

# INNOVATION DEVELOPMENT IN THE CONTEXT OF LOCAL COMPETITIVENESS AND GLOBAL MARKET COMPETITION: STUDIES OF MOJOKERTO REGENCY, INDONESIA

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## ABSTRACT

The implementation of local development required to provide more focused and integrated guidance development, and innovation that can be used to enhance the local development progress. The local government should be able to draw up a master plan to develop local competitiveness. The development plan based on local resources become a strategic way to achieve the local development objectives that is the welfare improvement of the local community. The direction of regional development will be clearer with a suitable local development planning. The purpose of this study is to analyse to the implementation of local innovation development strategy which served as an effort to increase local competitiveness in Mojokerto regency. The second purpose is to analyse the innovation development that capable of encouraging the local competitiveness in the regional and global market era. This study employed a qualitative method by using the questionnaires and interviews data collection method. The informants of this research consist of bureaucrats, community leaders, politicians and academics. The result of this research is that the development of local innovation strategies has been effectively implemented. However, it is unable to raise the optimisation of local competitiveness in the regional and global market arena. Therefore, the strategies to encourage the improvement of local competitiveness to compete regionally and globally are still necessary that includes awareness, an improvement, and maintenance.

*Keywords: Innovation, Local Competitiveness, Global market.*

## INTRODUCTION

The success of the development program is primarily determined by the development management that has been executed. Starting from planning, implementation, evaluation and its follow-up. In a sense that if there had been mismanagement in one of the development management stages, failing to achieve the development goals. Accordingly, the principles of prudence and precision are needed in the process of development management. Nevertheless, empirically, limitations in the development management process are still frequently encountered and became the main obstacle in achieving development goals. This is reflected in the failure to achieve the success indicators in local and national development from year to year. Since that in improving the competitiveness both on a national and regional scale are one of an indicator of

the successful development goal which then able to improve the community welfare and capable of facing the demands of the dynamic in the global era competition.

From the global competition index, it shows that Indonesia's competitiveness among 148 countries is still relatively low, as shown in table 1 below.

**Table 1: Global Competitiveness Index of Asia-Pacific Countries 2019**

Country	2018 Rank	2019 Rank
Singapore	2	1
Hong Kong	7	3
Japan	5	6
Taiwan	13	12
South Korea	15	13
Australia	14	16
New Zealand	18	19
Malaysia	25	27
China	28	28
Thailand	38	40
Indonesia	45	50
Brunei	62	56
Philippines	56	64
Vietnam	77	67
India	58	68

(Source: WEF, 2019)

The competitiveness indicators also can be seen from the convenience level in doing business, which Indonesia is still far behind from China, Vietnam, Philippines and Papua New Guinea. In 2018, Indonesia ranked 73 in this aspect, rising from the year 2014, which was ranked 120. This rating is far below from other Asian countries in 2018. For instance, Malaysia was ranked 15, Thailand 27, Brunei 55, and Singapore 2. It is shown that Indonesia should immediately improve in all sectors to increase competitiveness.

Among several successful development indicators, local and national competitiveness can be seen as a strategic entry point that capable of boosting economic growth, which in turn, it will improve the community welfare. By increasing the competitiveness of the local economy, the level of social welfare is expected to be better. It opens up various opportunities and able to resolve the problem of local development effectively and efficiently. In this matter, local governments should be able to formulate a grand design for local competitiveness enhancement in their respective regions.

However, not all local governments in Indonesia are able to understand the nature of local autonomy. In a sense that developing the economic potential is the most strategic choice to increase the economic growth and social welfare in the regions. Through proper planning, the direction of regional development will be more precise and distinct. Nonetheless, there are still many obstacles encountered during the planning process and implementation of the local development programs, which failed in achieving the development goals. In order to accelerate economic growth and social welfare, several local governments in Indonesia strive to develop innovations in various aspects such as doing local product innovation, improve the public service, and innovation in public policy.

One of the districts in East Java called Mojokerto regency to become one of the successful districts in increasing their community welfare. Mojokerto was awarded by autonomy award for

the category of economic development in 2015, which the economic growth in Mojokerto reached 6.92%, this percentage even exceeds the achievement level in East Java province that slightly below Mojokerto with 6.55%. Moreover, the outstanding achievement is when Mojokerto crowned as the best version of Indonesia's Attractiveness Awards 2015, that achieved a total index of 84.43, above other regencies in Indonesia such as Bandung (83.14), Bekasi (82.79), and Sidoarjo (82.20) ([http://www.indonesiaattractiveness-award.com/the\\_winner.html](http://www.indonesiaattractiveness-award.com/the_winner.html)). That achievement is certainly not obtained instantaneously, but it requires a long process, a strong commitment and hard working.

This case in Mojokerto become an interesting thing to study. It is because other local governments failed in developing their economic growth through the creation of innovations, yet, Mojokerto has proved its success. Furthermore, other aspects that need to be further explored is whether the economic growth has been successfully scaled in Mojokerto regency were driven by innovation the policies that initiated by the local government, or because of the external factors that incidentally brought positive influence on the economy of Mojokerto Regency. Despite these questions, it still can be said that Mojokerto governments quite successful in developing economic innovation as Indonesia's Attractiveness Awards description above. Therefore, this paper analyses explicitly to what extent the implementation of local innovation system run effectively as an effort to increase the local competitiveness in Mojokerto regency.

## **LOCAL COMPETITIVENESS AND INNOVATION SYSTEM**

In the era of local autonomy, the local government has full authority to carry out the mission of developing the potential of the region and fulfil the needs of their local community. Society welfare is one success indicator of local and national development. Moreover, entering the global competition era, the challenge at both national and local governments increasingly severe. The government does not just have to build the public confidence that increasingly faded, but also has to create the innovations in order to raise the value of the local competitiveness both nationally and internationally.

The World Economic Forum (2019) broadly defines competitiveness as 'the ability of a country to achieve the sustained high rates of GDP growth.' While, from the International Institute for Management Development (IMD) define the competitiveness as the country's capability to create added value which results in increasing the national wealth through managing assets and processes, attractiveness and aggressiveness, globality and proximity, and by integrating these relationships into an economic and social model. Furthermore, according to Huggins (2003) in the publication of 'UK Competitiveness Index,' defines regional competitiveness as "the ability of the economy to attract and retain companies in stable condition by increasing the market share within its activities to maintain or improve the living standards for the people involved." Therefore, high local competitiveness showed an increase in per capita income and more extensive employment for local communities which due to the stable and attractive economic conditions for investors to do their business in the regions.

Policymakers have widely recognised the crucial role of innovation in improving competitiveness by increasing productivity, economic growth and the living standard. As Michael E. Porter wrote in 1999:

*"No advanced economy can maintain high wages and living standards, and hold its own in global markets, by producing standard products using standard methods. In a rapidly integrating world economy where lower-wage developing countries are quickly improving their skills and can access today's technology, U.S. prosperity depends on whether we can*

*remain a moving target. We must continually improve our ability to identify and commercialise new products, services, and processes. Those must be high-value (even unique) to yield the productivity growth needed to generate profits and support high-wage jobs”.*

Innovation as a new idea is applied to initiate the improvement of a product or process and services (Robbins, 1994). In parallels with Rogers’s argument, he offered the following definition that “*An innovation is an idea, practice, or project that is perceived as new by an individual or another unit of adoption*” (Rogers, 2003). Innovation in the public sector is also part of the efforts to reform public administration and bureaucracy, where such reform needs to be immediately implemented to improve bureaucracy performance, especially in the public service field. The reformation is a manifestation of the creative response from the government to fix the causes of low competitiveness in Indonesia at the global level, i.e., bureaucratic inefficiency and corruption.

In order the innovation can be implemented effectively, it must be designed comprehensively (Astuti and Prasetyono, 2015). Subsequently, it will encourage the growth of local economies and improve community welfare. This process required a comprehensive innovation development strategy or local innovation system that integrated within the local development planning. The innovation system is the term used by scholars and policymakers to describe the emerging scientific and technological structures and processes that influence the economic development (Freeman, 1987; Lundvall, 1992; Nelson, 1993; Uriona at all, 2012). Furthermore, it is also defined as an element and relationships that interact with each other to produce, diffuse and use the new knowledge as well as bring economic benefit (Lundvall, 1992). In another section, Lundvall also said that innovation system is a social system in which learning, searching, and extracting or exploring are the main activities that involve interaction between people and the knowledge reproduction both individually or collectively through remembering the process. While according to Edquist (2001), the innovation system is an overall economic, social, political, and organisational factors that influence the development, diffusion and the use of innovation.

Various innovations have been developed. However, it is not being followed up by government policy. The prove is that the new findings from various research and development institutions that intended to solve the real economic and social development problems were unsuccessfully adopted and implemented. The reason because there is no comprehensive innovation system that able to integrate various economic, social, political and technological factors which contribute to the development of a systematic and problem-solving innovation-oriented. Notwithstanding, some head of regions (governor/ regent/ mayor) have succeeded in encouraging local innovation, to resolve economic and social problems for the local community. Thus, it can increase the local economic growth to be more competitive like in the Mojokerto regency, East Java that succeed in local development

## **METHODOLOGY**

According to Lundvall (1992) and Edquist (2001), this study focused on the environmental factors that influence the development, the diffusion process, and the use of innovation. This study employed a qualitative research approach with questionnaires, focused group discussion and interviews involving various informants such as bureaucrats, community leaders, politicians and academicians as its data collection methods. The success of the development program is primarily determined by the development management that has been done —

starting from planning, implementation, evaluation and follow-up evaluation. This research used the interactive analytical method, stated by Miles and Huberman (1992), which consists of data reduction, data presentation and conclusion.

## **PUBLIC SERVICE INNOVATIONS IN MOJOKERTO REGENCY**

The stigma of public service that always slow and convoluted is hard to remove. Consequently, the reformation to restore public trust in government are necessary. The most notable achievement of the Mojokerto regency government is innovation in public services. There are three examples of Mojokerto's innovation in public services.

First, innovation on license or permit arrangement through the Integrated Licensing and Investment Agency that launched in 2015. This program has provided 50% discount for people who apply for the tax penalty exemption in building permit or occupancy permit. The mandatory requirements for the discount on the tax penalty are easy. The society needs to fill out the form (including the approval of neighbours and data validity letters), a certificate or proof of land ownership, photocopy of applicants' ID card, maps and pictures of the building plans situation, as well as the attorney power if represented. In relation to building permit, they also serve the commercialisation, services business license or business permits, investment registration, as well as the land-use area permit service. Then, the sub-services provided for industry and commerce also include the Disturbance Permit, Trade Permit, Company Registration, Industrial Business License and Modern Store Permit. Besides that, for business services, there are several types of business license services, such as in the field of health, tourism, media, billboards, underground water drilling, and groundwater wells utilisation.

Another breakthrough or innovation that has been made is a partnership program between the office of Integrated Licensing and Investment Agency with the Social Security Agency. The purpose of this integration is that when the people have submitted their business license, at the same time and place, they could receive some information regarding social security and health insurance and apply for it. Moreover, for integrated licensing service, it can be done quickly and easily, where the registration form can be downloaded from the official website of integrated licensing and investment agency office ([mojokertokab.go.id](http://mojokertokab.go.id), 2015). This kind of integration makes the public service more efficient and effective.

Second, in the tourism sector. Mojokerto regency government has built 'Kampung Majapahit' or Majapahit Village as an effort to maximise the authentic tourism potential. This project was initiated by the East Java Province Government and Mojokerto regency government. The program succeeded in realising the construction of 94 houses in the Bejijong village, 21 houses in the Sentonorejo village and 22 houses in the Jatipasar village. The project started in 2014 until 2015 with a total cost of 10.6 billion rupiahs and continued in 2016. According to the Chairman of the Majapahit Kampung Project Management Team Desa Bejijong, Samsul Arifin:

*"Kampung Majapahit served as supporting facilities for several archaeological sites that have become a tourist destination in the Bejijong village. After it completed, the tourists could stay or stop at the homes of Majapahit" (in-depth interview, Januari, 2015).*

The Mojopahit village rehabilitation project is expected to generate income since it served as the tourism object. The realisation of this project can be seen from an increase in the local government revenues from year to year. For instance, in 2013, local revenues from the tourism sector reached 4.6 billion and in 2014 increased to 5.1 billion rupiahs (Central Bureau of Statistics, 2017).

The third is "*Community Resource-Based Activities for Public Health Effort*." This innovation is an attempt or process to raise awareness in the community willingness and ability in order to know, overcome, to preserve, protecting, as well as to improve their welfare. Those activities are arranged under the name "twenty primary healthcare service held by and for the community assisted by the health workers." Those twenty activities are consists of basic health care service, creative corner for the basic health, independent program funds for health, nutrition corner for the babies health, pregnant women classes, maternity service planning program and its complications' prevention, baby spa service, space for toddlers dolls and toys, vegetables gardens for infants and children, and healthy pond fish for children under five years old. The other facilities are a healthy tavern, gardens of families medicinal plants, flickering mosquitoes monitoring, consultation for "sakinah" family, family communities in children caring, parenting creative corner for grandmother, services for the elderly, as well as a youth group in elderly care, and so on.

### **THE INNOVATION SYSTEM**

Innovation policy that runs comprehensively as well as the collaboration among development actors is a key factor in improving the competitiveness of the local and national levels. Development of the local innovation system is one of the main strategies in the national innovation system that embodies the process of strengthening the interaction between components of the innovation system. Innovation system emphasises the importance of ongoing interaction between many processes where all these processes run in parallel and reinforce one another through a positive feedback mechanism. If this type of feedback is ignored, whether by policymakers or by the employer, then it is likely to cause a failure in the innovation process in the entire system (Suurs, 2009).

### **POLICY ENVIRONMENT FACTORS**

The policy environment in the broadest sense is included economic, social, political and organisational factors that influence the process of policy formulation and become a key driver for the effectiveness of policies implementation. An environment which related to the effect of policy implementation (context of the policy) is consists of sufficient resources, power and commitment of the actors involved.

The most important resources from the local government side are the financial resources, competent personnel and leadership commitment. Financial resources in Mojokerto district has increased every year. Since 2012 the budget revenue was around 1,331 trillion, while in 2013, it increases to 1,498 trillion. The revenue continues to rise in 2014, about 1,893 trillion, then in 2015 becomes 2,120 trillion (there 41% increased from 2014). This increasing trend indicates that Mojokerto has sufficient financial resource to finance various innovations breakthrough. Moreover, in terms of personnel/official resources, Mojokerto government continuously improve their staff professionalism through various strategies such as training, continue the education, held seminars and conferences, as well as conducting study visit to other areas which are considered successful and can be an example to increase the welfare and public services. Whereas, power is connected to the local government's authority to regulate and define their regional development policies as local priorities. In local development planning policy, it is clear that the local government commitment is high in continuing the variety development of public services and public policy innovation. The achievement of Mojokerto government cannot be separated from the leader's commitment over the last few years, particularly in the era of Mustafa Kemal Passa Regent and Choirun Nisa as the Vice Regent (2010-2015). The evidence that

the public services innovations and policies carried out consistently and continuously in the last few years is shown in the following statement:

*“Affirming the commitment of the service providers in improving the quality of public services, creating innovative services, add-setting service standards (SPP), an increase the number of recipients ISO 9001: 2008, complaints resolution services, information technology development and the establishment of public service quality improvement team” ( interview, Juni 2017).*

Because of its strong leadership commitment, Mojokerto was awarded as *"Indonesia Attractiveness Index"* that the assessment is based on four criteria which consist of the investment climate, public services, infrastructure, and tourism. Furthermore, Mojokerto also earned as the best district in Indonesia with the highest index 84.43 in relation to the progress of regional competitiveness for investment, infrastructure availability, tourism improvement and public services satisfaction. In addition, at the East Java Province level, Mojokerto has successfully defeated other districts, such as Sidoarjo, Banyuwangi, Malang, Gresik, Jember and Tuban. The stigma about public service which was known to be difficult and complicated will be transformed through Mojokerto government efforts that prioritise the people as the main focus of the public service implementation. This is able to influence the public satisfaction, which served as one of the local progress indicators.

## **DIFFUSION OF INNOVATIONS**

The success of an innovation is also determined by its diffusion process, which means that how innovation is communicated through some specific channels over time among particular community groups (Rogers, 2003). One stage in the innovation process diffusion that is the development of a social network or social system which involves all the stakeholders. While the meaning of the social system itself is a set of different functional units and bonded to solve the problems in order to achieve the shared goals (Rogers, 2003).

One of the successful innovation factors in Mojokerto is because of the support of all stakeholders, especially the community. Such as an innovation in the health aspect called *"Community Resource-Based Activities for Public Health Effort"* served as the most successful innovation programs among other innovative programs in Indonesia since that the local community fully supports it. Mojokerto regency government has conducted a series of approaches and technical policy in order to encourage such innovation. The approach used by the local government are 1) community based, placing the community as decision-maker and responsible for activities performed in the program; 2) participatory, involving all parties in the community or stakeholders; 3) gender equality, offer the opportunity to anyone, men and women in every decision-making, programs' implementation and evaluation; 4) sustainability, the changes in healthy behaviours and the availability of supporting infrastructure and facilities in order to provide benefits, so the program is considered to be continued to achieve the expected quality of life; 5) transparency and accountability, that the program was conducted in an open, reliable, accurate and accountable way (mojokerto.go.id, 2017).

In the other hand, the technical policies that support the diffusion of innovation, among others are the training for officers, agents of change and some community cadres to run the public health service called *"Posyandu,"* assisted by health workers. The next process is strengthening cooperation among stakeholders to contribute to the sustainability of this program. Each party has an equal and important role which intertwined with each other in order to form a particular social system. Through this formation, the innovation program will be

internalised within the routine activities that become an integral part of this social system. For example, integrated health service is served as the most effective form of community development programs. As it grows, the true cadres are required to be more proactive in the organisation, which expected that they would be more productive in generating great ideas for the community benefit. It proved by the health cadres within communities in Mojokerto regency. They have demonstrated active participation that able to generate twenty innovation programs which beneficial in improving the community health, particularly for mothers and children.

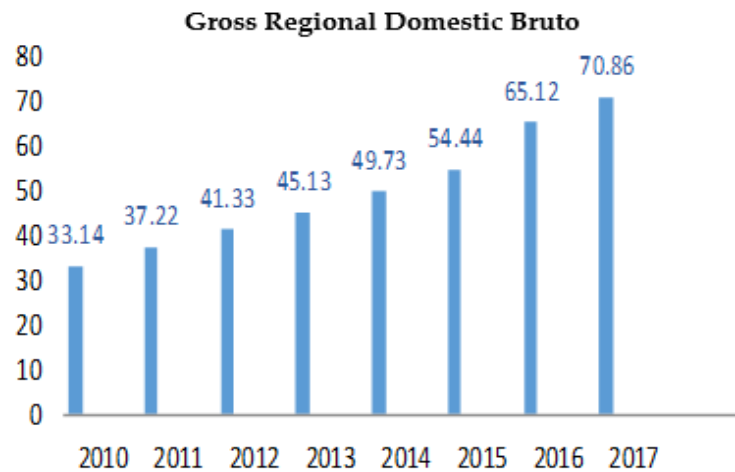
In order to strengthen the social system to support the diffusion of the innovation process, Mojokerto regents also create a mechanism for direct communication with rural communities called "sambang desa" (village visitation). Visiting the village is served as a means to communicate in order for the government to understand their public aspirations and to know directly the problems faced by each village. The regent said that: "*With a direct dialogue with the people, we get to know what people need, in order to prepare the future development programs that in line with community expectations and necessity*" (in-depth interview, February 2017).

## **THE IMPLEMENTATION OF INNOVATIONS AND ITS IMPLICATION TO THE LOCAL COMPETITIVENESS**

The diffusion of innovations also needs to be balanced with good communication to the whole apparatus service personnel and the ability to implement the innovation program. This communication is not limited to the process of delivering the message alone but refer to all the actions that have the communication potential, such as the officers' performance in conveying or apprehend the public interest. It is included in the intellectual capital which invisible (intangible). These intangible factors will be perfect by adding the supporting aspect of visible (tangible) factors—for instance, the existence of conducive agencies in terms of public acceptance, spatial arrangement and orderliness. Public services Innovation in Mojokerto district is trying to combine these two interests. The example of this is within the innovation applied in the Integrated Licensing Services Office. The combining of tangible and intangible factors can be seen on the individual counselling or complaints room arrangements which able to assist the mediation and provide problem solution through two-way communication method between the service workers and the community as a user. This approach was done solely to fulfil the community demands to receive better public services from year to year and the public start to aware of their rights as governments constituent.

The implications of innovation policies in various aspects, ranging from the increase in licensing services with an integrated system, tax penalty exemption on building permit or occupancy permit, the development of Majapahit village as an efforts to maximising the potential of authentic tourism attraction, and the community innovation based in health care efforts has had a positive impact for the business climate and its industry. This makes Mojokerto attract the investor's interest both from foreign and domestic investments. In 2014, for example, the number of foreign investors amounted to 38, which able to absorb a total of 5,478 workers. There also 18 domestic investors that employ 1,483 people. Later, in 2015, the level of investment in Mojokerto was ranked fifth out of 33 number of counties/cities in East Java province (Capital Investment Coordinating Agency of Mojokerto, 2017). In addition, Mojokerto regency realised its 6.36% economic growth in 2014, while the Human Development Index is 73.83 (upper-middle class). It is in parallel with Mojokerto Gross Regional Domestic Product (GRDP) that increases every year, which portray that the public welfare has improved from year to year.





**Figure 1. Per Capita GRDP of Mojokerto Regency (Million Rp) 2010-2016**  
(Source: Statistical Center Bureau, 2017)

The wide range of innovative services, in particular, the licensing service has brought positive implications for the development of a business climate in Mojokerto regency. It attracts a higher interest for the investors to start a business. There are more than fifty companies have opened factories in Ngoro Industrial Park. Moreover, the large-scale enterprises, small and medium business actors also continue to grow and improve their competitiveness not only in the national scope market but also in regional and international markets. Some small and medium industries possess high potential for export products are the industry of shoes, bags, and purses, handcrafted silver, brass castings which their products successfully marketed in various countries such as in Europe, Saudi Arabia, and other Asian countries. The development of the business climate brought a positive impact on the level of community welfare that reflected in declining numbers in the income gap that is 0,28 in 2012 and 2013 to 0,27 in 2014. Finally, in 2015, Mojokerto regency government was awarded as the best district by Indonesia's attractiveness Index, based on four assessment criteria, those are investment, public services, infrastructure, and tourism.

## CONCLUSION

The increase of local and national competitiveness served as the primary mission of the development in Indonesia for decades since the government lack of attention to it. Indonesia still lags compared to the neighbour countries, particularly in terms of the convenience in doing the business, which then inhibits the business and investment climate within the country. Therefore, national and local governments are required to be severe and quick to catch up with the various innovative strategies development and formulate the policies that support the implementation of such innovations. Since the last few years after the Reformation era, national and local governments began to develop policies which aim to encourage the development of business and investment climate in Indonesia. In line with the government policy to increase national and local competitiveness, the Ministry of State Apparatus Empowerment and Bureaucratic Reform has issued a policy called one agency-one innovation to improve the community welfare and encourage the investment climate.

However, in order for that innovation to be implemented effectively, there is need to build the innovation systems that institutionalise innovation within the community. An effective innovation system is strongly influenced by the degree of involvement of each element in the

social system and the knowledge transfer process among them. So, the innovation can be understood, executed, evaluated and developed by themselves. The results of this study show how the innovation system development had an impact on improving the local competitiveness, not only at the national level but also in the global market. The innovation system was reviewed from environmental policy, the diffusion of innovation, and the implementation of innovation which connected with the indicators of competitiveness that successfully achieved in Mojokerto regency.

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## REFERENCES

- Astuti, SJW. & Prasetyono, DW. (2015), *Inovation Development To Increase Local Competitiveness*, paper presented on IAPA International Conference at Unima Tondano, September 27-29.
- Edquist. (2001), *The Systems of Innovation Approach and Innovation Policy: An account of the state of the art*, available at [http://www.druid.dk/uploads/tx\\_picturedb/ds2001-178](http://www.druid.dk/uploads/tx_picturedb/ds2001-178)
- Freeman, C. (1987), *Technology Policy and Economic Performance*, Pinter, London.
- Huggins, R. (2003), *Creating UK Competitiveness Index: Regional and Local Benchmarking*, *Regional Studies*, Vol. 37.1, pp. 89-96.
- Indonesia's Attractiveness Awards* available at [http://www.indonesiaattractiveness-award.com/the\\_winner.html](http://www.indonesiaattractiveness-award.com/the_winner.html).
- Lundvall, B.A. (ed.). (1992). *National Innovation Systems: Towards a Theory of Innovation and Interactive Learning*. London. Pinter Publishers.
- Miles, B. M. & Huberman M. (1992). *Analisis Data Kualitatif Buku Sumber Tentang Metode-metode Baru*. Jakarta: UIP.
- Nelson, R., (ed). (1993). *National Innovation Systems: A Comparative Analysis*. New York (NY): Oxford University Press.
- Porte, M. E. (1990), *The Competitive Advantage of Nation*, The free Press, New York.
- Maldonado, U.M., Pietrobon R., Varvakis G. & Carvalho E.(2012), *A Preliminary Model of Innovation Systems*, [www.systemdynamics.org/conferences/](http://www.systemdynamics.org/conferences/).
- Robbins, S. (1994), *Managing Organisations New Challenges And Perspectives*, Prentice-Hall, UK Available at [http://library.itltrisakti.ac.id/opac/index.php?p=show\\_detail&id=6486](http://library.itltrisakti.ac.id/opac/index.php?p=show_detail&id=6486)
- Rogers, E. M. (2003). *Diffusions of Innovations*, Fifth Edition. Simon & Schuster Publisher.
- Statistical Center Bureau of Mojokerto Regency. (2017), *Mojokerto In Figures*, available at <https://mojokertokab.bps.go.id>.
- Suurs, R.A.A. (2009), *Motors of Sustainable Innovation: Towards a Theory on the Dynamics of Technological Innovation Systems*. Utrecht University. Utrecht. <http://igitur-archive.library.uu.nl/dissertations/2009-0318-201903/suurs.pdf>.
- World Economic Forum* (2019), available <https://asia.nikkei.com/Economy/Singapore-overtakes-the-US-as-world-s-most-competitive-economy>, <http://www.indonesiaattractiveness-award.com/thewinner.html>