671	0.157	-0.046	0.04	**0.091**	0.224
CT4	0.545	0.701	0.714	**0.927**	0.652	0.924	-0.872	0.68	**0.969**	0.897
DC1	**0.929**	0.718	0.63	0.583	0.786	**0.985**	-0.934	0.748	0.968	0.958
DC2	**0.403**	0.607	0.618	0.442	0.505	**0.217**	-0.107	0.487	0.049	0.213
DC3	**0.921**	0.721	0.636	0.602	0.788	**0.983**	-0.922	0.706	0.972	0.974

	Indonesia					Japan				
	X1_DC	X2_TT	X3_MEP	Y_CT	Z_SW	X1_DC	X2_TT	X3_MEP	Y_CT	Z_SW
DC4	**0.96**	0.867	0.821	0.691	0.936	**0.986**	-0.854	0.721	0.926	0.982
MEP1	-0.499	-0.776	**-0.791**	-0.772	-0.659	0.439	-0.325	**0.64**	0.362	0.34
MEP2	0.048	0.058	**0.033**	-0.051	0.063	-0.107	0.118	**-0.064**	-0.172	-0.138
MEP3	0.922	0.749	**0.705**	0.501	0.847	0.622	-0.652	**0.829**	0.583	0.568
MEP4	0.394	0.661	**0.802**	0.429	0.611	0.575	-0.585	**0.753**	0.618	0.53
SW1	-0.862	-0.838	-0.8	-0.754	**-0.919**	-0.337	0.538	-0.383	-0.451	**-0.305**
SW2	0.818	0.944	0.938	0.739	**0.953**	0.987	-0.86	0.692	0.928	**0.988**
SW3	0.913	0.978	0.955	0.813	**0.986**	0.975	-0.861	0.716	0.895	**0.985**
SW4	0.96	0.921	0.88	0.65	**0.967**	0.893	-0.717	0.477	0.829	**0.94**
TT1	-0.933	**-0.96**	-0.93	-0.778	-0.976	-0.983	**0.959**	-0.753	-0.942	-0.966
TT2	0.916	**0.947**	0.863	0.722	0.916	-0.824	**0.963**	-0.649	-0.869	-0.79
TT3	0.424	**0.744**	0.775	0.591	0.638	-0.805	**0.96**	-0.716	-0.825	-0.746

Source: author's calculation

The next step is to recalculate the model which has issued invalid indicators. After all the indicators in the study were declared valid, the next step was to measure construct reliability. Measurement of construct reliability in PLS refers to discriminant reliability values, Cronbach alpha and composite reliability. Experts state that if the value of discriminant reliability (AVE) is greater than 0.5, composite reliability (C.R.) is greater than 0.7, and Cronbach alpha (α) is greater than 0.6, then the construct is declared reliable (reliable) (Hair et al., 2017) by Hair, Hult, Ringle, and Sarstedt, provides a concise yet very practical guide to understanding and using PLS structural equation modeling (PLS-SEM). Based on the test results, each value of the construct variable has met the specified threshold criteria, namely AVE > 0.5, and CR > 0.7, it can be concluded that all items are declared reliable in measuring their latent variables.

Structural Model (Inner Model)

The structural model is evaluated by approximation and hypothesis testing regarding the causal relationship between the exogenous and endogenous variables defined in the path diagram. Standard errors and test statistics for the relevant parameters are estimated in SmartPLS with the Bootstrapping option (Hair et al., 2017). The bootstrapping test uses the help of a computer software program, namely Smart PLS 3.2.9. In this study, the t-table values were at the confidence level of 95% (α < 5%) and 90% (α < 10%). Hypothesis testing for each latent variable relationship is presented in Table 4.

Table 4. Hypothesis Test Results

Variables		Indonesia			Japan		
		Coeff	**T Stat**	**p-value**	**Coeff**	**T Stat**	**p-value**
Total Effects	X1_DC -> Z_SW	0.311	3.754	**0.000**	1.312	16.609	**0.000**
	X2_TT -> Z_SW	0.457	6.600	**0.000**	0.310	3.577	**0.000**
	X3_MEP -> Z_SW	0.298	4.634	**0.000**	-0.080	1.630	**0.104**
	X1_DC -> Y_CT	0.276	1.151	**0.250**	0.761	8.730	**0.000**
	X2_TT -> Y_CT	0.796	3.888	**0.000**	-0.187	1.529	**0.127**
	X3_MEP -> Y_CT	-0.373	1.142	**0.254**	0.046	0.502	**0.616**

Variables		Indonesia			Japan		
		Coeff	T Stat	p-value	Coeff	T Stat	p-value
	Z_SW -> Y_CT	0.518	0.804	**0.422**	-0.807	4.221	**0.000**
Direct Effects	X1_DC -> Z_SW	0.311	3.754	**0.000**	1.312	16.609	**0.000**
	X2_TT -> Z_SW	0.457	6.600	**0.000**	0.310	3.577	**0.000**
	X3_MEP -> Z_SW	0.298	4.634	**0.000**	-0.080	1.630	**0.104**
	X1_DC -> Y_CT	0.115	0.470	**0.638**	1.820	7.132	**0.000**
	X2_TT -> Y_CT	0.560	1.722	**0.086**	0.063	0.521	**0.603**
	X3_MEP -> Y_CT	-0.528	1.109	**0.268**	-0.018	0.242	**0.808**
	Z_SW -> Y_CT	0.518	0.804	**0.422**	-0.807	4.221	**0.000**
Indirect Effects	X1_DC -> Z_SW -> Y_CT	0.161	0.798	**0.425**	-1.058	4.213	**0.000**
	X2_TT -> Z_SW -> Y_CT	0.237	0.767	**0.444**	-0.250	2.767	**0.006**
	X3_MEP -> Z_SW -> Y_CT	0.154	0.763	**0.446**	0.064	1.593	**0.112**
R^2	Y_CT	0.541			0.964		
	Z_SW	0.959			0.965		
Model Fit	RMS Theta	0.437			0.356		
	SRMR	0.135			0.068		
	NFI	0.517			0.640		

Source: author's calculation

First and second hypothesis, digital connectivity and technology trade impact socio-economic welfare positively in Indonesia and Japan. This aligns with Palvia et al., (2018) research, which highlights the crucial role of digital connectivity and ICT trade in driving economic growth. Adoption and use of digital technologies like broadband internet and mobile devices boost productivity, innovation, and market access. Increased digital connectivity fosters e-commerce, digital services, and entrepreneurship, creating new opportunities and employment. The trade of ICT goods, including telecom equipment and electronic devices, stimulates economic activities and contributes to GDP growth (Yoon, 2019). Enhanced digital connectivity promotes innovation and technology adoption in both countries. Access to information and communication technologies facilitates knowledge sharing, collaboration, and innovation diffusion. Digital connectivity allows businesses and individuals to access global networks and research, fostering socio-economic progress through technology adoption (Wang et al., 2021). ICT trade offers access to advanced technologies, fostering domestic innovation ecosystems and empowering access to cutting-edge products. Digital connectivity revolutionizes education and human capital development in Indonesia and Japan. It expands access to educational resources, online learning platforms, and digital skills training, empowering individuals for the digital age. Educational opportunities are broadened, educational gaps bridged, and lifelong learning supported by digital connectivity (Palvia et al., 2018). ICT trade enables the availability and affordability of educational technologies like computers and tablets, enabling digital learning environments for students and teachers (López González & Jouanjean, 2017). Digital connectivity also has contributed to social inclusion and empowerment in both countries. Improved access to digital technologies has reduced information asymmetries, providing marginalized communities with access to information, services, and opportunities. Digital connectivity has facilitated citizen participation in governance, e-government services, and civic engagement, promoting transparency, accountability, and social empowerment (Amad Nabi et al., 2022). The trade of ICT goods has increased the availability and affordability of digital

devices, enabling more individuals to participate in the digital economy and access digital services (Yoon, 2019).

Third hypothesis, military expenditure and personnel in Indonesia positively impact socio-economic development. Military expenditure contributes to national security and stability, which are essential foundations for socio-economic development. By investing in defense capabilities and maintaining a strong military presence, Indonesia can protect its borders, deter external threats, and maintain internal stability (RAND Corporation, 1990). A secure and stable environment is crucial for attracting investments, promoting economic activities, and ensuring the well-being of citizens. Military expenditure can stimulate the growth of the defense industry and promote technology transfer. Defense-related procurement and research and development activities create demand for advanced technologies, leading to the development of domestic defense industries (O'Hagan, 1995). These industries can generate economic activities, create jobs, and foster technological capabilities, which can spill over to other sectors of the economy. Furthermore, technology transfer from defense-related projects can benefit the civilian sector, leading to advancements in areas such as manufacturing, engineering, and information technology. Military expenditure also can have multiplier effects on the economy, leading to increased income, employment, and economic activity. Defense spending injects funds into the economy, which can stimulate demand for goods and services, benefiting various sectors (Chairil et al., 2016). The increased economic activity can create business opportunities, increase tax revenues, and support local industries, contributing to socio-economic development.

Fourth hypothesis, digital connectivity can have a significant and positive effect on fostering conflicts in Japan. Digital connectivity, especially through social media platforms, enables the rapid dissemination of disinformation and the amplification of polarizing views. The ease of sharing information online without proper fact-checking mechanisms can lead to the spread of false narratives, conspiracy theories, and extremist ideologies (Gaens & Sinkkonen, 2023). This phenomenon can contribute to increased polarization within society, exacerbating existing divisions and fostering conflicts. Besides that, the interconnectedness provided by digital connectivity offers a platform for cyberbullying, online harassment, and the proliferation of hate speech. The anonymity and distance provided by online platforms can embolden individuals to engage in aggressive behavior, targeting others with harmful online actions (Dekker et al., 2021). This phenomenon can lead to personal conflicts, psychological harm, and the deterioration of social cohesion. Digital connectivity also provides channels for the dissemination of extremist ideologies and recruitment materials, potentially leading to radicalization. Online platforms enable extremist groups to reach a wider audience and connect with like-minded individuals globally (Lee, 2015). The ease of access to such content and the ability to interact with extremist communities can contribute to the radicalization of individuals, increasing the potential for conflicts fueled by extremist beliefs.

Fifth hypothesis, ICT goods trade have positive effect on fostering conflict in Indonesia. Indonesia's reliance on imported ICT goods makes the country vulnerable to disruptions in the global supply chain. In the event of trade conflicts or geopolitical tensions, restrictions or disruptions in the import of ICT goods can have a detrimental impact on Indonesia's technological infrastructure, connectivity, and digital economy (Yoon, 2019). Such vulnerabilities can create tensions and conflicts, especially if there are significant disparities in access to ICT goods and services among different regions or socioeconomic groups within Indonesia. The trade of ICT goods is intertwined with geopolitical competition and cybersecurity concerns. Indonesia, as a rapidly growing digital economy, faces challenges related to data privacy, cybersecurity, and the protection of critical infrastructure. Trade in ICT goods can raise concerns about potential cyber threats, surveillance, and data breaches. These concerns can lead to conflicts between Indonesia

and other countries, especially if there are divergent approaches to cybersecurity and data governance (Didier, 2020).

Sixth hypothesis, military expenditure and personnel do not have a significant influence on the conflict in Indonesia and Japan. Both Indonesia and Japan have adopted non-aggressive foreign policies and prioritize peaceful relations with neighboring countries. Indonesia, as a member of the Association of Southeast Asian Nations (ASEAN), follows the principle of "ASEAN Way" that emphasizes dialogue, consensus, and non-interference in the internal affairs of member states (Molthof Mieke, 2012). Japan, as a result of its post-World War II pacifist constitution, maintains a self-defense-oriented military posture (Adebahr, 2013). The absence of aggressive foreign policies and territorial disputes reduces the likelihood of conflicts and diminishes the need for significant military expenditure or personnel to fuel conflicts. Both Indonesia and Japan prioritize economic development and social welfare over military expansion. Indonesia, as a developing country, allocates a significant portion of its budget to economic development, poverty alleviation, and social programs (International Monetary Fund, 2022). Similarly, Japan, with its focus on economic growth and recovery after World War II, invests heavily in technological advancements, innovation, and social welfare programs (Lele, 2018). The emphasis on development and economic priorities limits the allocation of resources to military expenditure and personnel, resulting in a reduced impact on conflict dynamics.

Seventh hypothesis, socio-economic welfare has a positive and significant effect on reducing conflict in Japan. Japan's focus on poverty reduction and the establishment of robust social safety nets contribute to reducing conflict. The government has implemented various anti-poverty measures, particularly during its upper-middle-income growth phase, to address unemployment, income inequality, and social disparities (Gill & Sullivan, 2021). These measures include unemployment protections, labor market regulations, and social security programs. By providing support to vulnerable populations and ensuring economic stability, Japan's welfare policies contribute to social cohesion and reduce the likelihood of conflicts driven by socioeconomic grievances. Furthermore, Japan's economic stability and prosperity are closely tied to socioeconomic welfare. The country's commitment to economic growth and social development has led to improved living standards, access to education, healthcare, and employment opportunities (Santandertrade, 2023). As individuals experience greater economic security and upward mobility, the incentives for engaging in conflicts decrease. A strong and inclusive economy reduces social tensions, inequalities, and grievances, contributing to a more harmonious society. Also, the presence of robust socioeconomic welfare programs fosters social cohesion and trust among different segments of society. Japan's welfare system emphasizes collective well-being and promotes a sense of solidarity and shared responsibility (Shizume et al., 2021). The provision of comprehensive social support, including healthcare, pensions, and social assistance, strengthens social bonds and trust between individuals and institutions. This trust helps prevent the escalation of conflicts and promotes peaceful resolution of disputes.

CONCLUSION

Indonesia is more vulnerable to internal conflict compared to Japan. The country's diversity, colonial history, and political system contribute to these conflicts. The government should focus on effective management of ethnic and religious differences, address corruption and political instability, and prioritize social welfare programs to mitigate these conflicts. Meanwhile, Japan's homogeneous society, strong national identity, and stable political system contribute to its lower vulnerability to internal conflicts. Indonesia can learn from Japan's emphasis on education, healthcare, and social welfare, as well as its stable political environment,

to promote social stability and prevent conflicts. Also, Japan's high human development index (HDI) is attributed to its focus on education, knowledge, healthcare, and a robust economy. Indonesia has made progress in improving its HDI but faces challenges such as income inequality, limited access to quality education and healthcare, and poverty.

Digital connectivity and technology trade positively impact socio-economic welfare in both Indonesia and Japan. The adoption of digital technologies and ICT trade drives economic growth, innovation, and market access. The governments of both countries should continue to promote digital connectivity, e-commerce, entrepreneurship, and digital skills training to foster socio-economic progress. Military expenditure and personnel do not have a significant influence on conflicts in Indonesia and Japan due to their non-aggressive foreign policies and prioritization of economic development and social welfare. Socio-economic welfare has a negative and significant effect on reducing conflict in Japan. Japan's focus on poverty reduction, social safety nets, and economic stability contributes to social cohesion and decreases the likelihood of conflicts driven by socioeconomic grievances.

It is important to note that the findings of this study are based on available data and specific modeling assumptions. As with any research, there are limitations and areas for further investigation. Future studies can build upon this research by considering additional variables and exploring the causal relationships in more depth. For instance, it would be useful to examine how social welfare programs or military technology usage can contribute to resolving disputes peacefully and preventing conflicts from escalating.

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