

## Competitiveness Analysis of Districts and Cities in Gorontalo Province



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**ABSTRACT:** Regional competitiveness cannot be separated from innovations developed by a region. The existence of innovation can increase competitiveness whose purpose is the development and welfare of its people. The ability of the Region to increase competitiveness depends on the ability of the Region to find and determine the driving factors of competitiveness and tap economic policies that focus on transforming accelerated economic growth of the region. The purpose of this study is to analyze the competitiveness of the innovation ecosystem of districts and cities in Gorontalo Province. The research method used in this study is a descriptive analysis that can provide an overview and geographical distribution of Gorontalo Province which is then calculated quantitatively. The indicators covered in the innovation ecosystem under study are then tabulated using a standardized score measure which is a statistical method of the *Asia Competitiveness Institute (ACI)*. The results showed that of the six districts and cities in Gorontalo Province studied, three of them had a competitiveness score above average, namely Gorontalo City, Boalemo Regency, and Bone Bolango Regency.

**KEYWORDS:** Competitiveness, Innovation Ecosystem.

### INTRODUCTION

Increasing competitiveness is an important thing based on the ability of the region to improve it. The ability of regions to increase competitiveness depends on the ability of the regions to find and determine the driving factors of competitiveness and implement economic policies that focus on transforming the acceleration of regional economic growth.

Regional competitiveness is an indicator of development that can be taken with innovation, innovation in the process requires a commitment in the form of a policy, this is what distinguishes the development of development between regions. The World Economic Forum defines competitiveness as the sum of the institutions, policies, and factors of production that make up the level of productivity of a country. The level of productivity determines the level of sustainable well-being in the economy.

Therefore, the development of an area must be following the conditions of the potential and aspirations of the people who grow and develop. If the implementation of regional development priorities is not following the potential possessed by each region, then the utilization of existing resources will be less than optimal. This situation can result in a slow process of economic growth in the region concerned. Each Regency/City has its responsibility in developing its territory, this is in line with the Regional Autonomy Policy under Law Number 12 of 2008 concerning Regional Government, stating "Regional Autonomy is the right, authority, and obligation of autonomous regions to regulate and take care of their government affairs and the interests of local communities following laws and regulations".

The implementation of regional autonomy began to be implemented in 2004 when the authority to manage the government system that directly intersects with the community is completely handed over to the local government. There are several consequences of implementing a regional autonomy system, namely that local governments are required to independently manage their finances by trying to explore the fiscal potential of the region and how the role of local governments in developing their regions and their economic capabilities (Hamid, 2017: 8).

To create a nation that can build and have competitiveness, it must be supported by a scientific climate to continue to produce innovative products, and be willing to synergize with each other to develop joint research activities that can accumulate all potential to be better and more competitive.

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The pace of growth and economic development of a region and the increasing competitiveness of the region are inseparable from the importance of implementing innovation (Suparno, 2017) (Sinurat & Sumanti, 2020). The shift of an industrial-based economy towards a knowledge-based economy shows that knowledge and innovation are increasingly determining factors in economic progress (Martidi, et al, 2021). The development of a country is very dependent on regional developments, so innovation is very important to explore the potential of human resources (HR) and natural resources (SDA) owned by the regions.

The regional innovation agenda must change from just hegemony to producing products but must also be supported by sustainable efforts for a positive ecosystem of regional innovation. Based on the records of the Agency for the Assessment and Application of Technology (BPPT), regional innovation will be leverage that has an impact on increasing regional competitiveness in the future. Starting with forming a system that supports regional innovations in each regional device organization, is equivalent to equalizing the frequency of the innovation itself. With several good potentials in terms of human resources owned by each region coupled with their respective characteristics, of course, this will be the main capital for developing potential and structuring regional innovations. (Matridi, et al., 2021:44).

Innovation has an important meaning for the continuity and welfare of the nation because a process of innovation can provide benefits for various things (Tasrif, 2014) namely: (1) Creating new knowledge, (2) Guiding the direction of the process of finding technology providers and users so that actors manage and utilize their resources, (3) Mobilizing resources, namely capital, competencies, and other resources, (4) Facilitating the creation of a positive external economy, e.g. in the form of exchange of information, knowledge, and vision, (5) Facilitating market formation, and (6) Creating new activities.

According to Autio and Thomas (2014), the innovation ecosystem is a network of interconnections of organizations or business actors, which are connected to the main companies that can create new value. According to the Ministry of Research and Technology (2020), increasing market capacity means increasing public demand for goods and services, both in quantity and quality.

Based on this background, this study aims to analyze the competitiveness of districts and cities in Gorontalo Province. The regencies/cities analyzed consisted of Gorontalo Regency, North Gorontalo Regency, Boalemo Regency, Pohuwato Regency, Bone Bolango Regency, and Gorontalo City.

## LITERATURE REVIEW

### 1. Innovation

The word innovation comes from the English *innovation* which means change. Innovation can be defined as a process of human activity or thinking to discover something new related to inputs, processes, and outputs, and can provide benefits to human life. Innovations related to input are defined as patterns of human thought or ideas that are contributed to new findings. As for innovations related to processes, many are oriented towards methods, techniques, or ways of working to produce something new. Innovations related to output based on such definitions are more aimed at the results that have been achieved, especially the use of thought patterns and methods or techniques of work carried out. The three elements in the innovation form a complete unity. (Prosper & Rohana, 2012:9)

According to Oslo Manual (in Zuhail, 2013:58), innovation has a very broad aspect because it can be in the form of goods and services, processes, marketing methods, or organizational methods that are new or have undergone renewal which is a way out of problems that have been faced by organizations. Furthermore, Green, Howells & Miles (in Zulfa Nurdin, 2016: 11) defines innovation as something new, namely by introducing and carrying out new practices or processes (goods or services) or it can also be by adopting new patterns that come from other organizations. Thomas (in Zulfa Nurdin, 2016:12) defines innovation as the launch of something new. The purpose of launching something new into a process is to cause a radical major change.

Coyne (in Zulfa Nurdin, 2016:51) says that innovation is carried out to lower the cost level, increase efficiency, deliver good quality at an appropriate price, and the possibility of obtaining profit and growth.

Ashoff and Teece in Lengnick-Hall state that innovation is a strategic component in many companies to respond to the unpredictable speed of technological change, and is motivated by the dependence on highly experienced technology bodies and companies that are quick to respond in terms of product form and product delivery procedures. The global strategy depends on the speed of acceleration of innovations translated into profitable commercial cooperation.

Innovation is an update aimed at providing more value to a product with a new idea that is different from other products. Innovation is a research, development, and/or engineering activity aimed at developing a practical application of new scientific values and contexts, or new ways to apply existing science and technology to products or production processes. Innovation has an important meaning for the continuity and welfare of the nation because a process of innovation can provide benefits for various things, namely: (1) Creating new knowledge, (2) Guiding the direction of the process of finding technology providers and users so that actors manage and utilize their resources, (3) Mobilize resources, namely capital, competencies, and other resources, (4)

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Facilitate the creation of a positive external economy, e.g. in the form of exchange of information, knowledge, and vision, (5) Facilitating market formation, and (6) Creating new activities.

According to the Ministry of Research and Technology (2020), Indonesia's domestic market will become an easy target for foreign investors if Indonesia is unable to build strong competitiveness to support national economic development. Macroeconomics that are maintained stability and growing domestic market capacity is a positive ecosystem for the growth and development of innovation and competitiveness. An innovation ecosystem is an ecosystem network where there are parties such as *stakeholders*, communities, and other players who play a central role in the growth and development of innovation. The innovation ecosystem is something that is expected and driven by institutions including local government.

According to Autio and Thomas (2014), the innovation ecosystem is a network of interconnections of organizations or business actors, which is connected to the main companies that can create new value. According to the Ministry of Research and Technology (2020), increasing market capacity means increasing public demand for goods and services, both in quantity and quality. Increasing demand for more and/or more quality goods and services will increase the industry's need for more suitable technology. According to the Ministry of Research and Technology (2020), the innovation ecosystem is divided into three dimensions, namely: 1) Business Dynamics, this dynamic opens up opportunities and challenges for technology development institutions to conduct research that is relevant to industry needs. Business dynamics include regulation and entrepreneurship; 2) Innovation Capacity, Innovation is a step that must be taken by companies to survive and excel in competition in the global era. Article 2 in PP 38 of 2017 concerning "Regional Innovation", explains that the target of Regional Innovation is carried out to improve the performance of the implementation of Regional Government. Innovation capacity includes interaction and diversity as well as research and development; 3) Technology Readiness, Information and communication technology are the main supporting factors in globalization. The development of technology is so fast that any information of various forms and interests can be widely spread throughout the world. For this reason, technological readiness is needed by regional governments in increasing competitiveness at the national level. Technological readiness includes commercialization, telematics, and technology.

### 2. Innovation Strategy

Innovation and successful practice analysis show that the main strategies in the government sector are:

- a. Providing integrated services, i.e. the Government offers an increase in the number of services, so that citizens have no simple expectations to obtain the services provided accompanied by comfort.
- b. Citizen engagement, i.e. the Government has innovative authority to encourage the role of citizens to participate to succeed in innovation and enable citizens to express their needs while ensuring successful and sustainable innovation.
- c. Establishing Cooperation / Collaboration, namely the Government collaborating with Institutions related, Public, Private Agencies, for the commonality of innovative perspectives in meeting the improvement of public services.
- d. Utilizing Information Technology (IT), namely the Government provides computer-based and internet-based public administration services to speed up and simplify citizens obtaining administrative and information services from the Government. United Nations World Public Sector Report (UNWPSR) 2004 (Trumpet, in Zulfa Nurdin, 2016).

### 3. Regional Innovation

According to Noor (Rahmawati et al., 2014), There are five things related to innovation that need to be known, namely:

- a. New Knowledge The presence of innovation can be new knowledge for every person or society in a social system. This knowledge certainly has an important role in determining and bringing about social changes that occur in the community environment.
- b. New ways The habits of individuals or groups that usually use the old ways of dealing with problems have been abandoned because individuals and groups have found a new, more effective, and efficient way instead of the old way of solving a problem.
- c. New object An innovation is a new object for its users, both physical (tangible), and intangible.
- d. New technologies The development of innovation today is inseparable from advances in information and technology. Many innovations are emerging today thanks to the presence of increasingly advanced technology. The presence of technology has presented a variety of products that are increasingly easy for each and group to reach.
- e. New Discoveries The presence of an Innovation is not by chance but has gone through the procedures and stages that have been done consciously and deliberately. Therefore, the resulting innovations may be entirely the result of discoveries made by individuals or institutions.

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### 4. Competitiveness

The definition of competitiveness is the ability of companies, industries, regions, countries, or regions to produce income factors and relatively higher and sustainable employment factors to face international competition. Therefore, in the context of a regency/city as an organization, competitiveness is defined as the ability of the district/city to develop the social-economic capabilities of its region to improve the welfare of the people in its area.

The concept of regional competitiveness was developed by Porter (1990), under the title "*The Competitive Advantage of Nations*". In more detail, Porter defines national competitiveness as: "an outreach of a country's ability to innovate to achieve, or maintain a favorable position compared to other countries in a number of its key sectors". Then according to *the World Economic Forum* (WEF), competitiveness is defined as the ability of the national economy to achieve high and sustainable growth. Another definition also expressed by the *Institute of Management and Development* (IMD) states that national competitiveness is the ability of a country to create added value to improve welfare by managing assets, investment attractiveness, and globality and by integrating these relationships into an economic and social model (Porter, 2001: 2).

Competitiveness is determined by the competitive advantage of an enterprise and depends largely on the level of relative resources it has or we can call it a competitive advantage. The importance of competitiveness is due to the following three things: (1) Encouraging productivity and increasing self-reliance capabilities, (2) Can increase economic capacity, both in the context of regional economies and the number of economic actors so that economic growth increases, (3) Confidence that market mechanisms create more efficiency, (David, 2002: 32).

The definition of competitiveness needs to be considered from several things (Abdullah, 2002:15), as follows:

- a. Competitiveness covers a broader aspect than just productivity or efficiency at the micro-level. This allows us to prefer to define competitiveness as "the capability of an economy" rather than the "capability of the private sector or enterprise".
- b. Economic *actors* (*economic agents*) are not only companies, but also households, governments, and others. Everything is integrated into a synergistic economic system. Without denying the large role of private sector companies in the economy, the focus of attention is not only on that. This is sought to maintain the breadth of the scope of the concept of competitiveness.
- c. The goal and the result of increasing the competitiveness of an economy is none other than increasing the level of welfare of the population in the economy. *Well-being* (*level of living*) is an all-encompassing concept that is not only depicted in a variable magnitude such as economic growth. Economic development is only one aspect of economic development to improve people's living standards.
- d. The keyword for the concept of competitiveness is "competition". This is where the role of openness to competition with competitors becomes relevant. The word "competitiveness" becomes deprived of its meaning in a closed economy.

### RESEARCH METHODS

The research method used is a descriptive analysis that provides an overview and geographical distribution of Gorontalo Province and can be calculated quantitatively. The analysis tools used in this competition analysis use metrics and ranges used by the Asia Competitiveness Institute (ACI). The Asia Competitiveness Institute (ACI) uses statistical methods, and standard scores (standard numbers). The unit of calculation is no longer relevant because the standard value is a relative comparison to see how a state compares to the average state (Giap et al., 2016: 6). Statistically, the standard score measures how much standard deviation (standard deviation) each state has from the state mean. The Asia Competitiveness Institute comprehensively understands the "competitiveness" of the economy and examines the various factors that affect the region's ability to achieve advanced and comprehensive economic development in the long term (Amri, 2018:20). If the district/city standard score is zero (0), then there is an average performance for the indicator. A negative score means a state is below average, and a positive score means a state is above average. The farther the score is from zero, the farther the county is from the national average. A high district/city positive score means it is much higher than the national average.

$$\sqrt{\text{Nilai Terstandarisasi}} = \frac{\text{Nilai Asli} - (\text{Rata} - \text{Rata})}{\text{Standar Deviasi}}$$

Source: Amri (2018:20)

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Information:

0 (Zero)= Equals provincial average

- (Negative)= Below the provincial average

+ (Positive)= Above provincial average

### RESULTS OF RESEARCH AND DISCUSSION

Innovation ecosystem is an ecosystem network where there are parties such as stakeholders, communities, and other players who play a central role in the growth and development of innovation. The innovation ecosystem is something that is expected and driven by institutions including local government. The innovation ecosystem is defined by Autio and Thomas (2014) as a network of interconnections of organizations or business actors, which are connected to key companies that can create new value.

This study aims to determine the competitiveness of districts and cities in Gorontalo Province in terms of the Innovation Ecosystem. It is known that to create a nation that can build and have competitiveness, it must of course be supported by a scientific climate that continues to produce innovative products and is willing to synergize with each other to develop research activities that can accumulate all potentials to be better and competitive. The competitiveness of the innovation ecosystem of districts and cities in Gorontalo Province was studied based on three dimensions, namely 1) business dynamics, 2) innovation capacity, and 3) technological readiness. Indicators that include three dimensions are detailed in the following table:

Dimension	Indicators	Units/Scales of Measurement	Source
Business Dynamics	Improving the business climate	Survey Data	District Government
	Improving Security Stability	Survey Data	District Government
	Improvement of products produced by small and medium-sized industries	Survey Data	District Government
	Encouraging the development of potential economic sectors	Survey Data	District Government
	Increasing human resource capacity through vocational education	Survey Data	District Government
	Increase economies of scale and capacity of Small and Medium Industries	Survey Data	District Government
Innovation Capacity	The increased role of research and development	Survey Data	District Government
	Development of technoparks and science parks	Survey Data	District Government
	Development of education and training based on the potential and competitiveness of the region	Survey Data	District Government
	Improving and developing education and training	Survey Data	District Government
	Creating added value through innovations	Survey Data	District Government
	Establishing regional regulations in strengthening regional innovation	Survey Data	District Government
Technology Readiness	Percentage of tenda homes that have phones	Percentage	BPS

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Dimension	Indicators	Units/Scales of Measurement	Source
	Percentage of households that have laptops/desktop computers	Percentage	BPS
	Percentage of internet users at home, office, internet café, and school	Percentage	BPS
	Internet users on Mobile Phones	Percentage	BPS
	Internet users elsewhere	Percentage	BPS

Previously, the innovation ecosystem was divided into two dimensions, namely business dynamics and innovation capacity which were then developed into 12 indicators. All indicators are measured by a Likert scale of 1 (very bad) to 5 (excellent) which is described as follows.

### Innovation Ecosystem By District/City

Kabupaten/City	Sub-Scope		Mean	Category
	Innovation Capacity	Business Dynamics		
Boalemo County	4,00	5,00	4,50	Excellent
Pohuwato County	3,17	3,33	3,25	Good Enough
Gorontalo City	4,33	5,00	4,67	Excellent
Gorontalo Regency	4,00	3,33	3,67	Good
North Gorontalo Regency	4,00	3,17	3,58	Good
Bone Bolango County	4,00	4,33	4,17	Good

Gorontalo City has an excellent innovation ecosystem in terms of innovation capacity and business dynamics with a score of 4.67 which was then followed by Boalemo Regency with an average score of 4.50. Meanwhile, Pohuwato Regency became the last one with an average score of 3.25 (quite good).

The agricultural sector is still the component that has the largest contribution to economic growth in Gorontalo Province, reaching 38.66 percent with a growth rate of 7.64 percent. This improvement in agricultural performance is in line with the efforts of the local government to maximize the productivity of corn which will be used as the main export commodity of Gorontalo Province.

The increase in corn production in Gorontalo Province is still driven by an increase in the area of planting land and is highly dependent on government assistance. For this reason, government efforts are needed to be able to attract investment from the private sector or to make corn farmers more independent.

However, the agricultural sector of Gorontalo Province is still faced with the problem of low productivity in the agricultural sector specifically for rice and corn commodities, where the productivity of rice and corn in 2017 was 48.20 Ku / Ha each from the target set for rice of 58.84 Ku / Ha and corn productivity of 46.43 Ku / Ha from the target set at 49.83 Ku / Ha. For this reason, the challenge in the future is how to increase agricultural productivity, as well as maintain the stabilization of pre-and post-harvest prices, which has implications for improving farmer welfare as measured by the Farmer Exchange Rate. For 2017 the Farmer Exchange Rate was 105.38.

The Ministry of Industry's program through decon funds identifies potential sectors to be eliminated by selecting one or two commodities in each province. In 2015 Gorontalo Province chose to propose coconut and corn as commodities for downstreaming. The selection of these two commodities is not chosen randomly but is chosen really by looking at economic and sociological calculations and local government policies. However, in 2016, the Ministry of Industry made a policy change by encouraging each province to choose only one commodity and the choice was Corn. The local government pays more attention to the development of the maize crop, its production is indeed increasing but corn farmers have not been able to enjoy the price of corn when compared to large traders. The price of corn has not been set *at its base price (floor price)* so that farmers are positioned as price takers. The abundant corn production of each harvest positions the farmer on the side of the weak, in the sense of the word the price is determined by the trader. Pricing by traders is taken for granted by farmers because they are not free to determine prices, because the *supply* increases, especially since agricultural products will not last long (*non-durable goods*). At the same time, farmers have needed money as soon as possible, while alternative marketing channels do not exist, (Arham, 2020:78).

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Economic theory teaches that generally commodity products of short endurance (*non-durable goods*) the price is more determined by buyers in this case traders and exporters, farmers themselves as producers only become *price takers*, receiving prices from traders (collectors). It is another case of processed commodities (industries) that determine prices as producers.

The value of corn commodities in Gorontalo Province produces strategic issues of corn commodity development in Gorontalo Province which consist of 3 categories, namely 1) Before planting, including a. capital aspects for the procurement of seeds and fertilizers, b. land clearing that does not pay attention to environmental aspects, 2) Cultivation, including a. farmer knowledge for good cultivation practices, b. land conditions (slope), 3) After planting, including a. cash management, b. limited post-harvest facilities, c. weak bargaining position of farmers on selling prices, d. loss of part of the yield at the time of harvesting, and e. infrastructure and transportation of crops that still need to be developed, (Ilato, 2015: 39).

In that context, the importance of being encouraged by the corn-based processing industry and training in processing agricultural products for farmers, without it, the added value of corn will not be built. The corn processing industry will at the same time create a wider economic impact, the workforce in the less productive traditional sector shifting to the modern, more productive sector.

Another challenge in the agricultural sector is that there is no significant business surplus for farmers resulting in the agricultural sector is increasingly marginalized, which is characterized by the GRDP of the agricultural sub-sector which decreases every year. The decline occurred near all agricultural sub-sectors. This portrait hints that the primary sector will be further slumped as the industrial and service sectors develop. Another problem in the agricultural sector is the conversion of land into industrial and residential land. This causes food production to fluctuate. Therefore, the optimization of agricultural business is mandatory. However, in reality, efforts to optimize agricultural business are still constrained by various problems including the low quality of HR skills, the small scale of the business, and the narrowing of agricultural land. In the context of developing the agricultural sector broadly such as increasing production and productivity of agriculture, fisheries, animal husbandry, and forestry which will later have a positive impact on ensuring regional food security. Efforts to diversify food need to be carried out to meet the availability of diverse food based on the potential of local resources. In the future, improvements and development of land and water infrastructure as well as seeding and breeding will continue; improving production infrastructure; increase the productivity and added value of agricultural products; encourage government policies in favor of farming communities; improving the utilization of technology; open access to agricultural financing with low interest rates for smallholder farmers/ranchers; protecting and improving the quality of productive cattle in order to support the achievement of beef self-sufficiency; strengthening the institutionalization of productive economic enterprises in rural areas; creating an effective agricultural extension system; cultivate the balanced use of chemical and organic fertilizers to improve and improve soil fertility; seek adaptation to climate change and environmental preservation; poverty, unemployment, and food insecurity; strengthening the ability to compete in global markets and addressing weakening economic growth due to the global crisis; and improving the image of farmers and agriculture so that it is again in demand by the next generation.

The other sector is tourism. Gorontalo Province has tourism potential and natural resources that are quite strategic and adequate. However, tourism development faces several problems, including low tourism competitiveness, not optimal management of tourism destinations, inadequate infrastructure to support tourism, ineffective marketing and promotion of tourism, and limited human resources in the tourism sector. From these problems, the challenges in the field of tourism are to create a business climate in the tourism sector, and increase promotion and marketing based on information and technology. In addition, the development of strategic tourism areas is focused on developing leading tourist attractions such as Prime Movers for tourism development, which has been prepared in the Regional Tourism Development Master Plan (RIPPDA). For 2019, the development focus is on three tourist areas: Olele, Biluhu Beach, and the Bubohu religious tourism village area. This is done to increase the number of domestic and foreign tourists, as well as encourage THE growth of GRDP in the tourism sector.

Based on the results of the analysis that has been carried out, the following results are obtained:

### Competitiveness of The Innovation Ecosystem of Regencies and cities in Gorontalo Province

Regency	Mean	Rank	Standardized Score	Ket.
Gorontalo City	0,93	1	1,25	Above the Provincial Average
Boalemo County	0,61	2	0,82	Above the Provincial Average
Bone Bolango County	0,23	3	0,31	Above the Provincial Average
Gorontalo Regency	-0,30	4	-0,40	Below the Provincial Average
North Gorontalo Regency	-0,34	5	-0,46	Below the Provincial Average
Pohuwato County	-1,13	6	-1,52	Below the Provincial Average

Source: Processed data (2021)

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The highest standardization score of the innovation ecosystem competitiveness index is 1.25 at the first rank (Gorontalo City), while the lowest score is -1.52 at the sixth rank (Pohuwato Regency). The excellence of the innovation ecosystem in Gorontalo City covers both sub-scopes in business dynamics and innovation capacity. In the second place, namely Boalemo Regency with a score of 0.82, and the third position, namely Bone Bolango regency. The level of competitiveness within the scope of the innovation ecosystem is ideal because there is a balance between the number of regions with a competitiveness score above the average equal to the number of regions that have a score below the provincial average.

Innovation is an update aimed at providing more value to a product with a new idea that is different from other products (Wening, 2012). Innovation is a research, development, and/or engineering activity aimed at developing a practical application of new scientific values and contexts, or new ways to apply existing science and technology to products or production processes.

According to the Ministry of Research and Technology (2020), Indonesia's domestic market will become an easy target for foreign investors if Indonesia is unable to build strong competitiveness to support national economic development. Macroeconomics that are maintained stability and growing domestic market capacity is a positive ecosystem for the growth and development of innovation and competitiveness. Innovation ecosystem is an ecosystem network where there are parties such as *stakeholders*, communities and other players who play a central role in the growth and development of innovation. The innovation ecosystem is something that is expected and driven by institutions including local government.

Technological progress is a process of structural growth. Schumpeter (1930) in Blanchard (2013), emphasizes that the process of growth is fundamentally a process of *creative destruction*.

Nationally, Gorontalo Province contributes 2.37 percent of coconut production. of the types of plantation crops, Coconut is a superior commodity besides Corn. The coconut land area of Gorontalo Province is 73,650 ha with a total production of 59,491 tons in 2020. Furthermore, in Gorontalo Regency there is a potential for mineral resources which include kali sand, urug sand, mountain stone, kali stone, and sirtu. There were 609,432.10 m<sup>3</sup> recorded in the mining business. Another potential of Gorontalo Regency is agriculture. In Gorontalo Regency, agriculture is rice plants. Paddy fields in Gorontalo Regency are the most extensive among other regencies/cities spread across 2 parts, namely the southern part covering Telaga, Telaga Biru, Limboto, West Limboto, and Tibawa Districts. While in the northern part it includes Batudaa and Bongomeme Districts. Then, Pohuwato Regency has agricultural potential, especially corn which is a leading commodity in Pohuwato Regency. Similar to Gorontalo Regency and Pohuwato Regency, Bone Bolango Regency also has the potential to farm food crops in the form of rice, corn, peanuts, green beans, soybeans, and sweet potatoes, and cassava. Horticultural crop commodities include shallots, onions, mustard greens, cayenne pepper, tomatoes, eggplants, cucumbers, kale, spinach, and long beans. Plantation crop commodities in the form of coconut, cocoa, pecan, guava, kapok, nutmeg, cloves, coffee, and cinnamon. Fruit plant commodities in the form of avocado, star fruit, duku, langsung, durian, guava, guava, banana, pineapple, and rambutan.

Information and communication technology is a major supporting factor in globalization. The development of technology is so fast that any information of various forms and interests can be widely spread throughout the world. For this reason, technological readiness is needed by regional governments in increasing competitiveness at the national level. Technological readiness includes commercialization, telematics, and technology.

One of the infrastructure developments carried out to develop the region is technology. Access to technology today, information technology is no longer part of the lifestyle but has become a necessity.

Quoted from the official portal of North Gorontalo Regency, on August 30, 2021, North Gorontalo Regency launched the "Gorontalo Utara Smart City" application. This application is to make it easier for people to get information. This is always one of the innovations that provide competitiveness between districts/cities. In the launch of this application, events that occur in the region will be easier to *update*, so that people no longer miss information.

## CONCLUSION

The results showed that of the 6 districts and cities, 3 of them had a competitiveness score above the average, namely Gorontalo City, Boalemo Regency, and Bone Bolango Regency. The innovations of each district/city must continue to be formed to grow and develop their regions. The emancipation of the resources owned is very important to be managed properly so that there will be use-value for the region, therefore innovation is important. There are many potentials that Gorontalo Province has, including agriculture, plantations, fisheries, marine, tourism to mining, and minerals. For its plantation potential, Gorontalo Province has the potential for a large coconut plantation area. Of the 5 districts, 4 of them have high productivity and quality potential, namely Bone Bolango Regency, Gorontalo Regency, Boalemo Regency, and Pohuwato Regency. Optimization of these potentials must be carried out to improve regional progress and community welfare. Innovation is needed to produce ideas as well as brilliant works in line with technological advances.



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