
1st Muhamah Ali Pahmi
Department of Industrial Engineering
Sekolah Tinggi Teknologi Muhammadiyah Cileungsi
Cileungsi, Bogor, Indonesia 16820
ali.pahmi@sttmcileungsi.ac.id

2nd Miftahul Imtihan
Department of Industrial Engineering
Sekolah Tinggi Teknologi Muhammadiyah Cileungsi
Cileungsi, Bogor, Indonesia 16820

3rd Mujiaro
Department of Mechanical Engineering, Universitas Muhammadiyah Tasikmalaya
Tasikmalaya, Indonesia

Abstract—Over the past few years, the trade war between the US vs. China began to have an impact on the global economy and is predicted to have reached a point of stagnation. When global conditions affect other sectors in Indonesia, it seems the infrastructure is persisting has even tended to increase steadily. In November 2019 China was shocked by the development of a mysterious flu virus that quickly had a fatal impact and spread rapidly. The aims of this research consist of: 1) how the performance of the property sector in Indonesia. 2) their impact of COVID-19 on the property sector and recovery prediction post-COVID-19. The methodology used is both on economic reports, previous studies, financial performance on all Tbk companies, and clustering analysis. Several findings in this research, we found there are 3 clusters in the property sector, and there have been shifting and changes market leaders in terms of equity growth (%). The average growth in equity value is dominated by cluster C, the capital market of the real estate industry was affected by -32% and estimated recovery in Q1 2021.

Keywords—Property, Amidst, Global economic, Covid-19

I. INTRODUCTION

Over the past few years, the trade war between the US vs. China began to have an impact on the global economy and is predicted to have reached a point of stagnation, as well as economic setbacks in Europe, global climate change, and weakening currencies or weakening currencies are some of the factors that cause stagnation. Indonesia is one of the countries affected by global economic stagnation; however, when global conditions affect several industrial sectors in Indonesia, it seems that only the infrastructure sector that is still holding onto even tends to increase steadily, this is in line with the impact of government policies that incurred spending funds to catch up with the infrastructure sector with other countries (especially ASEAN neighbors) so road, port, and airport infrastructure development programs continue to be improved. The target of massive infrastructure development is to further encourage the rate of movement of goods and the community's economy so that it becomes faster and cheaper.

In November 2019 China was horrified by the development of a mysterious flu virus that quickly had a fatal impact and spread rapidly. At least it took more than 4 months for China to recover from the epidemic, ironically the rapid spread of the COVID-19 virus began to infect other countries in the world and spread global terror pandemic. A gradual policy [4] in terms of increasing clean living, limitation of small and large scale social distances such as regional and national [5] scale lockdown is implemented to reduce the spread of this virus. But the affects of this have an impact on global and regional economic growth. Indonesia as one of the countries affected by this virus also affects the national economy. Based on the news in kompas.co.id&katada.co.id in March 2020, the weakening of the rupiah depreciated against the dollar, the decline and revision of the national GDP [7] from initially 5.0% to 5.04% to 4.2% to 4.6%, and that the worst prediction scheme according to the Minister of Finance Sri Mulyani could reach -0.4% to -2.4%. McKinsey (2020)[2] in his analysis states that the impact of COVID-19 on global market capital varies from oil & gas -48%, banking -34% property -20%, to retail -14%, etc. The research questions that become the aims of this research is consist of; first, how many clusters in the property sector in Indonesia. Second, what is the performance of the property sector under crises and stagnation economy in covid-19. Third, what is the impact on COVID-19[8] to the property sector in Indonesia and recovery prediction post-COVID-19. The methodology used in collecting secondary data with limitation of research on the companies, as well as making clustering, mapping, reviewing, and recording all financial statements of Tbk-based property companies. Within the
past 5 years. So we get a clear picture related to the number of clusters and the level of development of the property sector industry in Indonesia during the crisis, and predictions of recovery after COVID-19[9].

II. LITERATURE REVIEW
A. Previous research
The result from the author's search, there have been several studies that have been conducted with themes related to the infrastructure and property sectors such as[10] conduct a study of competitiveness in the infrastructure sector in Indonesia, by conducting M cluster analysis as a basis for analyzing the competitiveness of each company. The findings in this study stated that clustering could change rapidly, other findings were that the competitiveness of the property sector was generally low[11] investigate and describe the challenges and opportunities of the property sector in Indonesia from year to year, and find that the challenges for the Indonesian property sector in general are the factors of limited & rising land prices (land banking), as well as banking factors [7] this research related macro fundamental factors to the property stock price index, providing another perspective on how property stocks are influenced [12] by macro factors. Examining the price perspective on aspects of residential property in Indonesia shows that property characteristics, land ownership status, and advertising methods are all significant indicators of demand prices. Conducted a study of aspects of Land banking aspects of deforestation[13], which concluded that forest destruction did not affect land prices. From some of these studies, it can be seen that the theme of the aspect of reviewing the growth of the property sector during the crisis[4] of economic stagnation and co-19 has not been done, and is the basis of research for the authors.
B. Clustering in Indonesia's industrial sector
Clusters in the industrial sector tend to be unique and may vary from country to country, this is stated based on collaborative research[14] which initiates conceptual thinking that examines other perspectives on the formation of clusters, especially in Indonesia. They provide an overview of the perspective of the formation of clusters in Indonesia and stated in their paper that clusters in Indonesia do not work dependent on certain market shares or special flexibility, but rather clusters tend to be formed due to similar shapes and sizes of companies, exceptions to some of the company's top tiers work in certain different market segments. Which initiates conceptual thinking that examines other perspectives on the formation of clusters[15], especially in Indonesia. They provide an overview of the perspective of the formation of clusters in Indonesia, and in his paper examines industrial clusters [16] based on an algorithmic-based systematic approach[9], and found that his method captures a variety of inter-industry relations, including industrial groupings in the same three-digit NAICS. Revealed three important characteristics to distinguish a cluster: geographical localization, general products (resources, technology), the close links between companies in the cluster[17].

III. METHODOLOGY
The methodology being used in this research consists of four stages: 1st stage is collecting secondary data, mapping, reviewing and recording all financial statements of Tbk. property companies based within the last 5 years. 2nd stage is performing a cluster analysis on data mapping. 3rd stage summarizes and analyzes, and synthesizes so that a conclusion can be drawn. So that a detailed description can be obtained related to the cluster level of industrial development in the property sector in Indonesia. 4th Collect secondary data related to the impact and predictions of sector property recovery after COVID-19.

IV. RESULT AND FINDINGS
A. Impact of the global crisis, regional to Indonesian economies.
China is currently a Global production hub so that any turmoil in this country will affect other countries. Emerging markets, especially in Southeast Asia, predicted become one of the areas with the worst effects of the virus outbreak. Many Southeast Asian countries are highly dependent on China and are also physically at greater risk from wider outbreaks. Estimates the revised growth of the global economy and developed countries between 2019 compared with predictions[18] in 2020 & 2021 as described in Figure 1. Furthermore, McKinsey conducted a study in his survey of 3000 global companies, and predicted the impact of COVID-19 on the global market capital below:
The Economist states that. The coronavirus pandemic will cause Indonesian’s real GDP to increase by only a 1% annual average in 2020[9]. Statista predicts a correction in Indonesian growth between 4.5% - 4.7%, while the Governor of Bank Indonesia revises the projected growth of Indonesia's economy in 2020 from 5.0% - 5.4% percent to 4.2% - 4.6% with the value of the Rp. against the US dollar on Rp. 16,496 (as of April 3, 2020). Finance Minister Sri Mulyani said that it was estimated Indonesia's economic growth would grow 2.3% with the worst-case scenario it could be minus 0.4%.

B. Clustering Analysis

From the data collected from several sources both the JSX and the financial statements of each issuer, there are 56 companies. Operating in Indonesia's property sector companies, from the mapping data that has been collected, we do a clustering by looking at the tendency to form clusters due to the similarity in shape and size of the company based on the 2018 equity value, known that there are 3 clusters namely; Cluster A = 21 Issuers, Cluster B = 20 Issuers and cluster C = 15 Issuers, which work in certain different market segments. As shown in the picture. The following Figure 3.

C. Growth of the industrial sector in the crisis-era 2019

We also analyze the distribution of property projects in Indonesia, from the data we know that West Java is the area with the highest property project growth with a national percentage of 33.06%, whereas if based on the distribution of project types, the high rise const apartment. It is a project that has been built nationally with a percentage of 30%. Whereas if we examine the relative market share of growth in each cluster, the results are described in Figure 4.
From the explanations of some of the figures above, we know that; in cluster A, Issuer ELYT (PT. Bakrieland) with an equity value of Rp. 9.8 T experienced the fastest growth in cluster A with a percentage of 59.6%. Followed by the issuer PWON (PT. PakuwonJati) 19.7%. Far beyond the growth of BSDE cluster leaders (PT. BumiSerpongDamai) by 3.7%; In cluster B, the URBN Issuer (PT. Urban Jakatra Propertindo) with an equity value of Rp. 1.08T experienced the fastest growth in cluster B with a percentage of 302.5%. Followed by issuer POLL (PT. Pollux Properti) 95.5%. Far beyond the growth of SCBD cluster leaders (PT. DanayasaArthatama) by 3.4%. On the other hand; In Cluster C The CITY Issuer (PT. Natura City Dev) cluster C with an equity value of Rp. 0.774 T experienced the fastest growth in cluster C with a percentage of 225.4%. Followed by the issuer LAND (PT. TrimitraPropertindo) 135.2%. Far beyond the growth of COWL cluster leaders (PT. Cowl Development) of 0%; The average growth in equity value is dominated by cluster C, which peaked in 2016 and despite a decline in 2017 but the pace continues to rise in 2018, this indicates that the middle-class segment of the lower class is likely to continue to grow rapidly in the chaotic era of 2019 with an estimated growth of 30% - 39%, cluster C generally targets the types of real estate/land house/housing projects. Conversely, the middle and upper market share in cluster B and cluster A, in particular, showed growth.

D. Impact COVID-19 to the property sector in Indonesia

Based on research conducted[2] [1] recorded more than 380,000 cases that have occurred, with a total global death of more than 16,000 people[19], and has spread to more than 115 countries. Argues that COVID will have an impact on the global economy[1], this is in line with the analysis of several economic observer institutions and consultants such as McKinsey[19], the growth of the industrial sector in the crisis-era COVID-19 is inseparable from global macro influences[9].

Based on the OECD report, in the prediction data above we can see that the sectors related to the needs of human food and clothing are the fastest to recover when compared to the industrial sector which is not the main need. This is clear because needs such as food and drink and personal health care are the most sought after needs when facing a pandemic and lockdown as it is today. Based on a comparison of research studies conducted by two institutions namely EFC Analysis which was adapted by Maxplus Incand McKinsey[19], they predict that;
Based on the McKinsey study[19][2], the capital market of the real estate industry was affected by -32%, while infrastructure fell by around -23%. A study by EFC Analysis states that the construction and real estate industry has the potential to become one of the industry’s potential losers, and is predicted to take a long time to recover, namely the estimated recovery in Q1 2021. Although the prediction is for global economy market capital but based on the writer’s observation, those predictions will not be much different from the situation in Indonesia. To accelerate economic recovery, of course, will depend on how fast Indonesia can recover from this pandemic. Until this day the government of Indonesia has made several policies and economic stimulus to speed up the recovery. And this will need to be supported by other stakeholders such as on the side of the private sector industry, academia, researchers, and the Indonesian community as a whole.

V. CONCLUSION

Based on the results of data collection, studies Analysis and discussion can be concluded several things: 1) From the mapping data that has been collected, we do a clusterization by looking at the tendency to form clusters due to the similarity in shape and size of the company based on the 2018 equity value, there are 3 clusters known as Cluster A, B and C. 2) In those three clusters, there have been shifting and changes market leader in term of equity growth (%) between the cluster leader and it’s a member. And another anomaly finding is that the average growth in equity value is dominated by cluster C, which peaked in 2016 and despite a decline in 2017 but the pace continues to rise in 2018, this indicates that the middle-class segment of the lower class is likely to continue to grow rapidly in the chaotic era of 2019 with an estimated growth of 30% - 39%, cluster C generally targets the types of real estate/land house/housing projects. Conversely, the middle and upper market share in cluster B and cluster A, in particular, slowed growth. 3) Based on the McKinsey study, the capital market of the real estate industry was affected by -32%, while infrastructure fell by around -23%. A study by EFC Analysis states that the construction and real estate industry has the potential to become one of the industry’s potential losers, and is predicted to take a long time to recover, namely the estimated recovery in Q1 2021.

REFERENCES