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Sustainable Workforce in a Green Era: Indonesia's Energy Sector Transition

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ABSTRACT

The purpose of this study is to determine and analyze the effect of renewable energy transition variables and economic viability in the Indonesian employment industry on the balance of business sustainability through social and environmental development as an intervening variable. The subjects of this study are small, medium and medium industry owners in Indonesia totaling 5,993,566 business units, where the variables in this study are independent variables, namely the variables of renewable energy transition and economic viability in the Indonesian labor industry, while the dependent variable is the balance of business sustainability, and the intervening variable is the variable of social and environmental considerations, where the results of data analysis are made through SEM analysis through SMART PLS 4.0 software. From the results of existing research, it is concluded that partially renewable energy transition variables and viability variables in the Indonesian labor industry have a direct effect on the balance of business sustainability and social and environmental consideration variables. Simultaneously, the renewable energy transition variable and the viability variable in the Indonesian labor industry indirectly affect the business sustainability balance variable through social and environmental considerations as an intervening variable. With the renewable energy transition process, it will have an impact on people's good social life because there is no threat of environmental damage and natural disasters, so that the environment is safe and makes the industry create a technology transfer process, and increase economic viability in the labor industry in Indonesia in order to create quality human resources, so that with this transition process, trained human resources are needed and are also able to adapt well to the transition process and technology transfer in order to balance the sustainability of industrial businesses.

Keywords: Renewable Energy Transition, Economic Viability, Employment, Business Sustainability, Social and Environmental Considerations
JEL Classifications: B22, F38, H21, G21, G32, G33

1. INTRODUCTION

Renewable energy is one of the aspects that must be developed, where the development of renewable energy is not only to increase electrical energy, but also other energy development can be done, such as energy for vehicles through the transition of fossil energy to environmentally friendly electrical energy, as well as energy for industries that have been using coal steam engines to transition to electrical energy, water and wind through turbines, where this energy transition process is a process of converting a fossil-based energy whose energy comes from petroleum, as well as coal taken at the bottom of the earth whose amount of energy will run out in the future is converted into environmentally friendly renewable energy, where this renewable energy is taken from natural sources that have natural substances that will convert natural resources into energy that is environmentally friendly and does not damage nature, thus preventing climate change (Zahari and McLellan 2023).

This energy transition process is carried out in order to create a climate with normal temperatures as usual and prevent the emergence of natural disasters that are not in accordance with the season and initial predictions, where now predictions about natural disasters and weather or storms cannot be predicted due to climate

change in a particular region in various countries, where there are some areas that should be the rainy season in a certain month in fact summer and vice versa some areas in certain months that should be summer in fact winter and the rainy season, so that by using fossil energy now in terms of people's lives, health will be disrupted and can also endanger people's lives because of seasonal errors, as well as the emergence of natural disasters due to global warming with increasing earth temperatures which will have an impact on the sustainability of the lives of the global community (Oyedepo, et al., 2018). The transition to renewable energy has a huge impact on all sectors, especially industry, where the industry will change production methods for environmentally friendly products, as well as those that have important benefits for humans, as well as changes in product processing machines or machines for the production process, where this integration process requires large financing and serious efforts from stakeholders, the government and the company must realize that this integration process will have an impact on the balance of business sustainability between increasing production or producing products that are beneficial to society and environmentally friendly. In the process of implementing integration from fossil energy to renewable energy, it must also pay attention to social and environmental impacts, where these two factors will be considered and found a solution if this energy transition has an impact on social life and environmental damage that has been neatly arranged (Ngan et al., 2019). The social impacts that arise in the process of transitioning fossil energy to renewable energy are on average positive impacts including the growth of new jobs that are able to balance business sustainability by reducing the number of unemployed and increasing the production of healthy and desirable products by the community while creating economic viability in the employment industry in Indonesia, such as increasing expertise and skills in the use of renewable energy from the workforce, so that later if the energy transition process is carried out, it will make labor with expertise in transforming fossil energy into renewable energy can be used in certain companies or industries that adopt renewable energy in running their production, so that it will be able to increase the economic growth of a region or country (Salleh et al., 2020). Environmental factors that have an impact on the process of integrating fossil energy into renewable energy, where the environmental impacts that arise are positive, such as the lack of existing pollution, decreased carbon emissions, and the growth of a green economy that has an impact on environmental preservation and increased economic growth for the sustainability of the employment industry in Indonesia (Heffron et al., 2020).

The importance of economic viability in order to improve the capabilities and skills of the workforce in various forms of business and industry through the integration process from fossil energy to renewable energy, where this economic viability is carried out to overcome the changes that occur, especially the integration of fossil energy to renewable energy, where this viability supports industrial development so that later the industry can adapt to the changes experienced, especially regarding technological transitions that support the use of renewable energy, where these changes will have an impact on increasing the ability of labor, As well as regulations that make changes in the mindset of business owners or industries in order to create an industry that is able to produce innovative and environmentally friendly products, as well as improve the quality of labor, and improve their welfare which makes business sustainability create its own balance which previously used fossil energy which had an impact on social life and also environmental damage to turn into renewable energy which minimizes social impacts, and prevents environmental damage and global warming which has an impact on climate change (Shaikh et al., 2017). Economic viability in the employment sector is important in order to minimize the risk of existing changes, where existing risks will make efforts to make economic viability less good, so it can be said that existing efforts to minimize risks due to drastic changes in order to integrate renewable energy that requires a long integration process and can have an impact on reducing the workforce that is not ready, so that clear policies and clear rules are needed, although on the one hand this integration process is a necessity in protecting a country or region from devastating damage due to global warming, where the elimination of fossil energy and changing to environmentally friendly renewable energy will result in the use of technology to develop renewable energy. This will have an impact on the creation of unemployment because almost the majority of the workforce is not ready for this technology transfer (Zhou et al., 2019).

The role of economic viability will facilitate the renewable energy transition process in providing hope to society that reducing global warming and reducing the creation of climate change will have an impact on efforts to create regulations that benefit society and also the workforce, which will make the future of the workforce there is a guarantee to continue to develop and improve capabilities (Ortega et al., 2023). The existing rules must guarantee the improvement of the murtu and the quality of the workforce in the context of the evolution and integration of renewable energy, so it is necessary to have this viability role that can be a complete balance in order to create a balanced business so that the business carried out can improve the process of adaptation to change and the renewable energy transition process, and allow the role of regulations to include the process of improving the quality of the workforce, so that later the workforce can easily improve the development for itself to be in a sustainable position (Khan et al., 2021). To make the workforce not unemployed, the government must include the government's participation in improving the skills of the workforce, as well as creating existing capacity in order to create a complete synergy, so that the transition process can make the business world can create a change in terms of products and create increased production, as well as demand, so that this renewable energy transition effort will create positive social impacts and alleviate or reduce environmental damage that will endanger humanity in the future (Ralph and Hancock, 2019). In general, the number of workers employed in the Industrial sector in 2022 was 20,840,000 people, while the number of industries in 2022 was 5,993.566 business units, where the problem that occurs is that the renewable energy transition process is hampered by a complicated integration process because there are still habits of Indonesian people who are still comfortable using fossil energy, and excessive fear from stakeholders in Indonesia is unable to create good economic viability in the employment industry as a result of the balance of business continuity will have a negative impact by increasing the number

of unemployed workers due to lack of quality human resources in applying technology from renewable energy integration, so that the fear and hesitation in applying renewable energy has a very negative effect on people's social lives due to the lack of public understanding of the impact that will be caused by increasing global warming which contributes to climate change, so that it will cause negative effects on the environment that will provide large-scale damage.

2. LITERATURE REVIEW

2.1. Renewable Energy Transition

The transition towards renewable and sustainable energy sources is known as the renewable energy transition. It marks a shift away from reliance on traditional energy sources such as coal, oil and natural gas (Ralph, Natalie and Hancock, 2019). By reducing greenhouse gas emissions, improving energy security, and promoting a more equitable and sustainable economy, the Renewable Energy Transition seeks to achieve sustainable development goals. It is essential to international efforts to combat climate change and reduce the adverse impacts of using non-renewable natural resources (Wierzbowski et al., 2017). The shift to renewable energy requires the implementation of policies and procedures that facilitate the use of more environmentally friendly energy sources and reduce the impact of climate change (Maulidia et al., 2019). (Napitupulu et al., 2023; Sinaga and Sitorus, 2023) Some of the main components of the Renewable Energy Transition are as follows:

1. Utilization of renewable resources, where recyclable natural resources such as solar, wind, water, geothermal, and biomass are renewable energy sources. To reduce dependence on fossil fuels, the renewable energy transition requires more frequent use of renewable energy sources as alternatives.
2. Sustainable infrastructure development, where as part of this change, infrastructure that facilitates renewable energy power generation, distribution and use should be developed. This includes the construction of hydroelectric, wind turbine, and solar power generation facilities.
3. Energy efficiency, where the transition to renewable energy involves not only the use of renewable resources but also efforts to improve energy efficiency. This can involve the implementation of energy-efficient devices, ingenious energy management, and methods that encourage more effective use of energy.
4. Innovation, where this shift is greatly aided by the creation of new technologies and innovations in the renewable energy sector. For this shift to be sustainable, continued research and development of more cost-effective and efficient technologies is essential.
5. Environmental conservation and management, where the shift to renewable energy also entails wise resource management and environmental preservation. This includes methods that help conserve water and land and reduce the environmental impact of renewable energy initiatives (Kumar and Ghosh, 2017).

(Sinaga and Sitorus, 2023) Indicators of the renewable energy transition undertaken by *stakeholders* include:

1. Renewable energy capacity, which is the installed capacity of renewable energy, includes the generation capacity of wind turbines and solar power. This shows the ability of a country or region to generate renewable energy.
2. Reducing the energy sector's contribution to greenhouse gas emissions by shifting to renewable energy is expected to reduce carbon emissions and their adverse impact on climate change.
3. Energy efficiency takes the form of improving the effectiveness of energy consumption. This can be assessed by looking at productivity gains in areas such as transportation, manufacturing, and residential living.
4. Renewable infrastructure development involves the creation and improvement of renewable infrastructure, including energy storage systems, electric vehicle charging stations, and renewable power grids.
5. Diversification of energy sources, where to reduce dependence on one type of resource, diversify our energy sources instead. To build a more reliable and sustainable energy system, this involves utilizing various renewable energy sources (Lin and Purra, 2018).

2.2. Economic Viability in Indonesia's Employment Industry

In the labor sector, an industry's ability to survive and prosper in a changing economic environment is referred to as economic viability (Jiuhardi and Michael, 2022). In Indonesia's employment sector, economic viability encompasses various elements that impact the resilience, expansion, and economic impact on the country. (Khan et al., 2021). The Indonesian labor market is able to measure and improve economic sustainability by taking into account these variables and making the necessary adjustments. Creating conditions that encourage the expansion and sustainability of the employment sector in Indonesia is the main responsibility of the government, the business world, and other stakeholders (Neofytou et al., 2020). There are a number of factors that can affect the employment sector in Indonesia in relation to economic sustainability, including:

1. Economic growth, where the state of the national economy as a whole will have an impact on labor demand and job openings in the employment sector
2. Labor policies, where the operational climate of the industry can be affected by government policies regarding employment, worker protection, labor regulations, and other related factors
3. Education and skills, where economic viability can benefit from increased industrial competitiveness and the availability of a qualified and skilled workforce
4. Technology and innovation, where innovation and adoption of technology in recruitment, training, and human resource management can increase output and efficiency (Erdiwansyah et al., 2021).

Indicators of economic viability in Indonesia's employment industry are:

1. The unemployment rate, which is an indication of the number of jobs available in the labor sector, can be obtained by measuring the unemployment rate. A decline in the unemployment rate may be a sign of hope
2. Employment growth, where the growth and sustainability of the employment industry is indicated by an increase in the

number of new jobs created
3. Upskilling, where the efforts of the labor force to upgrade their skills and talents can be a key indicator of how competitive the current job market is
4. Employee welfare, where actions are taken to improve employee welfare, such as providing job stability, employee welfare programs, and other facilities
5. The level of job satisfaction, where the level of welfare and long-term survival can be concluded from the level of worker satisfaction with management and working conditions (Agyekum et al., 2021).

2.3. Balance of Business Sustainability

(Ade Sitorus et al., 2022) The term "business sustainability balance," also known as "sustainability equilibrium" or "*triple bottom line*," describes a strategy that considers economic, social, and environmental aspects of business (Come Zebra et al., 2021). This notion highlights that the sustainability of a company is evaluated not only in terms of its financial returns but also in terms of its impact on society and the environment (Dominković et al., 2017). The need to operate ethically and the increasing global awareness of environmental and social issues have made it increasingly important for businesses to balance sustainability (Breyer et al., 2017). (Breyer et al., 2017). This corporate sustainability balance has three main dimensions, namely:

1. The economic dimension, which explains the main concern with the economic or financial viability of the company. This dimension can address issues including innovation, operational effectiveness, profitability and economic growth. Economic sustainability indicates the capacity of a business to run and grow over time.
2. The social dimension, which involves the relationship a business has with social stakeholders and its impact and contribution to society. Justice, human rights, diversity, employee health and safety, community empowerment, and the company's constructive involvement in the environment are among these aspects.
3. The environmental dimension examines the company's efforts to reduce its ecological footprint and impact on the environment. This includes initiatives to protect the environment, manage waste, use natural resources efficiently, reduce greenhouse gas emissions, and use energy (Kumar and Majid, 2020).

Indicators of business sustainability balance include:

1. It assesses the level of innovation in a service, product or business procedure
2. Employee welfare in the form of work-life balance policies, job security, health initiatives, and employee satisfaction levels
3. Operational efficiency is done by measuring the effectiveness of manufacturing processes and resource utilization
4. Education and skills development in the form of education and training programs that help develop staff capabilities
5. Sustainability performance, which is the evaluation of overall business performance in relation to set sustainability commitments and targets (Christophers, 2022).

2.4. Social and Environmental Considerations in the Renewable Energy Transition

To ensure that the transition to a clean and sustainable energy supply provides benefits for society and the environment, social and environmental factors in the renewable energy transition are crucial (Ilić et al., 2018). A comprehensive strategy involving all stakeholders, including governments, businesses, local communities and environmental organizations, is needed to implement these social and environmental factors (Sovacool et al., 2020). The shift to renewable energy can be made more equitable and sustainable by considering social and environmental impacts at every stage of the process, from planning to operation, and providing benefits to all stakeholders (Gulagi et al., 2021). Here are some important things to keep in mind:

1. Public health and safety is done by evaluating and mitigating impacts on public health, whether caused by noise, air pollution or other factors. Priorities should also include worker safety.
2. Emission reduction and climate change, where throughout the project life cycle, including during construction, operation, and decommissioning, evaluation and reduction of greenhouse gas emissions.
3. Environmental restoration and reforestation, where after the project is completed, implement an environmental restoration and replanting plan to reduce impacts and improve local environmental sustainability (La Viña et al., 2017).

(Agustina et al., 2023; Sitorus et al., 2022) Indicators of social and environmental considerations in the renewable energy transition, namely:

1. Public health impact, which examines the impact of renewable energy projects on public health, taking into account air and noise pollution
2. Social and economic justice, which measures how equitably people can share in the economic and social benefits of renewable energy initiatives
3. Greenhouse gas emission reduction, where during the project, greenhouse gas emissions are analyzed and reduced
4. Environmental restoration by planning to carry out environmental restoration on an ongoing basis (Hoang et al., 2021).

The explanation states that it can be explained through the following conceptual framework image:

2.5. Hypothesis

Figure 1 Conceptual Framework, which is a formula for determining the hypothesis listed below:

1. Renewable energy transition directly affects business sustainability balance
2. Viability in the Indonesian labor industry has a direct effect on the balance of business sustainability
3. Renewable energy transition directly affects social and environmental considerations
4. Viability in the Indonesian labor industry has a direct effect on social and environmental considerations
5. Social and environmental considerations directly affect the balance of business sustainability
6. Renewable energy transition indirectly affects the balance

of business sustainability through social and environmental considerations as intervening variables.

Viability in the Indonesian employment industry has a direct effect on the balance of business sustainability through social and environmental considerations as intervening variables.

3. RESEARCH METHODS

3.1. Results

3.1.1. Descriptive analysis

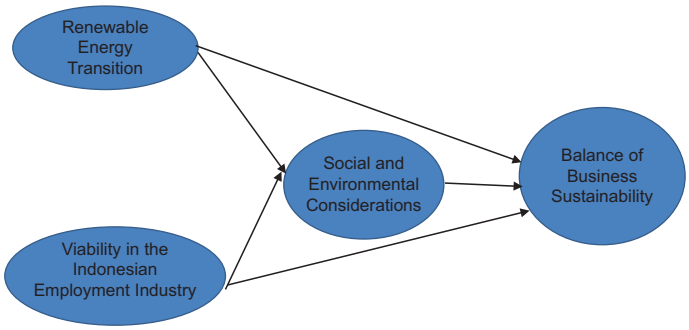
3.1.1.1. Renewable energy transition variables

Table 1 states that the amount of data distribution that most respondents answered for question 1 was agreed as many as 155 respondents (38.75%), for question 2 the most respondents answered agreed as many as 154 respondents (38.5%), for question 3 many respondents answered agreed as many as 156 respondents (39%), for question 4 respondents who answered agreed as many as 157 respondents (39.25%) and question 5 respondents who answered agreed as many as 160 respondents (40%).

3.1.1.2. Economic viability variables in the Indonesian employment industry

Table 2 states that the amount of data distribution most answered by respondents for question 1 is agreed as many as 160 respondents (40%), for question 2 the most respondents answered agreed as many as 157 respondents (39.25%), for question 3 many respondents answered agreed as many as 156 respondents (39%), for question 4 respondents who answered agreed as many as 154 respondents (38.5%) and question 5 respondents who answered agreed as many as 155 respondents (38.75%).

Figure 1: Conceptual framework



3.1.1.3. Social and environmental considerations variable

Table 3 states that the amount of data distribution most answered by respondents for question 1 is agree as many as 157 respondents (39.25%), for question 2 the most respondents answered agree as many as 156 respondents (39%), for question 3 respondents answered agree as many as 154 respondents (38.5%), for question 4 respondents who answered agree as many as 155 respondents (38.75%).

3.1.1.4. Business sustainability balance variable

Table 4 states that the amount of data distribution that most respondents answered for question 1 was agreed as many as 154 respondents (38.5%), for question 2 the most respondents answered agreed as many as 156 respondents (39%), for question 3 many respondents answered agreed as many as 160 respondents (40%), for question 4 respondents who answered agreed as many as 155 respondents (38.75%) and question 5 respondents who answered agreed as many as 157 respondents (39.25%).

Figure 2 Bootstrapping diagram of the data below is the result of data processing from the SEM test so that it can be seen from the following:

3.1.1.5. Convergent validity analysis

(Subanji et al., 2021) states that the *convergent validity test* in the SEM PLS test is carried out to test the extent to which the construct variable is calculated based on the indicator variable based on what

Figure 2: *Bootsraping* diagram

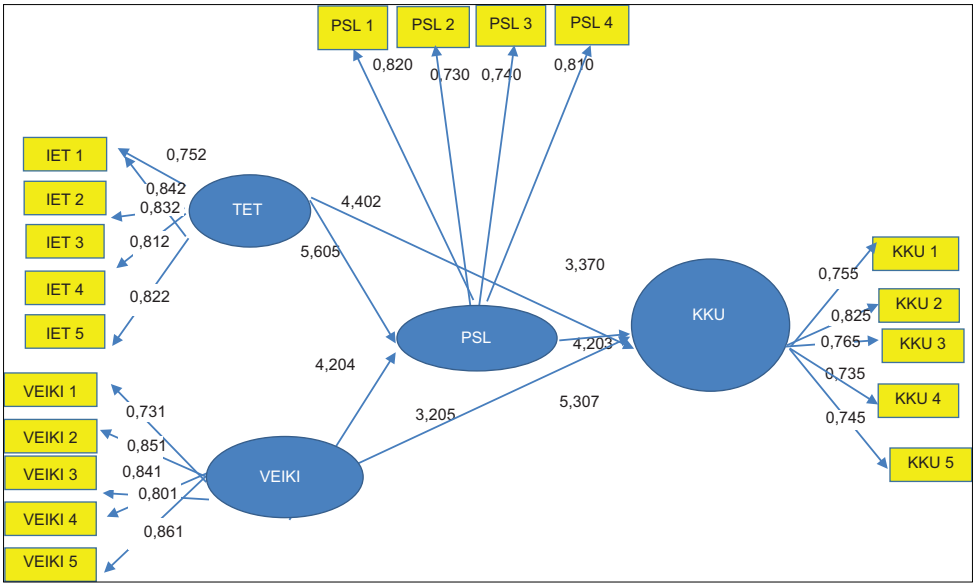


Table 1: Descriptive analysis of renewable energy transition variables

Question	Respondent answer score									
	SS (5)		S (4)		N (3)		TS (2)		STS (1)	
	F	%	F	%	F	%	F	%	F	%
Q1	150	37.5	155	38.75	79	19.75	16	4	-	-
Q2	152	38	154	38.5	81	20.25	13	3.25	-	-
Q3	153	38.25	156	39	82	20.50	9	2.25	-	-
Q4	154	38.5	157	39.25	84	21	5	1.25	-	-
Q5	156	39	160	40	83	20.75	1	0.25	-	-

Source: Processed with primary data, 2023

Table 2: Descriptive analysis of economic viability variables in the Indonesian employment industry

Question	Respondent answer score									
	SS (5)		S (4)		N (3)		TS (2)		STS (1)	
	F	%	F	%	F	%	F	%	F	%
Q1	156	39	160	40	83	20.75	1	0.25	-	-
Q2	154	38.5	157	39.25	84	21	5	1.25	-	-
Q3	153	38.25	156	39	82	20.50	9	2.25	-	-
Q4	152	38	154	38.5	81	20.25	13	3.25	-	-
Q5	150	37.5	155	38.75	79	19.75	16	4	-	-

Source: Processed with primary data, 2023

Table 3: Descriptive analysis of social and environmental considerations variables

Question	Respondent answer score									
	SS (5)		S (4)		N (3)		TS (2)		STS (1)	
	F	%	F	%	F	%	F	%	F	%
Q1	154	38.5	157	39.25	84	21	5	1.25	-	-
Q2	153	38.25	156	39	82	20.50	9	2.25	-	-
Q3	152	38	154	38.5	81	20.25	13	3.25	-	-
Q4	150	37.5	155	38.75	79	19.75	16	4	-	-

Source: Processed with primary data, 2023

Table 4: Descriptive analysis of business sustainability balance variables

Question	Respondent answer score									
	SS (5)		S (4)		N (3)		TS (2)		STS (1)	
	F	%	F	%	F	%	F	%	F	%
Q1	152	38	154	38.5	81	20.25	13	3.25	-	-
Q2	153	38.25	156	39	82	20.50	9	2.25	-	-
Q3	156	39	160	40	83	20.75	1	0.25	-	-
Q4	150	37.5	155	38.75	79	19.75	16	4	-	-
Q5	154	38.5	157	39.25	84	21	5	1.25	-	-

Source: Processed with primary data, 2023

represents the construct variable, this *convergent validity* analysis is carried out by looking at the outer loading value.

Table 5 states that it can explain that the results of the *outer loading* test of the variables in this study, both the dependent, independent and intervening variables, are valid.

3.1.1.6. *Average variant extracted* (AVE) analysis

(Subanji et al., 2021) stated that the AVE test is a test conducted to determine how clearly the construct variable affects other construct

Table 5: *Convergent validity* test

Variables	Indicator	Outer loading
Renewable energy transition $(X)_1$	TET 1	0.842
	TET 2	0.752
	TET 3	0.832
	TET 4	0.812
	TET 5	0.822
Economic viability in the indonesian employment industry $(X)_2$	VEIKI 1	0.851
	VEIKI 2	0.731
	VEIKI 3	0.841
	VEIKI 4	0.801
	VEIKI 5	0.861
Social and environmental considerations (Z)	PSL 1	0.820
	PSL 2	0.730
	PSL 3	0.740
	PSL 4	0.810
Balance of business sustainability (Y)	KKU 1	0.755
	KKU 2	0.825
	KKU 3	0.735
	KKU 4	0.765
	KKU 5	0.745

Source: Results of data processing with PLS 3.0, 2023

Table 6: AVE test

Variables	AVE
Renewable energy transition $(X)_1$	0.837
Economic viability in the indonesian employment industry $(X)_2$	0.765
Social and environmental considerations (Z)	0.735
Balance of business sustainability (Y)	0.770

Source: Results of data processing with PLS 3.0, 2023

variables. The results of the *Average Variant Extracted* (AVE) test can be seen in Table 6 below:

The table states that the output results for the *Average Variant Extracted* (AVE) test of several existing variables are greater than

the significance value of 0.5, where the existing data distribution is valid.

3.1.1.7. *Composite reliability* test

According to (Franzese and Iuliano, 2018) *Composite Reliability* test is used to determine how a construct is reliable or able to contribute consistently. When, where this data analysis can be seen in the following table:

Table 7 states that the results of the *composite reliability of* the variables that appear in this study are greater than the significance of 0.6, where the results of the data distribution are appropriate.

3.1.1.8. *Path coefficient* test

As for the *path coefficient* (R square) test of each variable can be seen in Tables 8-12 below:

Table 7: *Composite reliability* test

Variables	Composite reliability
Renewable energy transition $(X)_1$	0.747
Economic viability in the indonesian employment industry $(X)_2$	0.827
Social and environmental considerations (Z)	0.857
Balance of business sustainability (Y)	0.837

Source: Results of data processing with PLS 3.0, 2023

Table 8: R-square test

Variables	R-square
Renewable energy transition $(X)_1$	0.705
Balance of business sustainability (Y)	0.617

Source: Results of data processing with PLS 3.0, 2023

Table 9: R-square test

Variables	R-square
Economic viability in the Indonesian employment Industry $(X)_2$	0.751
Balance of business sustainability (Y)	0.629

Source: Results of data processing with PLS 3.0, 2023

Table 10: R-square test

Variables	R-square
Renewable energy transition $(X)_1$	0.765
Social and environmental considerations (Z)	0.618

Source: Results of data processing with PLS 3.0, 2023

Table 11: R-square test

Variables	R-square
Economic viability in the Indonesian employment Industry $(X)_2$	0.845
Social and environmental considerations (Z)	0.723

Source: Results of data processing with PLS 3.0, 2023

Table 12: R-square test

Variables	R-square
Social and environmental considerations (Z)	0.775
Balance of business sustainability (Y)	0.615

Source: Results of data processing with PLS 3.0, 2023

Table 8 explains that the R square value of the renewable energy transition variable of 70.5% can be explained by the business sustainability balance variable and the rest will be explained by other variables that are different from the variables in this study by 29.5%.

Table 9 explains that the R square value of the economic viability variable in the Indonesian employment industry of 75.1% can be explained by the sustainable business sustainability balance variable and the rest will be explained by other variables that are different from the variables in this study by 24.9%.

Table 10 states that the R square value of the renewable energy transition variable of 76.5% can be explained by the social and environmental consideration variable and the rest will be explained by other variables that are different from the variables in this study by 23.5%.

Table 11 explains that the R square value of the economic viability variable in the Indonesian employment industry of 84.5% can be explained by the social and environmental considerations variable and the rest will be explained by other variables that are different from the variables in this study by 15.5%.

Table 12 explains that the R square value of the economic viability variable in the Indonesian employment industry of 77.5% can be explained by the social and environmental considerations variable and the rest will be explained by other variables that are different from the variables in this study by 22.5%.

3.1.1.9. Hypothesis test

The results of the hypothesis test are known through Table 13 below:

Table 13 explains that partially renewable energy transition variables and viability variables in the Indonesian employment industry have a direct effect on the balance of business sustainability and social and environmental considerations variables. Simultaneously, the renewable energy transition variable and the viability variable in the Indonesian employment industry indirectly affect the business sustainability balance variable through social and environmental considerations as intervening variables.

4. DISCUSSION

The results state that the renewable energy transition variable has a direct effect on the balance of business sustainability. This is in accordance with research (Islam et al., 2021) which states that the renewable energy transition process will create a process of switching from production machinery using fossil energy to environmentally friendly renewable energy, thus creating a balance of industrial business sustainability. The results also state that the viability variable in the Indonesian labor industry has a direct effect on the balance of business sustainability. This is in accordance with research (Mori, 2020) which states that the process of economic viability in the employment industry will create a workforce that is able to adapt to the renewable energy transition, thus creating a significant balance of business sustainability. According to the results of the study, the

Table 13: Hypothesis test

Hypothesis	Influence	T-statistics	P-value	Results
H1	Direct effect of renewable energy transition on business sustainability balance	4.402	0.000	Accepted
H2	The direct effect of viability in the Indonesian labor industry on the business sustainability equilibrium	3.205	0.010	Accepted
H3	Direct impact of renewable energy transition on social and environmental considerations	5.605	0.000	Accepted
H4	Direct influence of viability in Indonesia's labor industry on social and environmental considerations	4.204	0.002	Accepted
H5	Direct influence of social and environmental considerations on the business sustainability balance	4.203	0.015	Accepted
H6	Indirect effect of renewable energy transition on business sustainability balance through social and environmental considerations as intervening variables	3.370	0.000	Accepted
H7	The indirect effect of viability in the Indonesian labor industry on the balance of business sustainability through social and environmental considerations as intervening variables	5.307	0.001	Accepted

Source: Results of data processing with PLS 3.0, 2023

renewable energy transition variable has a direct effect on social and environmental considerations. This is in line with research (Christophers, 2022) which explains that the energy transition process must look at social and environmental impacts, so as to protect citizens from the threat of climate change. The results also state that the viability variable in the Indonesian labor industry has a direct effect on social and environmental considerations, where according to (Breyer et al., 2017). (Breyer et al., 2017) states that the economic viability of the employment industry will always create economic and social impacts on society, so that unemployment will decrease, and the process of switching fossil energy to renewable energy will benefit and have a positive impact on social and environmental factors in protecting people from the threat of global warming. The results showed that the variable of social and environmental considerations had a direct effect on the balance of business sustainability. This is in accordance with research (Maghfuri et al., 2022) which states that social factors, such as the state of society and environmental factors, such as reducing gas emissions will have a positive impact on companies and industries in order to create product production that is beneficial to society and does not damage the surrounding environment. The results of the study state that the renewable energy transition variable has an indirect effect on the balance of business sustainability through social and environmental considerations as intervening variables.

This is in accordance with research (Erdiwansyah et al., 2021) which states that the renewable energy transition process will create a balance of business sustainability that will make people improve good capabilities, and protect the region from global warming. The results of the study state that viability in the Indonesian employment industry has a direct effect on the balance of business sustainability through social and environmental considerations as intervening variables. This is in accordance with research (Khan et al., 2021) which states that economic viability will make the employment industry have high social benefits, they will be skilled and dexterous in improving the expertise of the process of switching fossil energy to renewable energy, where this social factor will prevent environmental damage due to climate change. With the renewable energy transition process, it will have an impact on people's good social life because there is no threat of environmental damage and natural disasters, so the environment is safe and makes the industry create a technology transfer process, as well as increasing economic viability in the labor industry in Indonesia in order to create quality human resources, so that with this transition process, trained human resources are needed and are also able to adapt well to the transition process and technology transfer in order to balance the sustainability of industrial businesses.

5. CONCLUSION

From the results of this study, the conclusion is that partially the renewable energy transition variable and the viability variable in the Indonesian employment industry have a direct effect on the balance of business sustainability and the social and environmental considerations variable. Simultaneously, the renewable energy transition variable and the viability variable in the Indonesian employment industry indirectly affect the business sustainability balance variable through social and environmental considerations as an intervening variable.

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