

COMPETITIVENESS ANALYSIS OF INDUSTRIAL CLUSTER OIL AND GAS WITH SYSTEM DYNAMIC APPROACH IN EAST JAVA

(Case study : Lubricant Industry in East Java)

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Abstract

According to East Java Department of Energy and Resources, East Java has 913.09 MMSTB of oil reserves (ESDM, 2008) which made oil discovery in Cepu only 0.011% of its amount. This numbers shows that East Java is very potential for establishing an industry based on this sector, and because of that industrial subjects, more importantly for the local ones, should optimize this great opportunity .

Oil and Gas Industry has a very important role and strategic position in Indonesia's national development, and therefore a development on this sector should be fully supported by every stakeholders, from supporting industries, society and also government with their policies. Industrial cluster development concept which uses refinery industry as an embryo, and also diagnosing and planning the role, relationship and behaviour of every stakeholder, is a strategic way to enhance competitiveness of Oil and Gas Industry

A thorough identification on system of Oil and Gas industry in East Java will led to a mapping on oil and gas potential region based on industrial subject or value chain activity. In this research focus group discussion is used for colleting the primary data on the current state of oil and gas industry system specifically on lubricant refinery process. Relationship between industrial subjects on Oil and Gas in value chain and stakeholder model for East Java and also in building and enhancing industrial cluster competitive advantage are the results of this research. Analysis on competitiveness by observing model behaviour and relationship of competitiveness variables with Porter's Diamond is used

to identify which factor is significantly influencing in enhancing the competitiveness of Oil and Gas Industry.

Dynamic system used to show relationship between variables and actors of Oil and Gas industry in east java in increasing the competitive advantage of the industrial cluster. The output models is able to show variable's behaviour within a time scope which will show the impact of government policy. A model on Brazilian Oil Company (Competitiveness in The Brazillian Oil Industry The Brazilian "Oil Diamond", 2000) is used as the basic reference for this model building. Model is validated and verificated before being used to simulate the result. From the result of models simulation, government poilcy has not been able to significanttly increase the competitive advantage while the role of supporting industry is very sensitif to the objectives of system which is to enhance the competitiveness of Oil and Gas industrial cluster.

Keywords : Oil and Gas Industrial Cluster, Stakeholder, Value Chain Analysis, Competitiveness Analysis, Dynamic System, Diamond Porter