



## THE INFLUENCE OF LABOR ABSORPTION PROBLEMS ON THE UNEMPLOYMENT RATE IN NORTH SUMATRA PROVINCE IN AN ISLAMIC PERSPECTIVE

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**Abstract:** This study aims to analyze the influence of labor absorption issues on the unemployment rate in North Sumatra Province from an Islamic perspective. The research method used is quantitative, utilizing secondary data from the Central Statistics Agency of North Sumatra Province and relevant literature. The variables analyzed include Gross Regional Domestic Product (GRDP), population size, provincial minimum wage, education level, and labor absorption. The research findings indicate that GRDP is not intervened by labor absorption concerning unemployment. The population size indirectly influences unemployment, with labor absorption as an intervening variable. Provincial minimum wage and education level directly affect unemployment without being intervened by labor absorption. From an Islamic perspective, balancing these labor factors to reduce unemployment and achieve socio-economic justice in North Sumatra Province is important. These conclusions have several important implications. First, there needs to be attention given to regional economic growth to impact labor absorption positively. Second, wise population management is crucial to optimize job availability. Third, provincial minimum wage and education level play a significant role in reducing unemployment. Fourth, applying Islamic values in managing labor, including ethical and just aspects, is important. These implications are expected to provide guidance and recommendations for the government and stakeholders in addressing unemployment issues in North Sumatra Province.

**Keywords:** Influence, Problems, Employment Absorption, Unemployment Rate, North Sumatra Province, Islamic Perspective

**Abstrak:** Penelitian ini bertujuan untuk menganalisis pengaruh problematika penyerapan tenaga kerja terhadap tingkat pengangguran di Provinsi Sumatera Utara dalam perspektif Islam. Metode penelitian yang digunakan adalah metode kuantitatif dengan menggunakan data sekunder yang diperoleh dari Badan Pusat Statistik Provinsi Sumatera Utara dan literatur yang relevan. Variabel yang dianalisis meliputi Pertumbuhan Domestik Regional Bruto (PDRB), jumlah penduduk, upah minimum provinsi, tingkat pendidikan, dan penyerapan tenaga kerja. Hasil penelitian menunjukkan bahwa PDRB tidak diintervensi oleh penyerapan tenaga kerja terkait dengan pengangguran. Jumlah penduduk secara tidak langsung mempengaruhi pengangguran, dengan penyerapan tenaga kerja sebagai variabel intervening. Upah minimum provinsi dan tingkat pendidikan secara langsung mempengaruhi pengangguran tanpa diintervensi oleh penyerapan tenaga kerja. Dalam perspektif Islam, penting untuk menjaga keseimbangan antara faktor-faktor ketenagakerjaan tersebut guna mengurangi pengangguran dan mencapai keadilan sosial-ekonomi di Provinsi Sumatera Utara. Kesimpulan tersebut memiliki beberapa implikasi yang penting. Pertama, perlu adanya perhatian terhadap pertumbuhan ekonomi daerah agar dapat memberikan dampak positif pada penyerapan tenaga kerja. Kedua, pentingnya pengelolaan populasi secara bijaksana agar dapat mengoptimalkan ketersediaan lapangan kerja. Ketiga, upah minimum provinsi dan tingkat pendidikan memainkan peran penting dalam mengurangi tingkat pengangguran. Keempat, pentingnya penerapan nilai-nilai Islam dalam mengelola ketenagakerjaan, termasuk aspek etika dan keadilan. Implikasi tersebut diharapkan dapat memberikan panduan dan rekomendasi bagi pemerintah dan pemangku kepentingan dalam mengatasi masalah pengangguran di Provinsi Sumatera Utara.

**Kata Kunci:** Pengaruh, Problematika, Penyerapan Tenaga Kerja, Tingkat Pengangguran, Provinsi Sumatera Utara, Perspektif Islam

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## INTRODUCTION

National development in Indonesia is inseparable from development at the regional level, considering that Indonesia consists of provinces, regencies/cities, and smaller regions. In planning and implementing development activities, it is important for the smaller communities also to feel the impact (Belitski et al., 2022). One central issue in Indonesia is the lack of job opportunities due to access gaps. Employment has significant social and economic dimensions in human life. When the per capita income of the society increases, there is a faster change in the economic structure. Economic development aims to improve the community's living standards, expand job opportunities, and achieve income equality (Amar et al., 2020). Employment plays a crucial role in the implementation of national development in Indonesia. The size of the workforce is beneficial for accelerating development and national growth. Therefore, population and workforce growth are considered positive factors driving national development and economic growth (Stoica et al., 2020). Labor absorption and income levels are ongoing issues for the country of Indonesia. The scarcity of job opportunities results in the working-age population lacking decent employment, leading to increased poverty rates and low income for the Indonesian population. The table below presents data on the percentage of the workforce in North Sumatra Province from 2017 to 2021 (Gulo et al., 2023; Ince Weya, 2022).

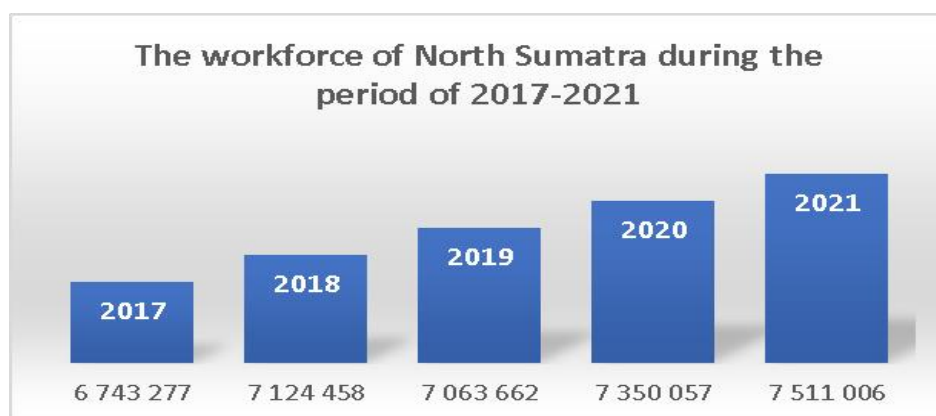


Figure 1. Number of North Sumatran workers in 2017-2021 (BPS Provinsi Sumatera Utara, 2022)

From 2017 to 2021, the workforce population in North Sumatra Province continued to increase. The growth of the workforce indicates an increase in the supply of labor available for producing goods and services in the economy. However, the increase in the workforce is not aligned with the availability of adequate job opportunities, resulting in an imbalance between workforce growth and job creation. This imbalance can lead to high unemployment rates, wastage of resources and labor potential, and becoming a

source of poverty and social unrest. North Sumatra Province is facing the challenge of a rapid increase in the workforce, with the number of employed individuals continuously rising. However, this increase in the workforce is not always accompanied by sufficient demand for labor to absorb it. A broader absorption of the workforce is needed to balance the growth of the young population entering the labor market, thereby improving the welfare of society and reducing poverty (Wijaya et al., 2021).

Islam provides a comprehensive perspective on human life, including the governance of an economy. This also applies to the workforce concept, which, from an Islamic point of view, encompasses inherent ethical values in its governance. Islam even places the workforce as a core component of economic activities, playing a role in creating value or wealth (Setiawan, 2019). Humans are commanded to make every effort to transform, improve, and enhance their living standards in this world. It is mentioned in the Qur'an, Surah At-Taubah, verse 105:

وَقُلْ اَعْمَلُوا فَسَيَرَى اللّٰهُ عَمَلَكُمْ وَرَسُولُهُ وَالْمُؤْمِنُونَ وَسَتُرَدُّونَ اِلٰى عَالِمِ الْغَيْبِ وَالشَّهَادَةِ فَيُنَبِّئُكُمْ بِمَا كُنْتُمْ تَعْمَلُونَ

The translation of the mentioned verse (Qur'an 9:105) is as follows:

"And say, 'Do [as you will], for Allah will see your deeds, and [so will] His Messenger and the believers. And you will be returned to the Knower of the unseen and the witnessed, and He will inform you of what you used to do.'" (Qur'an 9:105).

The Gross Regional Domestic Product (GRDP) is one factor affecting labor absorption, which indicates regional economic growth. An increase in the Gross Regional Domestic Product (GRDP) can increase labor demand as companies strive to increase their output and sales. The population size also affects job opportunities, as an increase in population adds to the productive workforce (Aly, 2022). However, it can become problematic when workforce growth exceeds the available job opportunities. Wages are also an important consideration for the workforce in choosing their place of work (Abdurakhmanov et al., 2019), while the level of education plays a crucial role in enhancing economic growth and the quality of employment (Manzoor et al., 2019). A low level of education among the population can negatively impact the quality and quantity of output and the availability of jobs.

Previous research conducted by Widya showed that in Lampung Province, from 2015 to 2021, the population had a negative effect, and the open unemployment rate had a positive effect on poverty partially. Simultaneously, both factors had a significant impact on poverty. The absorption of the productive-age population is a crucial factor in reducing poverty. However, it will increase the open unemployment rate and impact poverty if not absorbed. In Islamic Economics, justice is established to reduce poverty through various means such as working, providing for vulnerable families, zakat, voluntary charity, and the virtues of individual Muslims (Widya, 2022). The study conducted by Siahaan found a negative relationship between the Human Development Index (HDI) and the level of education with the open unemployment rate, indicating that as both variables increase, the open unemployment rate decreases. It highlights the need for improvement in the Human Development Index and the level of education in North Sumatra to reduce the regional open unemployment rate (Siahaan et al., 2023).

Based on the background mentioned above, the issue of employment becomes concerning due to the mismatch between job opportunities and population growth, which can lead to reduced labor absorption and increased unemployment rates. Therefore, the objectives of this research are as follows:

1. To analyze the relationship between regional Gross Regional Domestic Product (GRDP) growth and labor absorption in North Sumatra Province. It is done to understand how regional economic growth impacts the population's job opportunities and employment prospects.
2. To identify the influence of population size on labor absorption in North Sumatra Province. This objective aims to understand how the population growth of an area can affect the availability of job opportunities and the absorption of the workforce.
3. To analyze the role of wages in influencing labor force participation in North Sumatra Province. This research aims to identify to what extent decent wage levels can affect the interest and motivation of the workforce to work and choose their place of employment.
4. To examine the relationship between education level and labor absorption in North Sumatra Province. This objective is to understand how the population's education level affects job prospects and the improvement of workforce quality in the region.
5. To apply an Islamic perspective in analyzing employment factors in North Sumatra Province. This research will incorporate Islamic values in managing employment, including ethical and just aspects in the world of work.

## LITERATURE REVIEW

### Gross Regional Domestic Product (GRDP)

According to the Central Statistics Agency, the Gross Regional Domestic Product (GRDP) is the total value of goods and services produced by all regional production units during a specific period. It represents the added value generated by the productive activities within a region. The GRDP reflects the region's capacity to manage its natural resources; therefore, the level of GRDP produced by each region depends on its potential. According to Schumpeter's thesis, economic growth is the rise in society output brought on by higher utilization of the social production process's components, fueled by technology. Economic development also refers to production growth brought on by innovative business practices. The theory of Deep Innovation creates technological progress (Abduvaliev & Bustillo, 2020).

In the study of Islamic economics, the issue of economic growth has been a concern among scholars in the discourse of classical Islamic economic thought. As stated in the following verse from the Quran, Surah Hud, verse 61:

وَالِى ثَمُودَ أَخَاهُمْ صَالِحًا قَالَ يَاقَوْمِ اعْبُدُوا اللَّهَ مَا لَكُمْ مِنْ إِلَهٍ غَيْرُهُ هُوَ أَنشَأَكُمْ مِنَ الْأَرْضِ وَاسْتَعْمَرَكُمْ فِيهَا فَاسْتَغْفِرُوهُ ثُمَّ تَوْبُوا إِلَيْهِ إِنَّ رَبِّي قَرِيبٌ مُجِيبٌ

"And to Thamud [We sent] their brother Salih. He said, 'O my people, worship Allah; you have no deity other than Him. He has produced you from the earth and settled you in it, so ask forgiveness of Him and then repent to Him. Indeed, my Lord is near and responsive.'" (Quran 11:61).

This verse emphasizes the importance of worshiping Allah and seeking forgiveness from Him. It also highlights the role of Allah in the production and settlement of people on the earth. From an Islamic perspective, economic growth is not solely focused on material progress but also encompasses spiritual well-being and adherence to the principles of justice and fairness in economic activities.

### **Population Size**

Population growth is a dynamic balance between forces that increase and decrease the population size. Population growth positively influences economic growth, as the conditions and progress of the population are closely related to the growth and development of economic activities (Sasaki, 2021). In Islam, the issue of population growth should not be a problem. Allah SWT, as the Creator, has guaranteed sustenance and prohibited any means of preventing reproduction based on needs, as stated in the following verse from the Quran, Surah Al-Israa, verse 31:

وَلَا تَقْتُلُوا أَوْلَادَكُمْ خَشْيَةَ إِمْلَاقٍ نَحْنُ نَرْزُقُهُمْ وَإِيَّاكُمْ إِنَّ قَتْلَهُمْ كَانَ خِطْئًا كَبِيرًا

"And do not kill your children for fear of poverty. We provide for them and you. Indeed, their killing is a great sin." (Quran 17:31).

This verse emphasizes the belief in Allah's provision and prohibits killing children out of fear of poverty. It implies that Allah is the ultimate provider and sustainer, and human beings should trust in His divine plan for population growth and economic well-being.

### **Level of Education**

Education based on a Scientific Approach is an approach to teaching viewed from a specific discipline, such as Psychology, Politics, Sociology, Economics, Anthropology, and others. Education enables human resources to quickly understand and be prepared to face the changes and developments of a nation (Doz, 2020). Nearly all developing countries face issues of quality and quantity of human resources caused by the low quality of education. Education is a means of developing intelligence, knowledge, and skills (Liengpunsakul, 2021). A good education can improve the quality of a nation's human resources, aligning with education's purpose and transforming participants' attitudes, knowledge, and behavior. High-quality human resources in Islamic Economics are based on the Qur'an. Education is the foundation and necessity for humans to manage and utilize available natural resources. As stated in the Qur'an, Surah Al-Mujadila, verse 11:

يَا أَيُّهَا الَّذِينَ آمَنُوا إِذَا قِيلَ لَكُمْ تَفَسَّحُوا فِ السِّبَا إِذَا قِيلَ لَكُمْ تَفَسَّحُوا فِ السِّبَا إِذَا قِيلَ لَكُمْ تَفَسَّحُوا فِ السِّبَا إِذَا قِيلَ لَكُمْ تَفَسَّحُوا فِ السِّبَا

"O you who have believed, when you are told, 'Space yourselves' in assemblies, then make space; Allah will make space for you. And when you are told, 'Arise,' then arise; Allah will raise those who have believed among you and those who were given knowledge, by degrees. And Allah is Acquainted with what you do." (Quran 58:11).

This verse emphasizes the importance of knowledge and education in creating space for oneself, rising, and achieving progress. It highlights the significance of acquiring and applying knowledge in various aspects of life, including economics, to develop and enhance human resources.

### **Minimum Provincial Wage**

According to wage theory, the wage level represents the compensation for labor to sustain and continue the workers' livelihood. It states that wage increases are determined by the actions and behaviors of the workers themselves, and wage formation is influenced by supply and demand. Market wages will fluctuate around the natural wage. In modern economics, the natural wage is used as the minimum wage to meet the needs of the worker's family (Dube, 2019). A fair wage is a wage that corresponds to the conditions of the job, whether in terms of services or tasks (Caliendo et al., 2019).

In Islam, the principle of reciprocal compensation is inseparable from the principles of justice and ethics. If we carefully examine the principle of justice as mentioned in the Qur'an regarding its understanding of justice, it includes the following verse of Allah SWT:

لَا يُكَلِّفُ اللَّهُ نَفْسًا إِلَّا وُسْعَهَا لَهَا مَا كَسَبَتْ وَعَلَيْهَا مَا اكْتَسَبَتْ ۗ

"Allah does not require of any soul more than what it can afford. All good will be for its own benefit, and all evil will be to its own loss." (Quran 2:286).

This verse highlights several important aspects of faith and supplication to Allah. It acknowledges that Allah does not burden any individual with more than they can bear and emphasizes personal accountability for one's actions. The verse also includes prayers to Allah, seeking forgiveness for forgetfulness or errors, and requesting that burdens not be placed upon the believers beyond their capabilities. The verse concludes with pleas for Allah's pardon, forgiveness, mercy, and support in the face of disbelief.

### **Employment Absorption**

Employment Absorption is the number or quantity of people working in various sectors. Employment absorption refers to the labor employed in a particular business unit. Employment absorption can be understood as the balance between labor demand and supply collectively (Rong et al., 2020), which determines wage equilibrium and labor equilibrium. Labor is an effective allocation of human resources and serves as an initiator of economic growth (Teshabaeva & Kodirova, 2023). Once the economy grows, the accumulation of new capital is required to sustain economic growth. In other words, the effective allocation of human resources is necessary for economic growth.

Islam obligates its followers to work and produce, even considering it a duty for those capable. Therefore, the Islamic economic system sees work as the primary driver of economic activities and regards it as a noble act to realize collective welfare (Aydin, 2019). Working is a command from Allah SWT and is a practice of the Prophet Muhammad SAW. As stated in Surah An-Nahl, verse 97, as follows:

مَنْ عَمِلْ صَالِحًا مِّنْ ذَكَرٍ أَوْ أُنْثَىٰ وَهُوَ مُؤْمِنٌ فَلَنُحْيِيَنَّهٗ حَيٰوةً طَيِّبَةً وَلَنَجْزِيَنَّهُمْ أَجْرَهُمْ بِأَحْسَنِ مَا كَانُوا يَعْمَلُونَ

"Whoever does righteousness, whether male or female, while he is a believer - We will surely cause him to live a good life, and We will surely give them their reward [in the Hereafter] according to the best of what they used to do." (Quran 16:97).

### **Unemployment**

Unemployment is when individuals in the labor force desire to obtain employment but have not yet found it. In demography, individuals seeking employment are categorized as part of the labor force (Coibion et al., 2021). The age range for the labor

force is typically defined as 15-64 years old. In Islam, unemployment is a natural occurrence that can happen anytime and anywhere. This perspective is reflected in Surah Al-An'am (6:165) as follows:

وَهُوَ الَّذِي جَعَلَكُمْ خَلَائِفَ الْأَرْضِ وَرَفَعَ بَعْضَكُمْ فَوْقَ بَعْضٍ دَرَجَاتٍ لِّيَبْلُوَكُمْ فِي مَا آتَاكُمْ إِنَّ رَبَّكَ سَرِيعُ الْعِقَابِ وَإِنَّهُ لَغَفُورٌ رَّحِيمٌ

"And it is He who has made you successors upon the earth and has raised some of you above others in degrees [of rank] that He may try you through what He has given you. Indeed, your Lord is swift in penalty; but indeed, He is Forgiving and Merciful." (Quran 6:165).

This verse highlights the concept of divine trial and differentiation among individuals regarding their worldly positions and circumstances. It emphasizes the need for individuals to be patient and steadfast in facing challenges, including the experience of unemployment, while relying on Allah's forgiveness and mercy.

## RESEARCH METHODOLOGY

The research method used in this study is quantitative analysis, and the data source utilized is secondary data (Lester et al., 2020). The data for this research is obtained from the Central Statistics Agency of North Sumatra Province and relevant literature related to the study. This research aims to analyze the Gross Regional Domestic Product (GRDP), population, Minimum Provincial Wage, and education level as independent variables and employment absorption as the dependent variable in 33 districts and cities in North Sumatra Province from 2017 to 2021. The analysis employs path analysis using Eviews 9 software based on panel data, including t-test, F-test, coefficient of determination, and hypothesis testing for mediation. The equation model in this study is presented as follows:

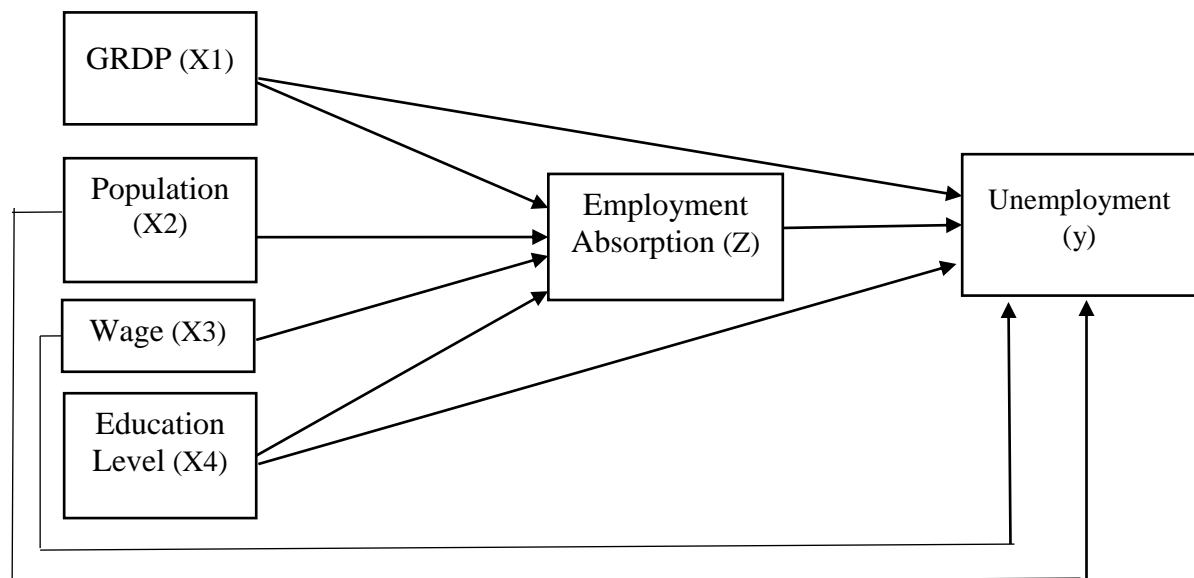


Figure 2. Equation model in the research

**Equation 1:** The Influence of GRDP, Population, Minimum Wage, and Education Level on Employment Absorption

$$Z_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it}$$

**Equation 2:** The Influence of GRDP, Population, Minimum Wage, and Education Level on Unemployment

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_6 Z_{it} + \varepsilon_{it}$$

$Y_{it}$  = Dependent Variable, Unemployment

$Z_{it}$  = Intervening Variable, Employment Absorption

$\alpha$  = Constant,  $\beta$  = Regression Coefficients,  $X_1$  = GRDP,  $X_2$  = Population,  $X_3$  = Minimum Wage (UMP),  $X_4$  = Education Level,  $\varepsilon$  = Error term,  $t$  = Time

## FINDINGS AND DISCUSSION

### Finding

#### 1. Descriptive Statistics

Descriptive statistics provide an overview or description of data based on minimum, maximum, mean, and standard deviation values. To provide a descriptive analysis, the following will be explained in Table 1. below:

Table 1. Descriptive statistics results

	<b>X1</b>	<b>LN_X2</b>	<b>LN_X3</b>	<b>X4</b>	<b>Z</b>	<b>Y</b>
Method	3.637758	12.22055	14.72582	8.943273	73.20533	4.809576
Median	4,820000	12.18000	14,73000	9,030000	70,92000	4,900000
Maximum	6.090000	14,40000	15.02000	11.48000	92.80000	12.14000
Minimum	-1,980000	10.29000	14.49000	4,930000	51,83000	0,190000
Standard						
Deviation	2.219403	0,867206	0,121971	1.458152	8.498729	2.771758
Skewness	-0,994589	0,481694	0,022326	-0,863348	0,309098	0,277297
Kurtosis	2.732826	3.487402	2.476232	3.778945	2.541268	2.444622
Jarque-Bera	27.69394	8.014016	1,899749	24.66913	4.074139	4.235143
Probability	0,000001	0,018188	0,386790	0,000004	0,130410	0,120323
Count	600.2300	2016.390	2429.760	1475640	12078.88	793.5800
The sum of						
Squared	807.8229	123.3357	2.439815	348.6980	11845.46	1259.953
Deviations						
Observations	165	165	165	165	165	165

Based on the above descriptive statistics table, it can be explained that the average value of variable Y (Unemployment) is 4.809576 (Percent) with a median value of 4.900000 (Percent) and a standard deviation of 2.771758 (Percent). The highest unemployment value (Y) over the past 5 years is 12.14000 (Percent), while the lowest value is 0.190000 (Percent), with a total of 165 observations. For the variable X1 (GRDP), the average value is 3.637758 (Percent) with a median of 4.820000 (Percent) and a standard deviation of 2.219403 (Percent). The highest Gross Regional Domestic



Product (GRDP) value is 6.090000 (Percent) over the past 5 years, while the lowest value is -1.980000 (Percent), with a total of 165 observations. The variable X2 (Population) has an average value of 12.22055 (Percent) with a median of 12.18000 (Percent) and a standard deviation of 0.867206 (Percent). The highest total population value is 14.40000 (Percent) over the past 5 years, while the lowest value is 10.29000 (Percent), with a total of 165 observations. For the variable X3 (Minimum Wage), the average value is 14.72582 (Percent) with a median of 14.73000 (Percent) and a standard deviation of 0.121971 (Percent). The highest minimum wage value is 15.02000 (Percent) over the past 5 years, while the lowest value is 14.49000 (Percent), with a total of 165 observations. Finally, for the variable X4 (Education Level), the average value is 8.943273 (Percent) with a median of 9.030000 (Percent) and a standard deviation of 1.458152 (Percent). The highest education level value is 11.48000 (Percent) over the past 5 years, while the lowest value is 4.930000 (Percent), with a total of 165 observations.

## 2. Model Fit Test

The results of the Model fit test or the most suitable Model using the Chow test and Hausman test are as follows:

Table 2. Chow test model I

Effect Test	Statistics	df	Problem.
Cross-section F	7.503438	(32.128)	0,0000
Section chi-square	174.298016	32	0,0000

Based on Table 2 above, the Chow test results for Model I using Eviews 9 show a probability value of 0.0000. Since the probability value  $0.0000 < 0.05$ , it can be concluded that  $H_0$  is rejected and  $H_1$  is accepted. Therefore, the appropriate Model based on these results is the fixed effect model.

Table 3. Chow test model II

Effect Test	Statistics	df	Problem.
Cross-section F	27.416488	(32.127)	0,0000
Section chi-square	341.201268	32	0,0000

Based on the results of the Chow Test for Model II in the table above, which is consistent with the results of the Chow Test for Model I using Eviews 9 software, it can be concluded that the null hypothesis ( $H_0$ ) is rejected and the alternative hypothesis ( $H_1$ ) is accepted. Therefore, the appropriate Model based on these results is also the fixed effect model.

Table 4. Hausman test for Model I

Summary Test	Chi-Square Statistic	Chi-Sq. df	Problem
Random Sample	9.032538	4	0,0603

Based on the Hausman test results above, it can be observed that the chi-square table value for degrees of freedom is 4, while the chi-square statistic is 9.032538. Therefore, a significant conclusion can be drawn, and H0 is accepted. In addition to using statistical methods, the Hausman test results can also be assessed through the probability value of the random cross-section, which is  $0.06 > 0.05$ , indicating that H0 is accepted. Thus, the preliminary conclusion is that the random effect model is appropriate.

Table 5. Hausman test for model II

Summary Test	Chi-Square Statistic	Chi-Sq. df	Problem
Random Sample	67.341077	5	0,0000

Based on the Hausman test results shown in the table above, the chi-square statistic for Model II is 67.341077, corresponding to 5 degrees of freedom. This leads to a significant conclusion, and H0 is rejected. Additionally, the probability value for the random cross-section is 0.0000, which is less than 0.05. Therefore, H1 is accepted. Thus, the preliminary conclusion is that the appropriate Model is the Fixed Effect model.

Table 6. Lagrange multiplier test model I

Lagrange Multiplier Tests for Random Effects  
 Null hypotheses: No effects  
 Alternative hypotheses: Two-sided (~~Breusch-Pagan~~) and one-sided  
 (all others) alternatives

	Test Hypothesis		
	Cross-section	Time	Both
<del>Breusch-Pagan</del>	91.54808 (0.0000)	0.484285 (0.4865)	92.03236 (0.0000)
Honda	9.568076 (0.0000)	0.695906 (0.2432)	7.257731 (0.0000)
King-Wu	9.568076 (0.0000)	0.695906 (0.2432)	3.845465 (0.0001)
Standardized Honda	10.20952 (0.0000)	2.049278 (0.0202)	4.417021 (0.0000)
Standardized King-Wu	10.20952 (0.0000)	2.049278 (0.0202)	2.249401 (0.0122)
<del>Gourieroux, et al.*</del>	—	—	92.03236 ( $< 0.01$ )

Based on the Lagrange Multiplier test results of Model I in Table 6, the one-sided cross-section value is indicated by the bottommost number, which is 0.0000. Since this value is smaller than 0.05, the Lagrange Multiplier test suggests accepting H1, indicating that the best estimation method is the random effect model for the variable Z.

Table 7. Lagrange multiplier test model II

Lagrange Multiplier Tests for Random Effects

Null hypotheses: No effects

Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided  
 (all others) alternatives

	Cross-section	Test Hypothesis Time	Both
Breusch-Pagan	92.66566 (0.0000)	0.004594 (0.9480)	92.67025 (0.0000)
Honda	9.626300 (0.0000)	-0.067778 —	6.758896 (0.0000)
King-Wu	9.626300 (0.0000)	-0.067778 —	3.144865 (0.0008)
Standardized Honda	10.41317 (0.0000)	0.981004 (0.1633)	3.907006 (0.0000)
Standardized King-Wu	10.41317 (0.0000)	0.981004 (0.1633)	1.336283 (0.0907)
Gourieroux, et al.*	—	—	92.66566 ( $< 0.01$ )

Based on the Lagrange Multiplier test results of Model II in Table 7., it shows the same outcome as the Lagrange Multiplier test for Model I mentioned earlier. The one-sided cross-section value, indicated by the bottommost number, is 0.0000, smaller than 0.05. Therefore, the Lagrange Multiplier test indicates accepting H1, which means that the best estimation method is the random effect model for the variable Z.

### 3. Direct Effect Test

The hypothesis test examines how the partial effect of an independent variable can explain the variation in the dependent variable. This test can be conducted by examining the regression results using the Eviews program, comparing the significance level of each independent variable with  $\alpha = 0.05$ .

Table 8. Direct effect test results

Variable	Standard		t-Value	Problem	Information
	Coefficient	Error			
X1-Z	0,077814	0,255753	0,304254	0,7613	Not Sig
LN_X2-Z	-3,741577	1.377394	-2.716417	0,0073	Sig
LN_X3-Z	-0,942766	6.046546	-0,155918	0,8763	Not Sig
X4-Z	-0,793572	0,795140	-0,998029	0,3198	Not Sig
X1-Y	-0,166964	0,039103	-4.269897	0,0000	Sig
LN_X2-Y	1.135364	0,291444	3.895655	0,0001	Sig
LN_X3-Y	-1,521788	0,954510	-1,594312	0,1129	Not Sig
X4-Y	0,543830	0,165374	3.288481	0,0012	Sig
ZY	-0,006390	0,012275	-0,520574	0,6034	Not Sig

Based on Table 8, the relationships between variables can be seen more clearly in the following Figure:

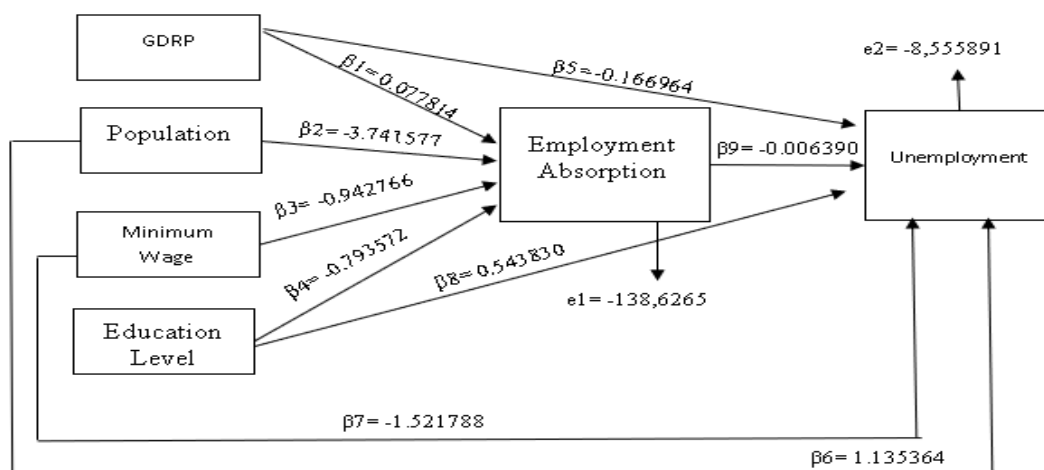


Figure 3. Path diagram of X1, X2, X3, and X4 on Y through Z

From the above diagram, it is known that the path coefficient  $\beta_1$  is 0.078. This indicates that if employment absorption increases by 100%, there will be a decrease in Gross Regional Domestic Product (GRDP) by -0.17%. The path coefficient  $\beta_2$  is -3.741577. This means that if employment absorption increases by 100%, the population will increase by 1.13%. The path coefficient  $\beta_3$  is -0.943. This means that if the minimum wage increases by 100%, unemployment will decrease by -1.52%. The path coefficient  $\beta_4$  is -0.794, indicating that if the level of education increases by 100%, unemployment will increase by 0.54%. The coefficient  $\beta_9$  is -0.0064, which means that if employment absorption increases by 100%, unemployment will decrease by 0.64%.

#### 4. Sobel Test for Detecting the Mediating Effect

Sobel Test Calculation for Assessing the Influence of PDRB (X1) on Unemployment (Y) with Labor Absorption as the Mediating Variable (Z). The following is the result of the Sobel Test, examining the relationship between X1 and Z as well as Z and Y.

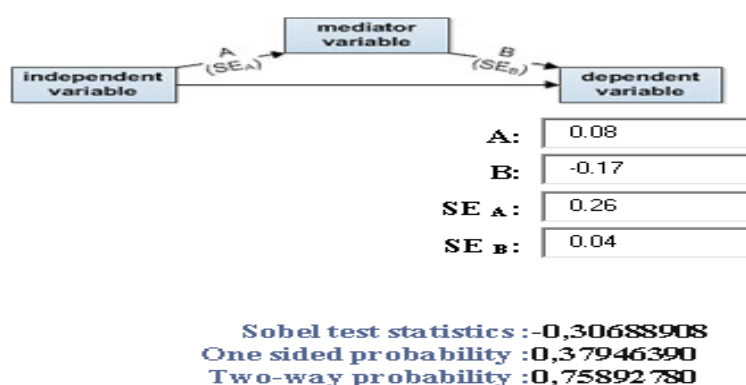


Figure 4. Sobel test result: X2 to Z to Y

Based on the results of the Sobel calculator [www.analyticscalculators.com](http://www.analyticscalculators.com), a p-value of 0.044 is obtained, which is less than the significant level of  $0.05 > 0.05$ . So it can be concluded that there is a direct effect of GRDP on unemployment through the

absorption of labor. The analysis above proves that the GRDP variable for unemployment can intervene in the labor absorption variable.

Sobel test calculation of the effect of population (X2) on unemployment (Y) with employment as the intervening variable (Z). Figure 5 shows the results of the Sobel X2 test for Z to Y.

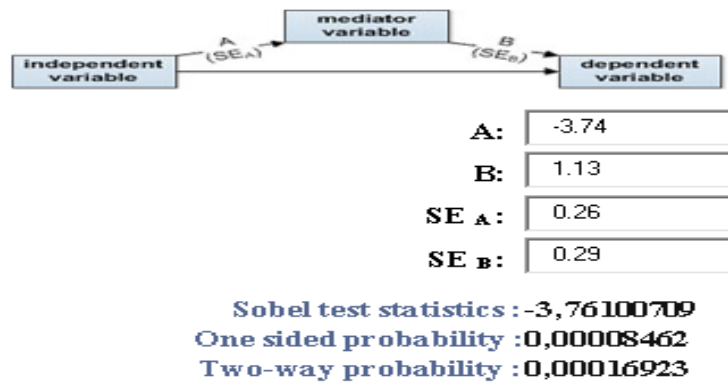


Figure 5. Sobel test result: X2 to Z to Y

Based on the Sobel test conducted using the calculator at [www.analyticscalculators.com](http://www.analyticscalculators.com), the value of Y is -3.76. It can be concluded that the value of Y, -3.76, is less than 2.04 at a significance level of 0.05. Therefore, it can be concluded that there is no direct influence of population size on unemployment through labor absorption. The analysis confirms that the variable "population size" cannot mediate the relationship between labor absorption and unemployment.

Calculation of the Sobel test for assessing the influence of UMP (X3) on unemployment (Y) with labor absorption as the mediating variable (Z). Figure 6 presents the results of the Sobel test: X3 to Z to Y.

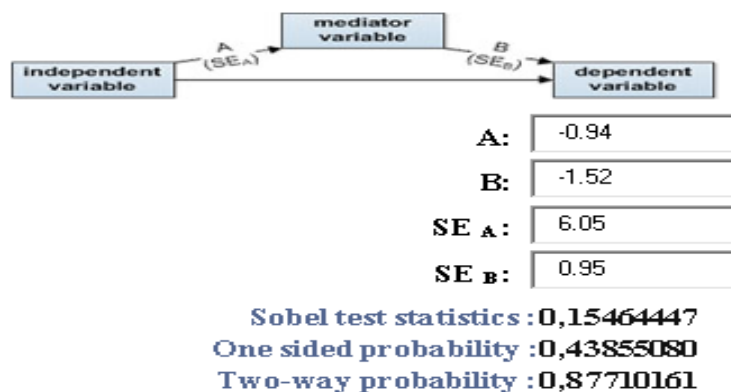


Figure 6. Sobel test result: X3 to Z to Y

Based on the Sobel test conducted using the calculator at [www.analyticscalculators.com](http://www.analyticscalculators.com), the value of Y is 0.15. It can be concluded that the value of Y, 0.15, is less than 2.04 at a significance level of 0.05. Therefore, it can be concluded that UMP does not directly influence unemployment through labor absorption. The

analysis confirms that the variable "UMP" cannot mediate the relationship between labor absorption and unemployment.

Calculation of the Sobel test for assessing the influence of education level (X4) on unemployment (Y) with labor absorption as the mediating variable (Z). Figure 7 presents the results of the Sobel test: X4 to Z to Y.

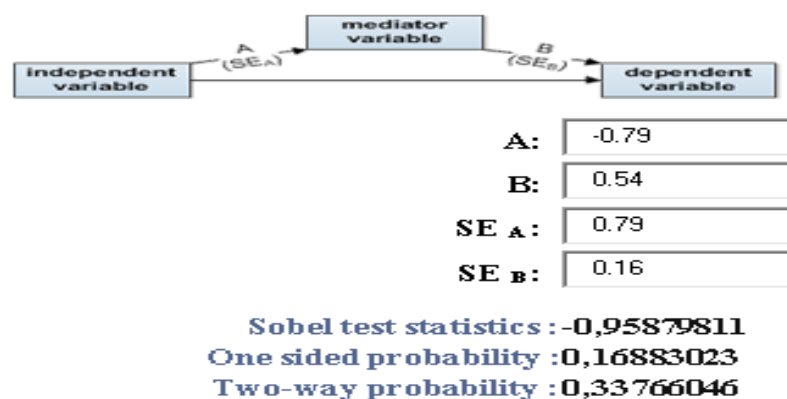


Figure 7. Sobel test result: X4 to Z to Y

Based on the Sobel test conducted using the calculator at [www.analyticscalculators.com](http://www.analyticscalculators.com), the value of Y is -0.96. It can be concluded that the value of Y, -0.96, is less than 2.04 at a significance level of 0.05. Therefore, it can be concluded that there is no direct influence of the education level on unemployment through labor absorption. The analysis confirms that the variable "education level" cannot mediate the relationship between labor absorption and unemployment.

## Discussion

Table 9. Influence of GRDP (X1), Population (X2), Minimum Wage (X3), Education Level (X4) on Unemployment (Y) through Labor Absorption as an Intervening Variable (Z) Directly and Indirectly

Variables	Path	Effect		Total
	Coefficient	Direct Effect	Indirect Effect	
X1-Y-Z	-0,943	-0,943	0,078 x -0,167 = -0,013	-0,956
X2-Y-Z	-0,793	-0,793	-3,741 x -0,167 = 0,625	-0,168
X3-Y-Z	-0,167	-0,167	-0,943 x 1,135 = -1,070	-1,257
X4-Y-Z	-1,522	-1,522	-0,793 x -1,522 = 1,207	-0,315
e1	-138,63	-138,63		-138,63
e2	-8,556	-8,556		-8,556

### 1. The Influence of Gross Domestic Product (GRDP) on Unemployment with Labor Absorption as an Intervening Variable in the Islamic Perspective

Based on the hypothesis testing through path analysis, it is found that Gross Regional Domestic Product (GRDP) has a direct influence on unemployment, as indicated by the larger direct effect compared to the indirect effect ( $0.013 < -0.943$ ). However, based on the Sobel test, the value (-0.29) is less than the critical value (2.04).

Therefore, it can be concluded that Gross Regional Domestic Product (GRDP) does not mediate the relationship between labor absorption and unemployment in North Sumatra Province during 2017-2021.

In the discussion, we analyzed the influence of Gross Regional Domestic Product (GRDP) on unemployment with labor absorption as an intervening variable in the Islamic perspective in North Sumatra Province during 2017-2021. The results of the hypothesis testing through path analysis showed that Gross Regional Domestic Product (GRDP) has a significant direct influence on the unemployment rate. The larger direct effect indicates this compared to the indirect effect ( $0.013 < -0.943$ ). In other words, an increase in GRDP contributes to a direct decrease in the unemployment rate. However, based on the Sobel test, it was found that the value ( $-0.29$ ) is less than the critical value ( $2.04$ ). Therefore, based on the Sobel test, it can be concluded that GRDP does not act as an intervening variable in the relationship between labor absorption and unemployment in North Sumatra Province from 2017 to 2021. This indicates that labor absorption does not mediate the relationship between GRDP and unemployment in North Sumatra Province.

From the Islamic perspective, it is important to consider the social and economic impact of GRDP on unemployment. Other factors, such as justice in income distribution and fair wages, must also be considered to reduce the unemployment rate (Cappelen et al., 2020). In this context, implementing Islamic economic principles that emphasize justice and equitable distribution can be considered in formulating effective policies to address the issue of unemployment in North Sumatra Province. Further research is needed to explore other factors influencing the relationship between GRDP, labor absorption, and unemployment from the Islamic perspective (Armayani et al., 2022). With a deeper understanding of this relationship, more effective strategies and policies can be formulated to address the issue of unemployment and promote inclusive economic growth in North Sumatra Province.

## **2. The Influence of Population on Unemployment with Labor Absorption as an Intervening Variable in the Islamic Perspective**

Based on the hypothesis testing conducted through path analysis, it is found that population indirectly affects unemployment, as indicated by the larger direct effect compared to the indirect effect ( $0.625 > -0.793$ ). Furthermore, the Sobel test reveals that  $3.76 > 2.04$  with a significance level of 0.05. This implies that population growth leads to the development of various economic activities, which significantly contributes to economic expansion. However, if not accompanied by sufficient job opportunities, it can result in high unemployment rates.

In this discussion, we analyze the influence of the population on the unemployment rate, with labor absorption as an intervening variable from the perspective of Islam. The impact of population on unemployment is examined through path analysis in this study. The hypothesis testing results show that the population indirectly influences the unemployment rate. It is observed that the direct effect of population on unemployment is greater than the indirect effect, with a value of  $0.625 > -0.793$ . Population growth significantly contributes to unemployment (Rahman et al., 2022). Furthermore, the Sobel test examines the influence of labor absorption as an intervening variable. The Sobel test

yields a value of 3.76, greater than the critical value of 2.04 at a significance level of 0.05. This suggests that labor absorption plays a significant role as an intervening variable in the relationship between population and unemployment (Candra et al., 2023).

The increasing population has contributed to overall economic growth. However, this growth can lead to high unemployment rates without adequate job opportunities. Therefore, efforts must be made to enhance labor absorption to balance population growth and reduce unemployment rates (Muin, 2020). The Islamic perspective emphasizes balancing population growth, labor absorption, and unemployment to achieve societal well-being. Islamic economic principles, such as justice, equity, and enhancing welfare, serve as a framework for developing policies and approaches to deal with the problems with unemployment brought on by population expansion.

### **3. The influence of Minimum Wage (UMP) on unemployment with labor absorption as an intervening variable from the perspective of Islam**

From the results of hypothesis testing through path analysis, it is found that Minimum Wage (UMP) indirectly influences unemployment, as indicated by the larger direct effect compared to the indirect effect ( $-1.070 > -0.167$ ). However, based on the Sobel test, it is known that  $0.15 < 2.04$  with a significance level of 0.05. Therefore, it can be concluded from the Sobel test that UMP cannot intervene in the relationship between labor absorption and unemployment. In this discussion, we analyze the impact of the Provincial Minimum Wage (UMP) on the unemployment rate with labor absorption as an intervening variable from the perspective of Islam. This study examines the relationship between UMP and unemployment through path analysis. The hypothesis testing results indicate that UMP indirectly affects the unemployment rate. The direct effect of UMP on unemployment is larger than the indirect effect, with a value of  $-1.070 > -0.167$ . This suggests that changes in UMP significantly contribute to the unemployment rate (Raifu et al., 2020).

Furthermore, the Sobel test examines the influence of labor absorption as an intervening variable. The results of the Sobel test yield a value of 0.15, which is smaller than the critical value of 2.04 at a significance level of 0.05. This indicates that labor absorption is not intervened by UMP concerning unemployment (Dwiputri et al., 2023). Although UMP directly impacts unemployment, this study reveals that labor absorption is not a significant intervening factor in this relationship. From an Islamic perspective, balancing fair wages and labor absorption is important to reduce unemployment and achieve socio-economic justice.

### **4. The impact of educational attainment on unemployment with labor absorption as an intervening variable in the perspective of Islam.**

The results of hypothesis testing using path analysis indicate that educational attainment indirectly affects unemployment, as evidenced by the larger direct effect compared to the indirect effect ( $1.207 > -1.522$ ). Based on the Sobel test, it is known that  $-0.96 < 2.04$  with a significance level of 0.05. Therefore, it can be concluded from the Sobel test that educational attainment cannot mediate the influence of labor absorption on unemployment. In this discussion, we will analyze the impact of educational attainment on the unemployment rate, with labor absorption as an intervening variable from the



perspective of Islam. This study observes the influence of educational attainment on unemployment through path analysis. The results of hypothesis testing indicate that educational attainment has an indirect impact on the unemployment rate. The direct influence of educational attainment on unemployment is greater than the indirect influence, with a value of  $1.207 > -1.522$ . This suggests that changes in educational attainment significantly contribute to the unemployment rate (Hung et al., 2020).

Furthermore, the Sobel test examines the influence of labor absorption as an intervening variable. The results of the Sobel test yield a value of  $-0.96$ , which is smaller than the critical value of  $2.04$  at a significance level of  $0.05$ . This indicates that labor absorption is not mediated by educational attainment concerning unemployment (Rahmita & Purwaningsih, 2022). This study demonstrates that although educational attainment directly impacts unemployment, labor absorption is not a significant intervening factor in this relationship. From an Islamic perspective, it is important to enhance the quality of education and align the labor market's needs with the educational curriculum to reduce unemployment rates and achieve socio-economic justice.

#### **5. The Islamic perspective on analyzing the factors of employment in North Sumatra Province**

In analyzing the factors of employment in North Sumatra Province, the Islamic perspective becomes important in evaluating the influence of these factors on unemployment. In this context, employment factors, including GRDP (Gross Regional Domestic Product), population, UMP (Minimum Wage), and education level, are identified to have an impact on the unemployment rate (Jaya & Kholilah, 2020). However, from the Islamic perspective, no significant intervening influence is found between labor absorption and these employment factors. It indicates that although these employment factors influence unemployment, labor absorption is not significantly intervened by these factors in an Islamic context.

Additional steps aligned with Islamic principles are required to address unemployment in North Sumatra Province. These steps may involve the development of economic sectors based on Islamic economic principles, enhancing training and skills for job seekers, empowering the economy through micro and small businesses based on justice, and strengthening education by considering knowledge and skills relevant to the job market in an Islamic perspective (Nurdin & Yusuf, 2020). By implementing an approach in line with Islamic principles, these measures are expected to provide holistic and sustainable solutions to address unemployment issues in North Sumatra Province. Additionally, collaborative efforts among the government, private sector, financial institutions, and the community are needed to achieve equality and justice in employment following Islamic teachings. In analyzing employment factors in North Sumatra Province from an Islamic perspective, key principles can be considered: fair wages, labor rights, skill development, entrepreneurship, and economic justice. Islam emphasizes fair compensation, worker rights, skill enhancement, entrepreneurship promotion, and equitable wealth distribution. By following these principles, a balanced and ethical labor market can be promoted, leading to sustainable development and social well-being.

## **6. Islamic Solutions to The Problems of Labor Absorption and Unemployment Rate**

In cases where Gross Regional Domestic Product (GRDP) is not intervened by job absorption to address unemployment, Islamic solutions can involve building an economy based on principles of justice, reducing economic disparities, and ensuring fair income distribution. It can help create more job opportunities and reduce unemployment. Regarding the indirect influence of population size on unemployment with job absorption as an intervening variable, Islamic solutions can include programs to enhance skills, provide training for job seekers, and promote the development of sectors that can absorb more labor. It is also important to ensure fairness in job distribution and equal opportunities for all members of society. When minimum provincial wages and education levels directly impact unemployment without being intervened by job absorption, Islamic solutions can involve policies that guarantee decent employment with fair wages and improve accessibility and quality of education to reduce skills gaps in the labor market. From an Islamic perspective, maintaining a balance among labor-related factors is crucial to reducing unemployment and achieving socio-economic justice. Solutions involve implementing Islamic principles in labor policies, such as ensuring fairness in income distribution, avoiding labor exploitation, protecting workers' rights, and promoting equal access to job opportunities. By implementing these solutions, it is hoped that unemployment rates can be reduced and a more just and prosperous society can be created in North Sumatra Province.

## **CONCLUSION**

Some interesting findings were discovered based on the discussion regarding the influence of employment factors on unemployment, with labor absorption as an intervening variable in the Islamic perspective in North Sumatra Province. The influence of GRDP on unemployment is not intervened by labor absorption. The population indirectly influences unemployment, and labor absorption is an intervening variable. The Provincial Minimum Wage (UMP) directly influences unemployment but is not intervened by labor absorption. The education level also has a significant direct influence on unemployment but is not intervened by labor absorption. From the Islamic perspective, balancing these employment factors to reduce unemployment and achieve socio-economic justice in North Sumatra Province is important. In cases where Gross Regional Domestic Product (PDRB) is not intervened by job absorption to address unemployment, Islamic solutions can involve building an economy based on principles of justice, reducing economic disparities, and ensuring fair income distribution, thus creating more job opportunities and reducing unemployment. From an Islamic perspective, maintaining a balance among labor-related factors is crucial to reducing unemployment and achieving socio-economic justice.

These conclusions have several important implications: the first is the importance of technology's role in various aspects of human life. Second, there are new opportunities for innovation and economic growth due to technological advancements. Third, social and cultural changes occur alongside technological developments. Fourth, the importance

of data security and privacy. Lastly, new challenges such as digital addiction, digital divide, and environmental impact also arise. In facing these challenges, it is essential to use technology wisely to achieve progress and well-being.

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