

# Historical and Economics Studies of Aceh-Deli Railroad System

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***Abstract**--This study aims to historically, politically, and economically investigate the Aceh-Deli Indonesia railway. This research employed the critical historical methodology. According to Gottschalk (1975: 18), when examining a critical historical method, the substance is to exclude unauthentic materials and to conclude reliable testimonies concerning the authentic materials. The Aceh-Deli railway had a major impact on the alteration and movements of politics and religion, which is the workers employed in both railway and plantation companies in the Dutch East Indies, with treatment as "Contract Labour" causing protests from the political circles in the European Parliament; Douwes Dekker and Van Deventer fought for the fate of the indigenous population. The originality of this research seems from the Historical and Economics Comparative Studies of Aceh-Deli Railroad System. Up to now, there has been no detailed study of the Aceh-Deli Railroad System (Historical and Economic Studies of 1876-1942).*

***Keywords**---Quality Management, Service Performance*

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## I. Introduction

The development of railway company in Aceh, East Sumatera (Deli) and on the island of Java was categorized as the second in the Dutch East Indies and the oldest in Asia after India then followed by Japan and China which was part of land transportation facilities which were very modern, other than sea transportation in the 19 century. However, long time before, there had been land transportation rail in the region of Aceh and Deli between 1874-1886 which could serve as a very strategic area on the west end of Sumatera Island because it locates in front of the coast of the Malacca Strait, moreover after England operated Singapore port in 1819. On the other hand, those two areas never had railroad system transportation utilizing steam engine. It was only the Kingdom of Aceh Darussalam and Sultanate of Deli having land and sea transportation such as horse, elephant, and *cakra donya* (fleet) considered capable of being the toughest regional defense equipment or the backbone of political strength and defense from the enemy. It consists of 250 units of sailboat and 47 units of large sheep and 20,000-ready-to fight-personnel. This means the bigger the maritime strength, the tougher the defense of Aceh-Deli region pre-railway transportation in Indonesian islands in the 17 century.

The study of land transportation in Aceh-Deli, Horse and Elephant are means of transportation which becomes core strength and defense before railway network existed in this region. A horse could play a role as a land transportation to complete the needs of riding for patrol soldier or guardian. When the Sultanate of Aceh was established in the first quarter of the 16 century, elephant still served as the mainstay animal other than a horse. The important role of elephants is to be ready to protect the fleet and is the strongest defense in guarding the fortress in the form of excavated land and then made alleys and there still some good casting cannons. Other than the horse and elephant troops, the fleet of Aceh and Deli during the leadership period of Marhum Iskandar Muda also played an important role to drive away Portuguese colonialism from Malacca Strait. However, after the industrial revolution in Europe signed by the finding of the steam engine by James Watt

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in 1796, that discovery was able to create the first steam locomotive in England. The realization of the industrial revolution in Europe will impact on the great change in the colonies of the Dutch East Indies which is very meaningful to the advancement of modern transportation technology in which railway will improve quickly, along with the Dutch colonial influence throughout Indonesia (Fernandes, 2017).

Nurhayati (2014) proposed that during the period of Dutch rule, the railway has an important role to transport freight or passenger, and it improved very quickly. The Dutch colonial did not only construct a railway line in Java island, but also in several regions in Indonesia including Aceh and east Sumatera (Deli). Kartodirdjo (1978:687) explained that the design of railway line construction in Aceh (1876) and Deli (1883) relates to the establishment of Naamlooze Venootschap de Nederlandsche Spoorweg Maatschapij (N.V. NISM) in Batavia (Java Island) coming from the first implantation of railway line construction by Governor General of the Netherlands Mr. LA. J. Baron Sloet der Beele in Semarang, Java Island on 17 June 1864 (Ruktiningsih, 2005: 53).

Aceh railway line infrastructure served as a land transportation for the Dutch government's defense and security to send infantry troops to the regions which were potential to oppose the power of the Dutch East Indies government, this has been proven by several circumstances in some countries in Europe. Subarkah (1981:4) proposed that the example we can see is what happened in Germany when World War 1 broken out in 1914 in which 18,000 railways were operated to transport 3.8 million soldiers and the equipment needed. It was similar to in Belgia in which on 28 September 1938 was operated 385 extraordinary railways that transported 225 thousand soldiers and the equipment needed. This means, the existence of railway line infrastructure owned by Naamlooze Venootschap de Nederlandsche Spoorweg Maatschapij (N.V. NISM), Atjeh Staats Spoorwegen (ASS), and Deli Spoorweg Maaschappij (DSM) plays an important role in transportation line for the defense and to maintain the integrity of the Dutch East Indies.

For that matter, railway line infrastructure between Aceh and Deli during the Dutch East Indies government in 1901-1919 becomes very strategic in the unity of the Dutch colonial region after being inaugurated on 29 December 1919. At that time, railway served as a tool of political interest in the unity of region or country in the field of land transportation or steel road in the community economic empowerment. Another example was Pacific Railroad network constructed in 1869-1940 served as cross continents mechanical transportation network revolting in the sector of settlement and economics of West and South America (maybe also culture), between city center in the states i.e. Illinois, Ohio, Pennsylvania, and New York. In the southern part of California, Pacific Electric Railway line connected all cities in Los Angeles, Island, Empire, and Orange Countries. Railway line development program in the United States causes the states in the western part to decide strict borderline and make a profit to the "Union" and provide freight or passenger with a transportation which is quicker, cheaper and way more flexible than from beach to beach. It also served as a cross continents railway which can transport 12,000 labors from the western part especially consisted of Chinese and African imigrant exploited to work in tobacco, sugar caen, and cotton plantations in the United States. The similar line was also available in the country of western Europe, one of them was in Belgium connecting every city to transport goods, services, and public passenger (retrieved from [htt.co.net/Kuda besi Paman Sam](http://htt.co.net/Kuda_besi_Paman_Sam), on 5 May 2016).

The presence of trains as land transportation has shifted the use of traditional transportation equipment in the Dutch East Indies (Limba, 2019). Starting in 1936-1942, the Aceh-Deli train has become a "Primadonna" for public passengers as well as services and transportation of industrial mining and plantations which were exported abroad. The transport of the products of the large plantation industry, especially those in Langsa and Tamiang, was carried out by train. These products are transported from the Idi, Langsa and Kuala Simpang train stations to Kuala langsa and Pangkalan Susu or Besitang to be then boarded to ships at Belawan Port (Deli). The transport of coconut oil gains benefits from barrels packaging, but when it carried out by the sea with tankers, the Aceh-Deli train must provide tank cars. The transport of coconut oil gains benefits

from barrels packaging, but when it carried out by the sea with tankers, the Aceh-Deli train must provide tank cars (Indarti, et al., 2017).

However, until 1938 and 1939, the railroad was still operating in the Aceh and Deli and keep bringing profits to the Dutch colonial government and company. Among them is 115 tons of patchouli essential oil with an average price of f. 950,- /100 which was transported by train to East Sumatra (Suwondo, 1977/1978: 145). In addition to plantation products, petroleum (petroleum) and agriculture production in the two decades also provided benefits to the Dutch colonial government and experienced a significant increase.

The heyday of the train in Aceh and Deli (1922-1942) was able to generate traditional cities and ports into developed markets and cities with national and international standards (Aceh and Medan-Deli). For instance were Sigli, Lhokseumawe, Langsa, Langkat and Medan Deli which were able to have a connection with the foreign market. The Aceh and Deli trains had a major influence on the DSM-ASS service which became a means of transportation for plantation and oil mining commodities exported to Europe and able to compensate for the economic growth of private plantations in East Sumatra and Aceh.

Along with the glory of the Aceh-Deli railroad transportation and the swift flow of openness with the international world, so in early 1942, the Dutch East Indies government in Aceh and Deli, which was in the rise of the national movement throughout the country, provides a guarantee for public passengers between regions (Hutahayan, 2019). The free flow of the Aceh-Deli railroad transportation gave an opportunity to the *Parindra* national organization figures even though the Dutch colonial police restricted national figures to come to East Sumatra and Aceh by the reason of fighting for the rights of contract workers on plantations due to the foremen treatment. As what Muhammad Samin (SI member), Tan Malaka (PKI) and Husni Thamrin (Volksraad members) conducted to protest the atrocities of foremen torturing workers at the field (Suwondo, 1977/1978: 46 and Poeze, 2000: 115). The national movements carried out their organizational activities with calls against the Dutch colonial government. The anticipation of the Dutch police and military did not go well because these movements were able to break through because of the railway line of Aceh and Deli. Hence, it brought a big impact on the people of Deli and Aceh especially after the rise of the SPANS and PUSA movements in 1939. In fact, this movement received support from the *Partai Indonesia Raya Parindra*) when Husni Thamrin visited Deli and Aceh, other from inaugurating its administrators, he also established a military disciplined youth organization (Said, 1990: 149).

The impact of the Beambte Klas II Spoor and Tram Association in the Dutch East Indies (PBST), as well as the members of the radical nationalist Islamic Union, will worry the Dutch colonial power in Aceh. The entry of this organization into Aceh in early 1942 made the *dayah* (Islamic school) cleric and *uleebalang* (leaders in villagerise to fight the Dutch and cooperate with the Japanese in Malaysia (Alfian, 1982: 7). The Acehnese's movement under PUSA and the PUSA youth carried out attacks on the Dutch government and its soldiers from Groot Aceh (Aceh Besar) and northern Aceh by committed murder of the Head of ASS Exploitation (Atjeh Staats Spoorwegen/Aceh State Railroad Head) in Kutaraja, Controleur in the Seulimuem area and Resident Assistant in Sigli (Ismuha, 1969: 36). The events in Seulimuem then followed in East Aceh through the help of Japanese forces made the Dutch surrender to Japan in Blangkejeren on March 28, 1942. While the trains of Atjeh Staats Spoorwegen (ASS) and Deli Spoorweg Maatschappij (DSM) went into the hands of the people and were used as a means of transportation for the needs of struggle and public transportation from Aceh to Deli in East Sumatra. For that matter, the writer is very interested in this topic so the theme to discuss entitled "Aceh-Deli Railroad System" (Historical and Economic Studies in 1876-1942).

Some researchers who investigated the problem of transportation development of Aceh Tram-Deli railway line (1900-1942) have written many books based on the facts from various perspectives in accordance with their respective fields. In contrast to previous studies, in this research will only discuss a number of sources in the socio-economic and historicity

context in addition to the political interests of the Dutch colonial government. Several studies relevant to this research are those conducted by By, Ir. J. Honing (1975), Imam Subarkah (1981) and Suryo Hapsono Tri Utomo (2008).

The originality of this research seems from the Historical and Economics Comparative Studies of Aceh-Deli Railroad System. Up to now, there has been no detailed study of the Aceh-Deli Railroad System (Historical and Economic Studies of 1876-1942). Based on the general description and political policy of the Dutch East Indies Government, the construction of the war railway line served to facilitate patrols in the Concentration Line and the expansion of the Dutch territories and the conquered territory. In addition, pacification (peace) political support succeeded in prolonging the infrastructure such as railways, bridges, ports, and stations along the north and east coasts of Aceh to Deli East Sumatra. Refer to the problems and constraints raised above, this study aims to historically, politically, and economically investigate the Aceh-Deli Indonesia railway.

## II. Frame of Reference

In the social and society sciences, a scientific idea about embeddedness between the Aceh-Deli train and the contribution in the social, economic, historical and socio-cultural customs of the community is very interesting to discuss. Therefore the function of the Aceh train was very different from other regions in the Dutch East Indies (1874-1942). Therefore the function of the railroad in Aceh was very different from other regions in the Dutch East Indies (1874-1942). Railway in Java and Sumatra more functioned to transport agricultural and plantation products (tea, sugar cane, tobacco, and palm oil), but in Aceh, it was more dominant as a Dutch army/military transportation tool in carrying out guerrilla operations and a means of unifying Dutch colonial territories. Before the advent of the train operated by Dutch colonial government in the life of the Aceh-Deli people during the Kingdom of Aceh Darussalam under the rule of Sultan Iskandar Muda (1607-1636), there were indeed land transportation facilities that were considered beneficial for the needs of the people in this country, for example; *rakit* (rafts), horses, and elephants as the main vehicle in traveling among regions that were still underdeveloped in the field of modern transportation. One of the Aceh-Deli land transportations is a *kereta pedati* (cart pulled by a horse) used to transport daily needs, such as firewood, coconut, rice, roofs, etc.

In addition to the land transportation tools already mentioned, when attacking the Portuguese in Malacca in 1629, the Aceh-Deli kingdom had a large fleet in the form of Galley ships including the "*Armada Tjakra Donya*" or Tjakra Donya Fleet (Suwondo, 1977/1978: 64). During the Dutch colonial government, Tjakra Donya was replaced with the van Antwerp warship used to transport war troops at the sea, while horses and elephants were changed with Atjehtram which served as a core means of transportation of Dutch colonial military forces and to subdue and secure the Aceh region under the leadership of J.L.J.H. Pel who served as Governor General of the Military in Aceh (replacing van Swieten) in 1874 (Alfian, 198: 67).

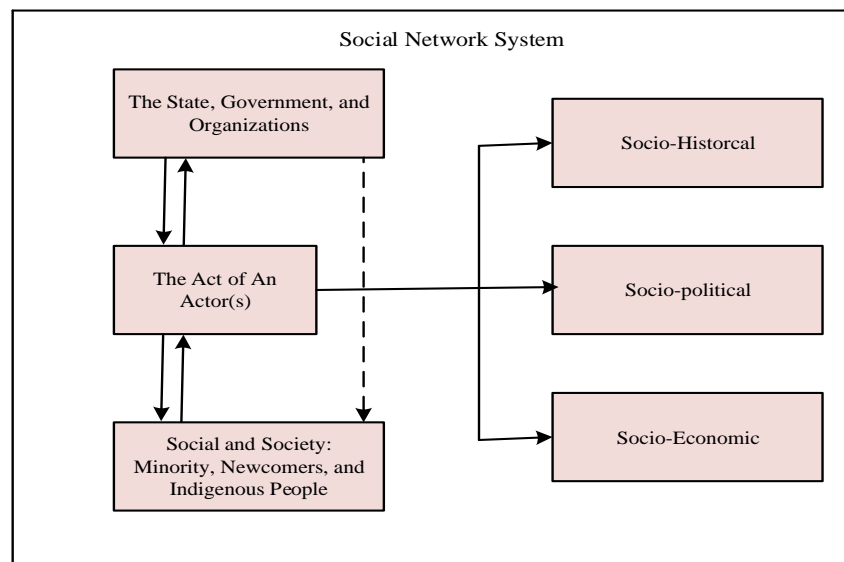
The operation and development of the Atjehtram which was constructed by the Dutch East Indies Government during the period 1874-1896 had not shown a maximum socio-economic and societal change. Therefore, the initial period of the railroad operation was still bleak because of the frequent destruction by Acehnese guerrillas. However, the important role of trains in the military transportation activity has become a priority for Dutch colonial political interest. Sufi (2001) in his writings "History of Railways in Aceh" explains that in the process of pacification and economic development in Aceh, "*Sepur Aceh*", "*Tram Uap Aceh*" or better known as "*Atjeh Tram*" is a powerful aid (colonial politics), as stated by Gaspersz that Atjeh Tram is purely an armament for the Dutch government.

On the east coast of Sumatra, a train known as Deli Spoorweg Maaschappij (DSM) was under a European private company. It was used to carry out tobacco owned by Dutch colonial private in Deli in 1886. Similarly, on the island of Java,

the role of railways was to transport agricultural products (tea, sugar, and tobacco). In this context, the Deli railway network pioneered by J.T. Gremer was prioritized as a facility for private companies resulting from plantations in Deli. In addition, the rapid growth of the Belawan port as a harbor that exported plantation products to Europe has driven the acceleration of the railroad network development that connects plantation areas in East Sumatra.

When traced, the development of the Aceh-Deli railway construction line between 1874-1942 was full of Dutch colonial political content in the field of land transportation. Empowerment of the railway line in Aceh-Deli, in the socio-economic and political aspects, shows that the workers in the state or private-owned company of Europe as well as infrastructure for the construction of highways, railroads and coastal ports. The workers recruited from the indigenous population who then utilize as unskilled laborers or coolies. By the reason of being constructed by colonialist, it was dubbed by Dutch Government "From Colonialist to Colonialist". In the political field of railroad, it was used as a tool of Dutch colonial power and for the military in strengthening the defense of the sovereignty of the Dutch East Indies. In the socio-economic field, the train also functions as a means of transportation for latex, tobacco and oil palm which are loaded in the ports of Aceh and Deli, then exported to Europe to add the Amsterdam government cash in the Netherlands (Europe). This is as explained by Yati Nurhayati in her book entitled History of Indonesian Railways (2014) that "At that time the produce of earth was very abundant, the train would be very helpful to transport the produce to the port which was then sent to Europe". In other socials, the Dutch East Indies Government applied the politics of *divide et impera* (divide and rule) between the *Uleebalang* and the *Ulama*. The *Uleebalang* proposed a *besseluut korte verklaring* (short statement) to make them have a willingness to accept and acknowledge the Dutch colonial authority and its conquered territory.

On the other hand, the Aceh-Deli train phenomenon was once a prima donna which is predicted to be able to prosper the civilian population in the field of land transportation. This certainly raises a question: how the role of the train as a tool of Dutch colonial political power or vice versa is a means of public transportation for community life in the field of goods and services transportation. In carefully exploring the problem in question, the author should try to create a scheme of thought as a frame of mind by taking theoretical concepts that are considered relevant to the study as illustrated below:



### III. Methodology

This research employed the critical historical methodology. According to Solimun (2017) when examining a critical historical method, the substance is to exclude unauthentic materials and to conclude reliable testimonies concerning the authentic materials. The critical historical method consists of 4 (four) research process steps, namely by collecting sources

(heuristic), including primary, secondary and tertiary sources; criticizing those sources (both internal criticism and external criticism), interpreting the facts obtained from criticizing those sources, and historiography, i.e. reconstructing facts that have been interpreted in the form of historical writing, which is the process of synthesizing the facts critically.

This research employed data collection instruments proposed by Surakhmad (1982: 162), where the researcher conducted direct observation (without using any instrument) on the symptoms of the subject under study, whether the observation was done in the actual situation or in a artificial situation that had been specially prepared. In addition, the researcher also studied documents related to the matters under study, such as relics, agendas, newspapers, and so on. Moreover, this research also employed another data collection technique, namely interviews.

One of them that is needed in this study is interviews with figures or people involved in the institutions of railroad companies both in the east coast of Aceh and the east coast of Sumatra (Deli). Data collection with the most basic interview technique is intended (1) that the subject (respondent) is the person that really knows about "who really he is", (2) that what is stated by the subject to the researcher is true and trustworthy, and (3) the subject interpretation about the questions posed by the researcher to him is the same as what is intended by the researcher (Sugiyono, 2010: 138).

The analysis and interpretation of the data in this research employed the stages as proposed by Solimun (2017), which consist of the following steps: data reduction, data organization, and data triangulation (interpretation/incorporation).

#### **IV. Result and Discussion**

##### **Railroad System Analysis in the Historical Perspective**

Anything can do to prove that these research results in accordance with the research data and the concept of transportation are to carry out a joint study in the field of land transportation that was once victorious in the Kingdom of Aceh Darussalam a half centuries ago before the existence of the railroad in Aceh and Deli. Long before the arrival of Dutch colonizers in the archipelago, Aceh and Deli had experienced periods of glory in maritime transportation and land transportation. During the reign of the Sultan Iskandar Muda (1607-1636), the Kingdom of Aceh Darussalam was once an empire in the Southeast Asia region because at that time Aceh was still very strong its sovereignty is recognized in the history of the nations of the world. It means most of Sumatra and the Peninsula were subdued under Aceh's political-economic domination.

Historically, before the construction of a steam train by Dutch colonists or Kaphe (infidel) government in the 18th century, the kingdoms on the east coast of Sumatra and the Malacca Strait sheltered under the sovereignty of the Kingdom of Aceh Darussalam during the 16th to 17th centuries, including Deli at the time of Sultan Iskandar Muda. The greatness of Aceh in the field of transportation by having the largest fleets in the maritime field is able to strengthen its defense from the enemy, for example, the Armada Cakra Donya which is a maritime force in the maritime field that was respected by the Europeans in the 17<sup>th</sup> century AD. For example was Portuguese and the Dutch which were unable to break into Aceh. As with the land transportation, horses and elephants act as core military forces to maintain Aceh's sovereignty (Suwondo, 1977/1978: 64). In addition, Aceh was not only related to Turkey but also Dutch because in 1857 they had been friendly in the field of trade which later became the beginning of a dispute among them. Later on, the Dutch accused Aceh of violating the Pidie agreement which it had tied with the Dutch East Indies Government on March 30, 1857, concerning commerce, peace, friendship, and therefore the Indies Government was no longer trusted. However, the Dutch no longer considered the roles of Aceh which had recognized Dutch independence over Spain. It continued to insist on intervening in Aceh, even though there was an agreement with Britain in London in 1824 that both parties agreed to respect and would not interfere with its sovereignty. However, under the reign of Pax Neerlandica Aceh was distorted by the Dutch East Indies Government with the accusation of Aceh as a nest of robbers and a place to buy slaves (Jakub, 1960: 24).

Because of the desire to colonize with greedy lust, the Dutch succeeded in convincing the British to bring the matter to the Sumatra Agreement in 1871. Dutch desire for imperialism and colonialism to expand Dutch East Indies power has achieved by finding fault with Aceh, after previously seizing the Siak Kingdom in Sumatra. Dutch desire to conquer Aceh under the reign of J.H.R. Kohler eventually failed. In fact, he himself died in Aceh in 1837. Formerly, it was continued by van Switen which on January 24, 1874, he succeeded in seizing the Aceh Kraton and proclaiming Bandar Aceh to change its name to "Kutaraja". Even though the Palace was controlled by the Dutch, the Aceh government remained sovereign even though it moved from one place to another in Aceh.

After usurping the Kraton (*Dalam*), Dutch desire to expand power grew by forcing the *Uleebalang* in Aceh Besar to recognize the Dutch East Indies Government. To strengthen the territory, the Dutch paved the railroad so that it could stem the attacks from Acehnese or supporters of the sultan who had displaced. With the ongoing war situation, the Dutch East Indies Government or the Kaphe Government had succeeded in holding a 5 km widening of the Ulee Lheue-Kutaraja railway that ran from 1876 to 1880. The Ulee Lheue-Kutaraja railroad was useful to support the speed of transportation, but when rain fell, the surrounding roads could not be used by coolies to transport people and goods: war equipment, ammunition and consumption materials, and sick and wounded soldiers (Sufi, 2001: 19).

In connection with the matter above, the purpose of the Kaphe government to construct a train was to facilitate military transport and strengthen the territory and its subdistrict which was supported by the Linear Concentration system (1884-1893). The system consists of 16 posts hidden in a circle in Kutaraja, where the Ulee Lheue-Kutaraja crossing is connected to three other railway lines namely Kutaraja-Lambaro, Kutaraja-Keutapang Dua and Kutaraja-Lameunyong and 5,000 stations are stationed at each station ( Nurhayati, 2014: 77). The reason for the establishment of this system was due to the onslaught of attacks from the sabil troops under the reign of Teungku Syekh Saman Tiro. Even the Acehnese clerics and people who joined the ranks of the *Jihad Fisabilillah* carried out an attack, sabotage and damaged the railway line, and also opposed the government of Kaphe Holanda who was colonizing Aceh Land.

Based on the concept of al-Qur'an and the advice of the scholars who were fighting against Kaphe in the Land of Aceh, that all kinds of European-style culture introduced by the Dutch East Indies government were illegitimate. The struggle to expel the Dutch was a necessity to defend the religion and sovereignty which was taken by the Dutch caphe invaders. One of them is rejecting people who are not Muslims, as well as the elements of European cultural wisdom which is a part of Dutch-style colonialism (Jewish) so it must be fought. "Atjeh Tram", one of the means of transportation referred to as the Railway War will bring disarray to the lives of the people of Aceh.

In order to reject all elements of Dutch culture and government, the clerics and the people of Aceh tried to paralyze the Dutch forces and the means of war rail transport that brought ugliness and endangered the people. They are guerrillas who are members of the struggle to defend the homeland and religion that do the dismantling and detonation of war rail transport that always pursues Acehnese fighters (Ibrahim, 1991: 128). For example, on January 28, 1889, the guerrillas of Teungku Di Tiro detonated a grenade on the railroad bridge between the Keutapang fortress and Lam Ara Peuneurut. Then in 1898, grenades were also detonated in Padang Tiji Pidiewaktu when the Dutch constructed railroad sections in the Seulawan Valley, (Jakub, 1960: 129) while van Heutsz entered the Pidie region (1898-1903),

As a result of the frequent attacks carried out by the Acehnese people, it got hard for the Dutch to confront guerrillas during the implementation of the Concentration Line. This causes frequent changes of government officials because they are considered unable to overcome the problem. For example was when Pel replaced by Loging Tobias, Demmini and Teijin (1884-1893). To withstand attacks from the Acehnese, the Dutch government still relied on the war train as one of the mass transports to hunt down the *sabil* troops. However, the *sabil troops* also have the most effective weapons to block the war trains that accompany Dutch soldiers inside. The main weapon of the Acehnese guerrillas which was feared by the Dutch

was the spirit of *Jihad Fisabilillah* (armed fighting in the way of God, or holy war), which is through poems echoed from the writings of *Hikayat Perang Sabil* written by Chik Pante Kulu. This concept means that if an Islamic soldier dies in the battlefield against kaphe, it is said to be a Shahid and there are no obstacles to entering the Heaven of *Jannatun Naim* in the hereafter. The realization of the forces was that all the highest commanders in charge in Aceh were in turn, including well-known generals, such as J. Van Swieten, K. Van der Heijden, and J.B. Heutsz. They were all involved in contradictions to face Acehese guerrillas (Chaidar, 1998: 21).

The enthusiasm of the Acehese in opposing the government and defending religion can be seen from their efforts to disrupt the war train operations that carried the military, this was done at the instruction of Sheikh Saman Tiro and also strengthened by the poem *Hikayat Perang Sabil* to defend religion and the country. Several pieces of poetry quotations from *Hikayat Perang Sabil*, as written in the book Harun (1982: 20) stated that; "*Soe nyang han pateh peureuman Allah; Dudoe neukeubah dalam neuraka; Ureueng nyang syahid dalam prang Sabil; Ureueng nyang hanle kcunong pareksa. Tamong syeuruga ngon seunang hate; Hana le titi ngon Padang Mahsya; Barang kasoe jilawan kaphe, Ngon suka hate masok syeuruga*". Fighters and sympathizers who heard the poems were indeed motivated and aroused the spirit of Jihad Fisabilillah, even the guerrillas fought against the Dutch government by dismantling railroad tracks, blocking trains, and killing the Dutch. The leadership and influence of Teungku Chik Di Tiro are increasingly widespread throughout Aceh, known to theorists and guerrilla warriors. Feeling threatened, in 1891 the Dutch poisoned Sheikh Saman Tiro in Meureu-Aceh Besar. The spirit of Jihad against kaphe did not only occur in Aceh but flared up to Deli East Sumatra by attacking the colonial government and dismantling and sabotaging the railroad tracks carried out by the Panglima Teuku Nyak movement with the Datuk Badiuzzaman Subakti Tomb during the Sunggal war. In addition to these two regions, resistance to Dutch colonialism also occurred in Sunggal and Pangkalan Brandan to the Tamiang area in 1895.

In 1894-1896, when H.K.F. van Teijn served as the Governor of Aceh, the circular railroad line concentration system was changed and was inappropriate in situations that often faced obstacles and attacks from Acehese (guerrillas). According to van Teijn, the train line must be replaced immediately with a new pattern, Snouck Hurgronje said that it must be done strictly and there was no compromise with the enemy, and also guerrilla bases throughout Aceh must be destroyed (Jakub, 1960: 68).

When the Dutch government was under the reign of van Heutsz and assisted by Snouck Hurgronje (1899-1909), the line concentration system was replaced by a pacification pattern (Aceh peace system). History noted that the implementation of the people's welfare development program, namely railroads, bridges that were passed by trains and demarcation or ports were built for the benefit of the Acehese and Deli people. But all of that is just the guise of the Dutch which aims to accelerate the process of securing Aceh from guerrillas who often fight against the Dutch government.

In 1899, van Heutsz made a policy after Seulumuem had expanded the railways and bridges to the Pidie area (1901), Lhokseumawe (1902) to Langsa (1903) which could connect the lines between the North and East coast of Aceh. The modernization program serves to accelerate the equitable distribution of economic and infrastructure development, especially the expansion of war railway facilities which aim to hunt down the sultan and clean up anti-Dutch guerrillas. Van Heutsz's policy of opening new rail lines from stations to embarkation is useful to facilitate the export of agricultural products abroad. Especially the embarkation of Sigli, Lhokseumawe, and Idi (1900-1907), there was also an intermediate railroad as a means of transportation for pepper plantation. However, in times of insurgency, the route was closed temporarily so that the access to the foreigners is carried out through the coastline.

Whereas for Langsa and Belawan intermediary train lines can still be used for export-import purposes. Even though the two embarkations of this intermediate railroad the Netherlands still has the opportunity to include foreign private entrepreneurs to invest in Deli and Aceh plantations. Other than, the Dutch accommodated immigrant workers from the



Malay Peninsula and Java Island who were transported by the Deli Sooporwege Maatschappij (DSM) train to be used as laborers for companies and plantations that were opened by Dutch colonial private parties in two other regions, namely the East coast of Sumatra and East coast of Aceh (Said, 1990: 107). Some places that are potential and strategically connect train stations with ports are being explored and exploited by private/ government plantations and mining starts (Sufi, 2001: 30). Among them are *N.V. Atjeh Handel Maatschappij* and *N.V. Handel Vereeniging Amsterdam* which is engaged in large trade and plantation business. In addition, there were other companies who invest in mining, railroad and industrial transportation services.

However, behind the guise of van Heutsz's success through the policy of pacification and the construction of a railway widening program in Aceh, there were also acts of a massacre of the people on a large scale. As if the railway and railroad bridges had a great influence on the field of transportation, the mission of the railroad was dominant for colonial interests in transporting Marshall soldiers to clean up guerrillas who had not yet recognized the Dutch East Indies government. Behind the intensive pacification politics, there were around 100 *uleebalang* who had made peace with the Dutch and were willing to sign *Korte verklaring* (short agreement) that *uleebalang* was willing to cooperate with the Dutch and recognize its sovereignty over Dutch territory (Sufi, 2001: 13).

The success of Van Heutsz and van Daalen to conduct something dubbed as peace implementation was actually not as it sounds because there were still elements of coercion and attacks on anti-Dutch territories. For example the violence that occurred in Pidie (1900), Samalanga (1901), Idi (1902) and Gayo-Lues (1903) which were considered as the headquarters of the Aceh guerrilla. In order To clean up some of the vulnerable points in Aceh, the train was used as a transport vehicle for marsose troops to launch mass attacks to seize areas controlled by the guerrillas. The battles that occurred both on the coast and in the interior of Aceh have claimed many lives, in Gayo around 2549 people were killed in the fighting (Said, 1990: 451).

From 1899 to 1909 was a ten-year bloody period in which 508 Dutch troops died. While the Acehnese died was almost 21,865 people. The most sadistic times were when there were mass murders on the North and East coast of Aceh to the interior of Gayo Lues. he incident took place starting from van Heutsz's leadership and van Daalen's arrival by using war trains as a means of operating transportation to various guerrilla bases accused of opposing the Dutch government (Kaliwarang, 2010: 139). Anti-government people are not only given guidance and amnesty through the legal process but also massacred so that it is known as the "Aceh is the Dutch colonial hell in the 19th century AD. In contrast to the British colony, people who oppose the government are given equal sanctions, which was the establishment of the Staatsrecht Public Law in prisons outside of Europe, such as "America and Australia known as British Prison" for puritan groups in the 17 AD.

Political pacification under the guise of peace and the use of war trains and the marching army are like snakes crawling between the North and East coast regions, even deepening. A ten-year walk is a time that has sacrificed the lives of the people of Aceh. But those Dutch policies are acceptable and some are not. An example is the educated *uleebalang* or those who have been willing to support the Dutch government for obtaining a better living allowance. While on the other hand, the *dayah ulama* and most Acehnese still did not accept the symptoms of modernization in the style of the Dutch, this attitude was reflected in the view of wisdom that the use of rail transport and electric networks were part of the "infidel world". Even the *ulama* and the people are very anti against the elements of the Dutch culture, this is similar to the attitude of the Javanese *ulama* who oppose all types and cultures of the West (Europe). The money a person receives as a salary from the Dutch government is considered *haram* (illicit). In addition, to wear the Dutch clothes such as pants, ties, and hats was also *haram*. If people use railroad transportation, they will be wrapped in snakes in the afterlife; if using electricity will also be burned with hellfire, and if wearing a tie would be like the dog's tongue which is illicit and unclean.

The resistance of the Acehnese in the spirit of *Jihad Fisabilillah*, although with mass killings, never ceased to carry out the destruction of the railroad tracks and the killings of government officials in Aceh (broken grew lost in change) as long as they were able to stand up against Dutch infidels. In addition to demolition and sabotage of the railroad in Lhok Sukon, North Aceh by Po Cut Muhammad guerrillas (1903), in 1907 there was a murder of the Railway Chief Lieutenant Gen. Lois William Francis in Sigli, and also a fanatical woman named Alimah desperate to kill employees of the Idi railway station. The desperate actions taken by the Acehnese who were willing to die the martyrs also known as Atjeh Moorden from 1910-1920 had counted 79 cases. The victim was 97 Dutchman in which 12 died and 87 had injured. While the Acehnese who died was 49 people (Sufi, 2001:10).

The system of peaceful violence through the war railroad was supported by Marsose soldiers so that leaving the system from the previous ruler (van Heutsz, van der Wijk and van Daalen). Railway transportation under the reign of Governor H.N.A. Swart (1908-1918) turned into a means of public passenger transportation and plantation products. Swart managed to convince and include all components of the people to work together in developing the economy in Aceh. Under the reign of van Sluys (1919-1923) Aceh and Deli railway lines were successfully connected to reach 521 km, and inaugurated on December 29, 1919. While from Deli, East Sumatra, the length is around 557 km and ends in Besitang. The number of stations in each region is Aceh 58 and Deli 56 including large and small station (Ghani, 2016: 108).

In connection with the study of research results with their substance in historical analysis, there is a mutual embeddedness that is very binding between the Dutch government and the Aceh and Deli railroad facilities. In the concept of embeddedness proposed by Granaventer, a very dominant actor has an important role in taking his policy. Everything that is in the hands of the actor (ruler) aims to empower train facilities with phases towards a more advanced stage and can be utilized by all parties. Based on Spencer (German socio-scholar), history is a change made by actors in social history that takes place slowly and commutatively (evolution, not revolution), and change (Burke, 2001: 198).

The embeddedness theory pioneered by Granaventer also has similarity to the opinion expressed by Karl Marx in his book *Das Kapital* historical materialism (historical dialectics). Marx's analysis of the alteration of the railway history was emphasized on the changes in methods or techniques of material production as the main source of socio-cultural change. Marx based on Historical Determinism as the core cause of the social changes that occurred. Sovereign embeddedness can be situated with the process of change and interaction with the environment.

Whereas according to Arnold Yoynbee, these changes occur because of a challenge and response) of the life cycle or a permanent pattern of cultural genesis and growth, breakdown and disintegration (Burke, 2001: 212 ) In order to achieve something better, society should deal with all obstacles or challenges. For example is the Dutch who were confronted by the fighters when they first entered Aceh, but after being responded to by the power of the war tool, the people of Aceh and their territory were successfully subdued by the Dutch. So, the Dutch government subdued Aceh after going through the stages with various capabilities it possessed. The problem is based on the embeddedness theory from Arnold Yoynbee of the Challenge and Response theory of the life cycle which applies a permanent law or pattern that consists of three stages (1) cultural genesis and growth, (2) breakdown, and (3) disintegration.

### **Railroad System Study in the Economic Perspective**

As stated above, the purpose of Atjeh Tram is very dominant for political purposes when the Aceh region is still in a war situation, but when conditions have begun to be peaceful, it can be used as a means of public transportation. However, the most basic thing after the opening of the railroad in Aceh and Deli is that land transportation tools such as horses and elephants are only used for food transportation to rural areas or to hunt down anti-Dutch guerrillas. The use of traditional means of transportation is less effective in the field of goods and services trade. Gradually, the community in the Dutch

Indies utilized a more advanced and modern railway even though it was considered to bring harm to indigenous people (Aceh and Deli) by anti-Dutch government. But the Dutch believe that the train is the only transportation for the smooth economy that connects between regions in the Colonial Land. This means, the more developed a country, the more it needs a modern transportation technology.

This has been proven in England in 1630 in which the transportation to load coal from the coal mine in Beaumont was initially a *cikar* (pulling carts). The road that the *cikar* passed through quickly damaged and the carrying capacity was very low. They think and try to repair the road so that it is not quickly damaged and the transport capacity is greater. The paths of the wheels are given wooden blocks. Thus it started getting a stronger (harder) road, and also the friction between the wheels and the road has been reduced. In this way, the capacity of a horse that pulls a *cikar* can increase fourfold. But the wooden beams are still damaged quickly so they are replaced with iron and the shape is repaired. Furthermore, in order to avoid the misses of wheels from runway iron, they are given a flange (1789) (Subarkah, 1981: 15). This means, in his journey, the horse takes a long time to pull coal for hours, but it would be faster if using a locomotive train.

In relation to the explained view, according to Adisasmita (2014: 9), "the transportation system (railroad) turns out to have a very important function in carrying out the transport of goods and people from one place of origin to the destination, from one production area to the market area, and from producer to consumer ". Given the importance of the role of the train to move goods and passengers from one place to another, so the function of the train for transportation is much broader and more important because of its role as an infrastructure tool in the economic, social and security fields. Railway transportation must be able to guarantee the smooth and economic progress of the Dutch East Indies government and the welfare of the people. If the transportation equipment is not enough, or the usage is not on time, then the transportation will be less smooth, it can even cause congestion in the circulation of goods, which is very detrimental to the government economy (Subarkah, 1981: 2). An example of a train crossing in Bandung in 1888 could not be separated from the impact of opening plantations around Bandung. It is also similar to Bogor train, the station was enlarged to accommodate large numbers of passengers who traveled from Sukabumi and Bogor to Depok and Jakarta (Katam, 2014: 15). At the beginning of its opening, the railway line in the Dutch East Indies, Bandung-Jakarta carried 32,000 passengers and 9,240 tons of goods per year. At that time, train played a very important role in advancing the economy of the city of Bandung, in 1914 the train in Bandung transported 1,307,000 passengers and 244,700 tons of goods per year (Inge. 2017; 19 and Nurhayati, 2014: 70).

However, rail transportation in Aceh was smooth when the process of accelerating the pacification (peace) in 1900-1914 when transporting community's crop produce like pepper (1,139,344 kg), areca nut (5,253,276 kg) and copra (155,533 kg) through the port of Sigli, Lhokseumawe which is then sent abroad (Europe). In addition was also the export of pepper from Lhokseumawe (558,266 kg) and copra (734,120 kg) (Broesma, 1925:88). Entering 1919, traditional plantation commodities were no longer focused on pepper, coconut, and areca nut but had penetrated into other commodities such as rubber, oil palm, patchouli, and sugar cane. Also, it did not only happen in Aceh but also in Deli. This promising prospect is the railroad function that has encouraged structuring in a number of fields to support the development of cities in Aceh and Deli into an advanced and modern area. Thus, the Aceh and Deli trains became the main priority for transporting plantation products for export to foreign countries to fill the Dutch colonial cash. Aceh Railway, based on an interview with Usman Hamid (22 October 2016) that "Dominant sap transport in the number of sets or bales each weighing 3 kg and 150-200 kg. The sap area, which is taken from the new garden, includes; Geudubang Aceh, Sidodadi, Bukit Tiga under the control of Aleu Canang and Aleu Buloih. Plantation/rubber transportation produce will be exported abroad (Singapore to Europe)".

Exports of plantation commodities (1920-1939) which were transported using the Atjeh Staats Spoorwegen (ASS) train were 18,594 tons of palm oil, 115 tons of patchouli oil, and 15,640,787 tons of latex/rubber and added by 4,378,000 general passengers. While the Deli Spoorweg Maatschappij (DSM) train transported 382,736 tons of tobacco, 131,000 tons of tea,

344,000 tons of palm oil (CPO), 12,492 tons of latex and rubber and 64,948 passengers (1937); 66,662 people (1938) and 68,373 people (1939) (and Sufi, 2001: 30 and Pribadi, 2012: 78). The Aceh railroad fleet provided 47 locomotives, 167 passenger cars, and 1,020 freight cars. While the Deli train provided 61 locomotives and 1,867 freight and passenger cars around 1937 (Hechler, 1954: 40).

The smoother the transportation of the railroad, the greater the effectiveness of the source of wealth and its results. Economics science clearly requires that the goods will have meaning if they have the power or meet a market need. This means the results of Aceh and Deli plantations exported abroad is in accordance with the needs of the international market so the price is higher. The smoothness of a shipping not only saves time and costs that are very useful for the community but also increases the output power so that the needs of the community are quickly fulfilled. The prosperity of the Dutch government continues to increase, wealth can become an imperial nation with a system of exploitation of Indonesian agricultural products by forcing workers as laborers on the roads that are passed by the Aceh and Deli trains. As in 1920, it was noted that 3,704 workers were placed in a position that did not need the skills to become railway workers. They work for the benefit of the colonial government. So that the Dutch government became more victorious from the spoils of Indonesian produce, but the people were increasingly miserable and suffered from the actions of the Dutch colonial government, the Acehnese term said "*Yang Gasien Meukuieng Lam Tapeih, Which Is Rich that Starts Bak Wareh*". This is as in the principle of economics that to do a job aimed at the interests of the Dutch East Indies is only by gaining maximum profit for the interests of the group/government. For the sake of the Dutch colonial interests, of course, the people were the target to be their prey as contract laborers.

In East Sumatra, the Deli Spoorweg Maatschappij (DSM) Railway Company which transports a lot is rubber and tobacco in the Deli area. In an interview session with Ahmad (31 December 2016, at 3 p.m), he said that the railways in Pangkalan Brandan railways station has 2 locomotives and gates, was also available 15 to 20 tanks and carts which everyday shipped CPO from Binjai. All profits from plantation commodity exports and general passenger tariffs were also the treasury of the colonial government. During the 50 years of operation, the Atjeh Staats Spoorwegen and Deli Spoorweg Maatschappij trains have made great profits whose culmination was in 1930-1939. Thus, it can be seen that the basis of Dutch colonialism is greedy lust, colonizing lust and imperialist lust from Dutch imperialist capitalists who want to colonize to seek wealth as much as possible by draining natural wealth from the land of Aceh and Deli (Gayo, 1983: 77). One way to achieve this goal is by reason of equal distribution of people's welfare through the widening of the railroad to a number of companies, plantations, and regions as a means of mass transportation with thousands of people and thousands of tons of goods at once. The trains were owned by the colonialists and whatever the people did was for the sake of the cash of them.

On the contrary, in addition to capitalist and imperialist passions, trains can be used as a means long-distance public transportation. In order to fulfill the needs are used steel road to ease that kind of transportation. However, the profits went into colonial cash. The people just allowed to utilize that facility no more, even though the railways are the massive means of transportation which can utilize several units of shipper as a series of other goods and services transportation. In addition, railways have a good equipment to transport many kinds of goods. There are different cars to transport the passenger, there are oil cars, other types of building materials, for animals and charcoal. Besides, the road that the train passes did not interfere with public transport, but the right and left roads are 7 meters wide each. Other than, the construction of the road is also strong and the age limits are long.

Regarding travel security, trains are more guaranteed because they have their own roads which are closed to the public. For passengers, the train is more satisfying because although the traffic density is high, the operating costs are low so are the fares. Moreover, it is not disturbed by traffic congestion. In terms of security, train is also claimed to be better than other vehicles. In fact, the accident rates are very low compared to other land transportation even airplane..

Regardless of the progress of transportation by motorized vehicles, the train remains the most important means of transport on land. This can be proven by the conditions in the United States. In developed countries with very rapid development almost every city has an airstrip, the train gets heavy competition from truck and airplane companies. However, freight transportation by rail is still *prima donna* as stated by F.E. Compton & Company in his book entitled: "The USA, it land, it people and its industries". Calculated in tons of miles, the goods transported by rail amounted to 61.4%, by autobuses and trucks 10.8%, by water vessels 15.2% and by airships 0.03% of all (Subarkah, 1981: 13).

Based on this explanation, the Dutch colonial government which exploited plantation products (sap, oil, and tobacco) by the *Atjeh Staats Spoorwegen* (ASS and *Deli Spoorweg Maatschappij* (DSM ) railways had achieved the greatest profit in the Dutch East Indies. While the indigenous population becomes a contract labor with unequal wages and less decent life. In order to prove the results of his research with socio-economic theories as in the article "The Social Embeddedness of Economic Action", Granovetter revealed that every economy is always attached to the context and socio-economic background. Economic embeddedness is not only limited to "networks of interpersonal relations" but also to the individual and interpersonal conditions of public relations. Likewise in the famous book entitled *The Wealth of Nations* (1776), Adam Smith states that basically human action is driven by "invisible hands" to do work intended to get the maximum benefit for the interests of his country/government/himself.

For this reason, the Granovetter's Social Embeddedness network questions 3 issues related to the problems of relations between communities; (1) 'undersocialized' and 'oversocialized' as actions of economic actors, (2) trust and distrust, and (3) problems between the people and government / authorities (Granovetter, 1985: 481). The embeddedness theory proposed by Granovetter was reinforced by Bryan Turner's thought pioneered by Polanyi (1944) in his book entitled 'The Great Transformation', that the motive of the substance must be replaced by the motive for maximum profit for the government (Polanyi, 1944, 56). In addition, social embeddedness theory is also supported by Karl Mark's view that the development of an economic system driven by a person/ruler is for the benefit of gaining profit as much as possible and exploitation that is detrimental to the working class or workers who are forced to accept the fate of getting a low wage and not suitable with more value they produce (Suyanto, 2014: 17).

After the Dutch government drained the people's energy and gained great profits and enjoyed a victory over the suffering of the Indonesian people for 350 years, the existence of the railway company gradually declined along with the decline of Dutch colonial control. The Atjeh Tram and DSM companies began to bleak, unlike previous years. There are three factors that influence the sovereignty of the railway company. First of all was the impact of World War II (1939-1942) because German Nazi forces attacked the Netherlands in Western Europe in May 1940 which was the peak year of Hitler's greatness in seizing a number of Western European countries such as; Denmark, Norway, Belgium and Luxembourg and France. Political development in Europe (the Netherlands) caused a shock in the political and economic fields in the Dutch East Indies. The second was due to the emergence of national awareness movements and anti-Dutch colonial government areas and low-class train employees who were members of the Spoor and Tram Employees' Union (PPST) and the Indonesian Traliant Particulate Employees Association (PPPT) who often went on strike in the Dutch East Indies in 1920. Furthermore, the third factor is that the people increasingly hate and fierce to the Dutch with the slogan "Anti Kaphee", so that the railroad routes are targeted by sabotaging the tracks, demolishing and destroying bridges traversed by the Atjeh Tram to Deli lanes.

## V. Conclusion

The Aceh-Deli railway had a major impact on the alteration and movements of politics and religion, which is the workers employed in both railway and plantation companies in the Dutch East Indies, with treatment as "Contract Labour" causing protests from the political circles in the European Parliament; Douwes Dekker and Van Deventer fought for the fate of the

indigenous population. Among them are Van De Venter's great work also known as Trias Can De Venter including education, irrigation and emigration (transmigration) in the Dutch East Indies and mutual influence with the implementation of pacification politics in Aceh for economic empowerment and rail transport in the Dutch territories and the conquered area to switch the function of public transportation. It was also closely related to the end of the war between Russia and Japan which brought victory to the Japanese forces in 1905, this greatly affected the process of awareness and spirit of Dutch anti-colonial nationality in Indonesia.

The smooth flow of Aceh-Deli railroad transportation during the implementation of ethical politics and pacification influenced the emergence of Budi Utomo (1905), Islamic Union (1912 and Muhammadiyah (1920) at the national level and brought the impact of national awareness to religious and youth leaders in Deli and Aceh to fight the Dutch. On September 26, 1920, Tan Malaka founded "*Sjarikat Persatoean Anak Negeri Serdang*" in Deli. Whereas Daud Beureueh founded PUSA in 1939 in Aceh which aimed to expel the Dutch. It was also masterminded by its member who was the second-class labor at the Deli-Jawa Railway Bureau who fled to Aceh and mingled with Serikat Islam, but the PKI in Aceh did adhere to atheism, but the ideology they embraced was strong and radical national movement. Hence, in the midnight of 19 February 1942, the Dutch military headquarters in Seulimuem was attacked by 500 Acehnese youth and Controleur (head of regional government) coordinated by Tgk. Abdul Wahab, TM. Ali Panglima Polem, Cut Amat dan A. Hasjmy. J.C. Tiggelman was killed in an incident in the Seulimuem region. Because of the collaboration carried out with the Japanese occupation, on March 28, 1942, the Dutch officially left Indonesia.

As a follow up of the conclusion above, the researcher will elaborate some of the analysis result and discussion and recommendation as follows: Firstly, to the Central government: Indonesian Railways Company is a state asset that is vital in the field of land transportation that connects regions and cities at affordable prices. Therefore, the government of the Republic of Indonesia is taking the policy with the agenda through the Ministry of Land/Sea Transportation, so that the Aceh-Deli Railway Company project will be resumed now. Secondly, to the Aceh Local Government: The Atjeh Tram and Deli Spoorweg Maatschappij (DSM) companies in the Dutch colonial era had experienced the glory and railway became the prima donna. The Aceh-Deli Sumatra railroad at that time interacted in the field of goods and services transportation. Even Sea transportation that connects with foreign countries is no longer functioning. This reality has gone and there is no policy made after years. This reality has gone and there is no policy made after years.

## REFERENCES

- [1] Abdul Ghani, Mohammad, (2016), Footprint of Planters in Tanah Deli Dynamics Plantation East Sumatra 1863-1996, Jakarta: PT. IPB Press Publisher.
- [2] Al-Chaidar. (1998), Premature reform: Islam's response to total reform, Darul Falah.
- [3] Alfian, I. (1982), Indonesian independence revolution in Aceh (1945-1949) (No. 10), Ministry of Education and Culture, Museum Development Project, Aceh Special Region.
- [4] Button, K. J., (2004), Economic Development and Transport Hubs, in David A. Hensher, Kenneth J. Button, Kingsley E. Haynes, Peter R. Stopher (ed.), Handbook of Transport Geography and Spatial Systems (Handbooks in Transport, Volume 5), pp.77 – 95
- [5] Broersma, R. (1925), Atjeh als land voor handel en bedrijf, Cohen.
- [6] Burke, P. (2001), Eyewitnessing: The uses of images as historical evidence, Cornell University Press.
- [7] Denmark, D. and Stevens, N., (2016), Community Transport in Australia, in Corinne Mulley, John D. Nelson (ed.), Paratransit: Shaping the Flexible Transport Future (Transport and Sustainability, Volume 8) Emerald Group Publishing Limited, pp.263 – 287
- [8] Fernandes, A.A.R., Solimun. (2017). "The Mediation Effect of Strategic Orientation and Innovations on the Effect of Environmental Uncertainties on Performance of Business in the Indonesian Aviation Industri, International Journal of Law and Management, Vol 59 No 6, pp 11-20.
- [9] Gayo, HM. (1983), The Gayo War Alas Against Dutch Colonialists, Jakarta: PN. Library Center.
- [10] Granovetter, M. (1985), Economic action and social structure: The problem of embeddedness, American journal of sociology, 91(3), 481-510.

- [11] Harun, R. (1982), Urban flood problem in Benin City, Nigeria: Natural or man-made, *Malaysian Journal of Tropical Geography*, (6), 17-30.
- [12] HECHLER, H. (1954), The Pavlovian theory in insurmountable opposition to psychoanalysis and psychosomatics, *Zeitschrift fur arztliche Fortbildung*, 48(21), 730-738.
- [13] Hutahayan, B. (2019), Performance art strategy for tourism segmentation: (A silat movement of Minangkabau ethnic group) in the event of tourism performance improvement, *Journal of Islamic Marketing*, Forthcoming Issue
- [14] Honing, J. (1975), *The Science of Building Railroad*, Jakarta: Pradya Paramita.
- [15] Indarti, S., Solimun, Fernandes, A.A.R., Hakim, W. (2017). "The effect of OCB in relationship between personality, organizational commitment and job satisfaction on performance", *Journal of Management Development*, Vol 36 No 10, pp 1283-1293.
- [16] Ismuha, (1969), Looking back: the birth of the Ulema Association of the entire Atjeh 30 years ago, Number: 14 and d15. Banda Aceh: Unsyiah-IAIN AR-Raniry
- [17] Jakob, Ismail. (1960), *Teungku Tjhik Di Tiro (Muhammad Saman) Great Hero in the Atjeh War (1881-1891)*, Djakarta: Star Moon.
- [18] Kaliwarang, R. R. (2010), Israeli-Palestinian negotiations are still deadlocked. On the [http:// forum, Viva news.com / politics / 28864-negotiations-israel-palestinamasih still deadlocked. html](http://forum.viva.com/politics/28864-negotiations-israel-palestinamasih-still-deadlocked.html), accessed on.
- [19] Kartodirdjo, S. (1978), The position and role of the mutual assistance system in the development of Indonesian society, Institute for Rural and Regional Studies, Gadjah Mada University.
- [20] Katam, S. (2014), *Train at Priangan Tempo Doeloe*, Bandung: Reader Jaya.
- [21] Limba, R.S., Hutahayan, B., Solimun, & Fernandes, A.A.R. (2019), "Sustaining innovation and change in government sector organizations: Examining the nature and significance of politics of organizational learning", *Journal of Strategy and Management*, Vol 12 No 1, pp 103-115
- [22] Nurhayati, Yati, (2014), *History of Indonesian Railways*, Bandung: CV. Friend.
- [23] Polanyi, K., & MacIver, R. M. (1944), *The great transformation* (Vol. 2, p. 145), Boston: Beacon press.
- [24] Pribadi, Zuhri, M., Sarkawi, (2012), Comparison of Railroad Infrastructure in 1950-1970, *Verlenden Historical Journal*, Department of History Sciences FIB Airlangga University Surabaya. ISSN: 2301-8127. Vol. 1, No. 1
- [25] Ruktiningsih, R. (2005), CBR Value of Ilite Clay Improvement with Lime and Portland Cement.
- [26] Said, E. W. (1990), *Yeats and decolonization* (pp. 69-95), University of Minnesota Press.
- [27] Solimun, Fernandes, A.A.R., & Arisoelaningsih, E. (2017), "The efficiency of parameter estimation of latent path analysis using summated rating scale (SRS) and method of successive interval (MSI) for transformation of score to scale", *AIP Conference Proceedings*, Vol 1913 No 1, pp 020030.
- [28] Subarkah, Imam, (1981), *Rail Road*, Bandung : Idhea Darma
- [29] Sufi, Rusdi, Seno Irvan Setiawan, Indriani dan Titit Lestari, (2001), *History of Railways in Aceh*. Banda Aceh: Institute for the Study of History and Traditional Values.
- [30] Sugiyono, P. Dr. (2010), *Quantitative, Qualitative, and R&D Research Methods*, Bandung: CV Alfabeta.
- [31] Surakhmad, Winarno, (1982), *Introduction to Basic Scientific Research in Engineering Methods*, Bandung: Tarsito.
- [32] Suwondo, B. (1977). *Customs and Regional Marriage Ceremony of West Sumatra*, Jakarta: Regional Culture Research and Recording Project Ministry of Education and Culture.
- [33] Suyanto, B. (2014), *Economic sociology*, Prenada Media.
- [34] Tri Utomo, Suryo Hapsoro, (2008), *Railway*, Yogyakarta: beta offset.