Toward Inclusive Development Through Smart Economy in Malang Regency

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Abstract. The concept of smart economy is used as an innovation in the economic field based on industry 4.0 and uses a different network system. Bakici*et al.* (2013) said smart economy includes several points of discussion including the formation of innovation clusters, mutual cooperation between companies, research institutions, and citizens whose role is to develop and promote innovation through the concept of smart economy [1]. Furthermore, the concept of smart economy is used as a form of sustainable economy, by using several definitions and / or other terms such as "Green Economy" and "Green Industry".They are used to describe effective economics in a more modern way. UNEP defines the Green Economy as an economy that can produce "improved human welfare and social justice, and can significantly reduce the risk of environmental and ecological damage" [2]. The industry's revolutionary 4.0 Era, which has become a major issue throughout the world, has encouraged Malang Regency to play an active role in regional management using a citizen centric approach. These dimensions are divided into two fundamental considerations, namely the process of innovation, and the ability of competitiveness that is useful for improving the regional economy better and smarter. Based on the issue of economic challenges that occur in Malang Regency, smart economy as a part of smart city element is the focus that will be developed. It consists of 3 (three) important fields including: enterprise and innovation, productivity, then local and interconnectedness.

1. Introduction

The term Industry 4.0 was born from the idea of the fourth industrial revolution marked by the rapid development of sensor technology, interconnection, data digitalization, and data analysis to integrate all these technologies into various industrial fields [3]. The impact of Industry 4.0 also entered the realm of the Indonesian government, even those in the regions since the Industry 4.0 provides a great opportunity to streamline the function and role of government organizations in carrying out their duties [4]. Moreover, the currently centralised policies provide flexibility for local governments to create and develop extensive innovations. Local governments in this case represented by each Local Government Organisation (*Organisasi Perangkat Daerah*, OPD), are faced with the demand to adapt and accelerate the emergence of efficient and effective services. For example, with rapid IT development it can be an opportunity to accelerate e-governance implementation, digitizing data and

information such as: e-budgeting, e-project planning, system delivery, administration, e-controlling, e-reporting to e-monev, and other custom applications. In this series of digital information and communication platforms, it will be more efficient and effective if the system built can integrate with one another [4].

The management of economic resources in a region of a country or region (district / city) has now been faced with the demands of innovation to realize efficiency and effectiveness. The ever expanding flow of globalization, accompanied by increasingly sophisticated technological developments in the industrial revolution era 4.0, has led to the emergence of the digital economy era, artificial intelligence, big data, robotics, and the like, as a new phenomenon of disruptive innovation. Today, business contestation is not only limited to the scope of resource allocation for profit but also innovation, competitive ability, and the use of technology, information, and communication (internet of things) [5].

Malang Regency Government covers the areas that have 5 (five) elements of business development services in the current digital era. Government service providers consist of various OPD that have digital-based services, both with their own governance system (Figure 1), and which are managed based on synergies with the Provincial Government, Central Government and Bank Indonesia programs, such as: Information Center for Strategic Food Prices (PIHPS) and (Information System for Availability and Development of Prices of Basic Commodities in East Java (SISKA PERBAPO) [6].
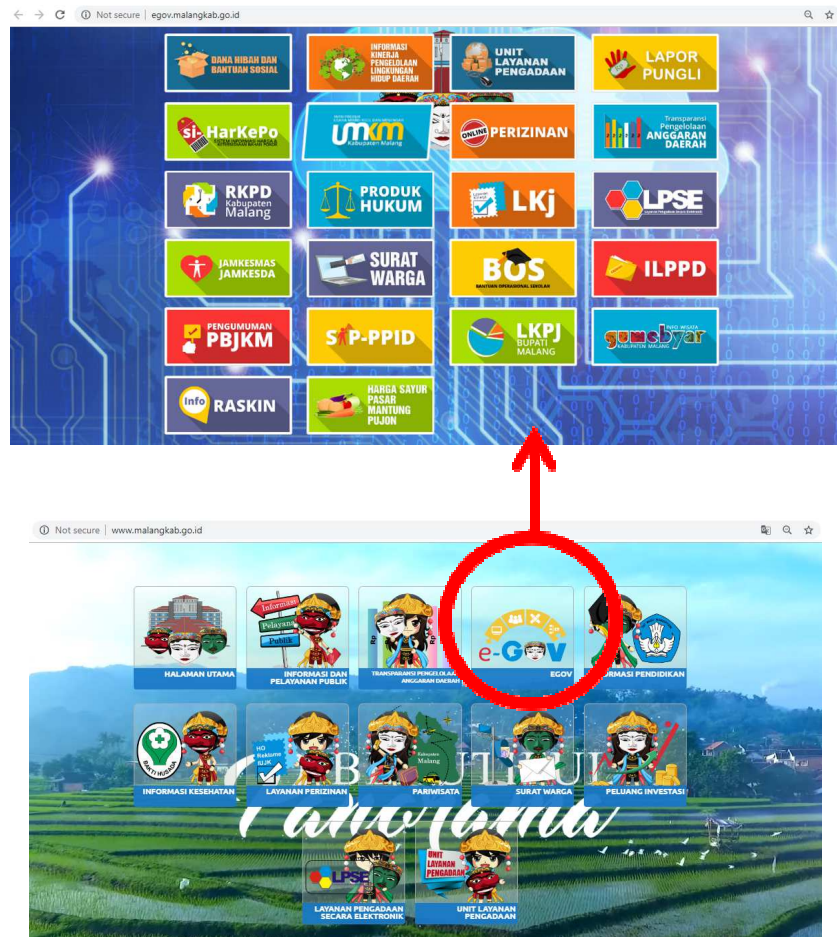

Figure 1. The Digital-Based Government Service System Applied in Malang Regency
Source: http://www.malangkab.go.id/

Based on Figure 1, Malang Regency has tried to access government services by utilizing website-based digital media, especially for e-government services, in which there are 18 service menu items that are displayed attractively. However, it is truly unfortunate that there is a fundamental weakness in the implementation of the government's digital-based website services. First, the system built in it does not yet have a road map that is integrated between one service and another. Second, the parties (OPD) have not made an open system that allows data integration and decision making that is right for policy makers. Third, the form of basic capital in the form of existing digital services has not been managed and developed continuously by the government. Therefore, it is necessary to make the development of digital services that are mutually integrated and sustainable in order to be efficient and effective.

2. Method

The research method used in this study is a mix-method approach, which is a combination of qualitative and quantitative research in exploring the potential implementation of smart economy in Malang City. The reason for using the Mix-method approach is being able to optimize studies in obtaining answers to the potential implementation of an innovation in an area [7] [8] [9]. Furthermore, Bryman (1998) suggests there is strong reason, the mix-method approach can optimize the answers to a problem statement in the study, namely Qualitative and quantitative are given balance substances [10].

Mapping the smart economy potential in Malang Regency in this paper adopt from Bruneckiene and Sinkiene (2014) with the following indicators:

1. Building a competitive industrial ecosystem (industry) through certain industry leading sectors that are integrated between primary industries (e.g. agriculture, fisheries, livestock and others), secondary industries (e.g. manufacturing, processing, packaging, etc.), and tertiary industries (e.g. regional product markets);
2. Realizing people's welfare, by: (a) developing a program to improve people's welfare through increasing household income; (b) program to increase employment absorption; (c) community economic empowerment program;
3. Building an ecosystem of financial transactions by: (a) building an ecosystem of digital financial transactions to ensure smooth payments to the public having less cash; (b) realizing a bankable society with access to capital, and; (3) realizing the digital economy ecosystem by encouraging the e-commerce industry and market place. [11]

3. Results and Discussions

Considering, the number of population in Malang Regency each year continues to grow, so that it raises a variety of complex interests. The concept of a smart city (smart city) which has become a major issue throughout the world, encourages Malang Regency to encourage active management in the area using centric citizens.
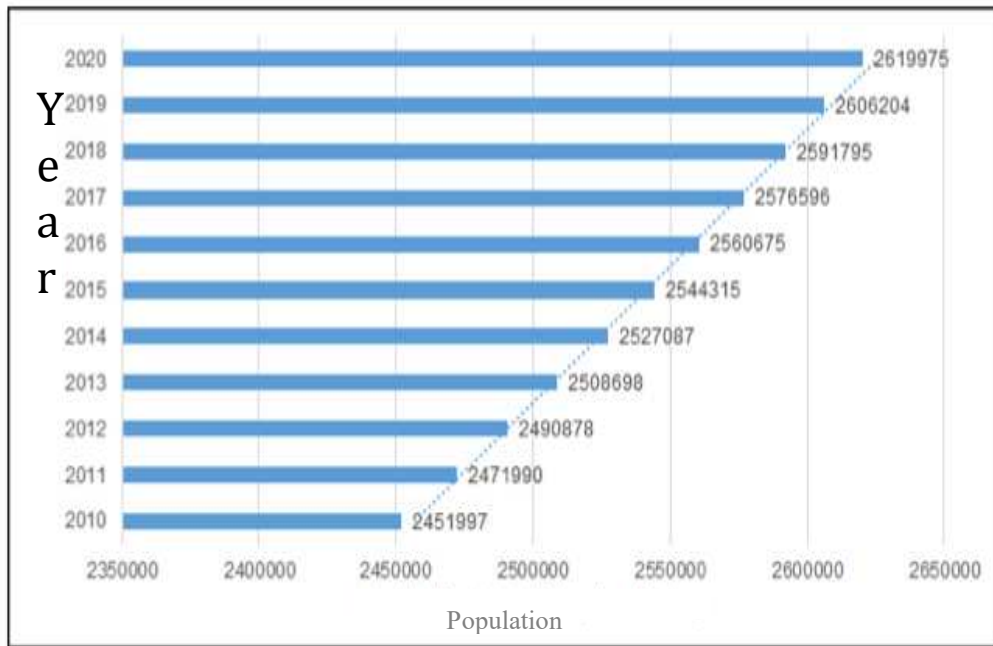
Figure 2. The Growth of Population in Malang Regency

Source: Malang Regency Bureau of Statistics, 2018 [12]

One dimension of smart city that is currently a concern in Malang Regency is the dimension of the smart economy. These dimensions are divided into two fundamental considerations, namely the process of innovation, and competitiveness that is useful for improving the regional economy in a better and smarter way. The focus on the dimensions of the smart economy is also inseparable from the issue of strategic economic challenges that have occurred in the Regency in recent years.

First, the trend of declining growth trends and dynamic (unstable) price fluctuations (inflation).
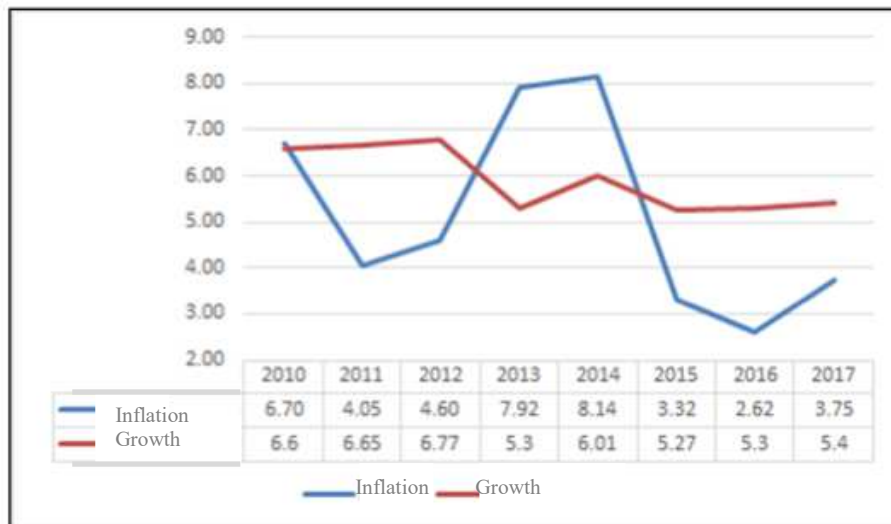

	2010	2011	2012	2013	2014	2015	2016	2017
Inflation	6.70	4.05	4.60	7.92	8.14	3.32	2.62	3.75
Growth	6.6	6.65	6.77	5.3	6.01	5.27	5.3	5.4

Figure 3. The Economic Growth and Inflation in Malang Regency

Source: Malang Regency Bureau of Statistics, 2018 [12]

Second, the inconsistency of efforts to reduce income inequality that occurred in Malang Regency
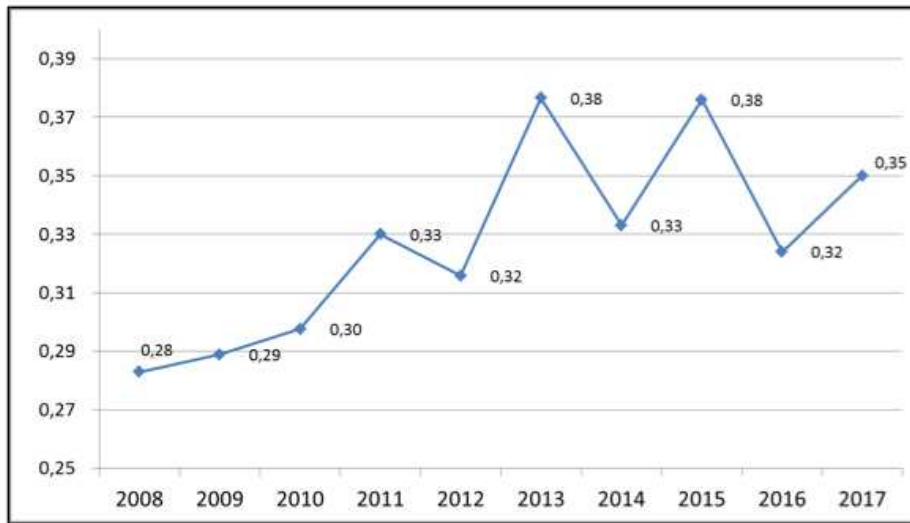

Figure 4. Gini Ratio in Malang Regency

Source: Malang Regency Bureau of Statistics, 2018 [12]

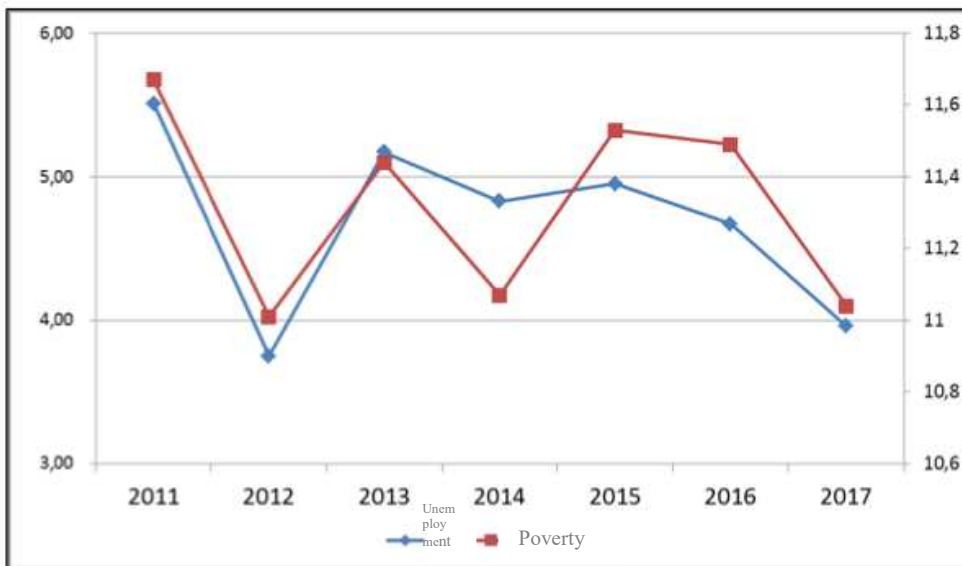Third, the level of unemployment and poverty are inconsistent and still quite high.

Figure 5. Unemployement and Poverty in Malang Regency

Source: Malang Regency Bureau of Statistics, 2018 [12]

Based on the issue of economic challenges that occur in Malang Regency, the smart economy as part of the smart city element is the focus that will be developed. Consisting of three (3) important fields including: enterprise and innovation, productivity, and local and interconnectedness. These three fields are substantial pillars for forming the smart economy going forward. Then the Indonesian Ministry of Communication and information interpreted these three things into the Indonesian context into three elements including: (1) industrial ecosystems; (2) improving community welfare, and; (3)

financial transaction ecosystem. This is intended to realize economic ecosystems in regions that are able to meet challenges in a disruptive information era and demand a rapid level of adaptation at this time. Afterwards, the smart economy Malang Regcncy can be formulated detailed to be

A. Building a Competitive Industrial Ecosystem (Industry)
- Building regional industry competitiveness in certain industry leading sectors that are integrated between primary industries (eg agriculture, fisheries, livestock, etc.), secondary industries (eg manufacturing, processing, packaging, etc.), and tertiary industries (eg regional product markets tourism services).

B. Realizing People's Welfare (Welfare)
- Developing community welfare improvement programs through increasing household income (income)
- Program to increase employment absorption
- Community economic empowerment program (empowerment).

C. Building a Financial Transaction Ecosystem (Transaction)
- Building an ecosystem of digital financial transactions to ensure smooth payments to the public that are less cash
- Realizing a bankable society and having access to capital
- Realizing the digital economy ecosystem by encouraging the e-commerce industry and market place

Furthermore, Malang Regency, has substantially encouraged their citizens to succeed in the context of the three smart economy elements compiled by the Indonesian Ministry of Communication and Information. In addition to the development of web digitization-based services, the Malang Regency Government has conducted: the implementation of price control and the Regional Inflation Control Team (Tim Pengendali Inflasi Daerah, TPID), access and financial literacy and Team for Accelerating Regional Financial Access (Tim Percepatan Akses Keuangan Daerah, TPAKD), tourism development based on e-tourism, e-commerce chosen by the citizens independently and directly for business development in various platforms, and so on.

Smart Economy Mapping in Malang Regency has a direction to develop three main fields including: (1) Trade as a form of realizing welfare of the people; (2) Investments which contain the ecosystem of financial transactions, and; (3) Industries through the realization of industrial competitiveness in industrial ecosystems. Meanwhile, the basis brought as the fundamental concept can be seen in terms of enterprise and innovation which means promoting innovation-based business development, roductivity that means increasing production capacity effectively and efficiently, and local and interconnectedness that are oriented on the synergy of information connection in a bottom up manner. The three main fields have designed developed thinking from various platformsconsisting of 6 (six) core program activities, which will later become a special dashboard (Figure 6).
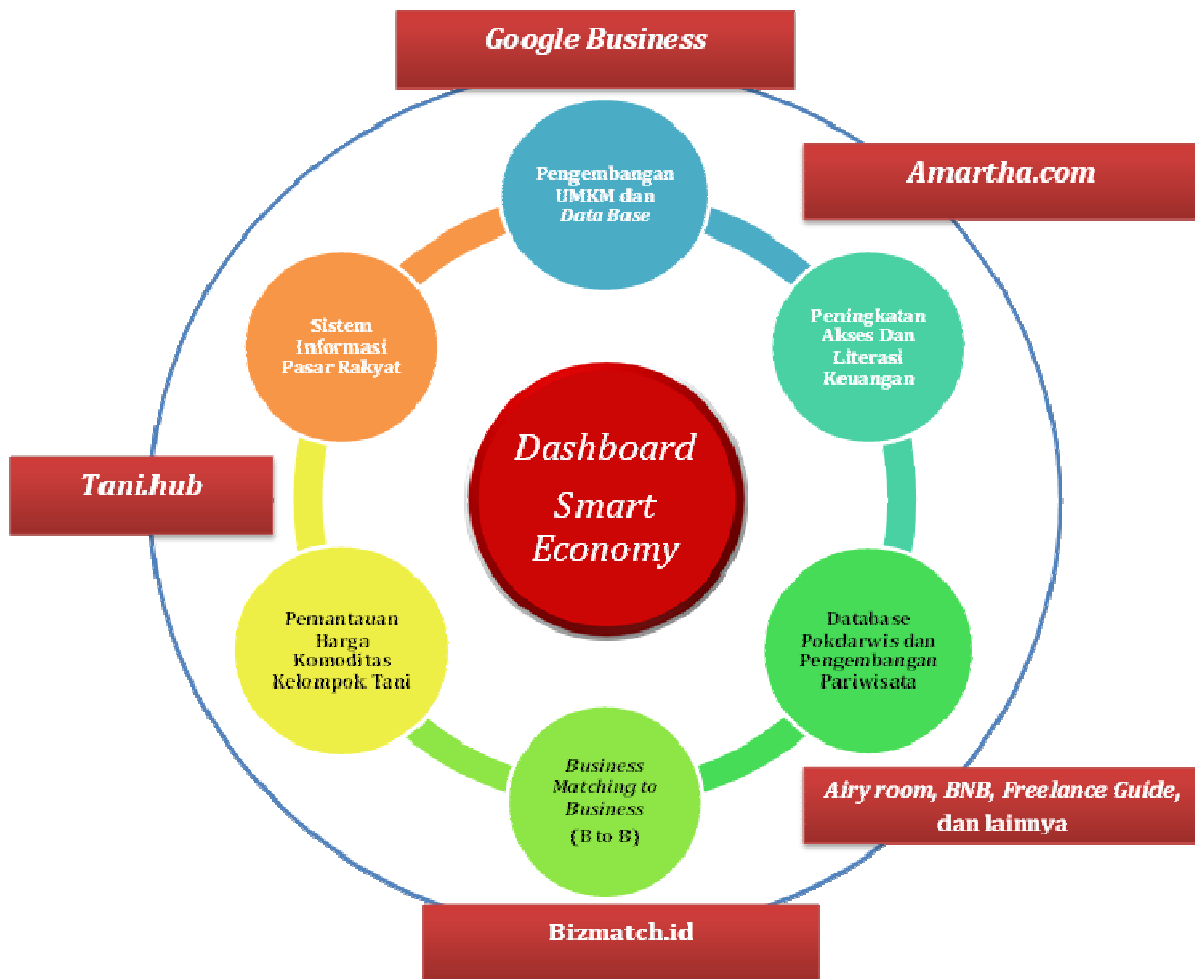
Figure 6. Smart Economy Dashboard in Malang Regency

Source: Authors' Illustration, 2018

4. Conclusion

The government of Malang Regency has began initiate the smart city agenda partially and focused on implementing the smart economy. The smart economy as a form of understanding opens wide access to information to increase opportunities for economic activity effectively, simultaneously reducing costs more efficiently. Now, the agenda has just applied in Malang Regency by forming six priorities for developing smart economy. Consists of: (1) Farmer Group Commodity Price Monitoring; (2) People's Market Information System; (3) Development of MSMEs and Data Base; (4) Increased Financial Access and Literacy; (5) Pokdarwis Database and Tourism Development, and; (6) Business Matching to Business (B to B).

The six smart ecoonomy implementation models use a web-based approach in the hope that they can build industrial ecosystems that are competitive, realize people's welfare, and build the ecosystem of modern transactions. The six models of implementation of smart economy are also formulated based on considerations. In accordance with the characteristics and specific needs of the region, the opportunities for success are implemented which are maximum, objective, targeted, and effective.

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