

## DATA SECURITY SYSTEM ON THE APPLICATION OF REGIONAL INNOVATION INDEX IN INDONESIA

Ray Septianis Kartika  
Regional Research and Innovation Agency  
raseka1979@gmail.com

### ABSTRACT

Regional innovations every year become mandatory for regions to report to the Ministry of Home Affairs. The reported data is recorded in the regional innovation index application. This application has been running for 6 years and has not yet realized a data security system that is able to protect every reported data. The problem is that this application is made by a third party that needs extra assistance by the Ministry of Home Affairs, the data that has been in the system is data that changes one after another because there are often changes or mutations of the implementing officials who handle it. Therefore, this study becomes urgent, to see the need for data inputted in the application and create a data security system model. The method is qualitatively through the spread of Goggle Form. The results of the study stated that this system is very helpful for local governments in mapping their innovations, and data security systems are offered there are four things, namely ISO / IEC 2700i standards, Filtering, Zero Trust Network and Cloud Security.

**Keywords:** System, Data Security, Regional Innovation

### INTRODUCTION

Regional innovation is an unusual activity for regional innovation facilitators. Regional innovations currently amount to 3,718 innovations in 2018 with 188 local governments participating, in 2019 there were 8016 innovations with local government involvement of 484, in 2020 followed by 484 local governments with 17,779 innovations, In 2021, the number managed to reach 25,124 innovations, followed by 519 local governments. This means that every year to year it increases, with an understanding of innovations that are already known in general. Hills (2008) defines innovation as an idea, practice or object that is considered new by an individual or other user unit.

In intensifying regional innovation reporting activities in accordance with Government Regulation Number 38 of 2017 concerning regional innovation, article 22 the minister conducts an assessment of regions that carry out regional innovations based on the report of the regional head. In order to support the report, it is reasonable for the Minister of Home Affairs to receive regional innovation reports optimally and can reach all regions of Indonesia. This is still a record and joint occupation, the application can be accepted by the area located in the eastern region. Pomegranate (2016) stated that the government pays attention in the form of programs to expand internet network access in various regions, of course, it will greatly support the functionality of ICT devices that have been owned by the community. In this case, Regional innovation reporting using ICT becomes part of the development of individual sciences. Suwarno (2017) explained that employees are willing to channel their knowledge for innovation. Meanwhile, according to Ambarwati (2021) Innovation is a process of renewal and change. The results of this study imply that each ASN will transfer knowledge in innovation, especially this application encourages communication and collaboration between internal and external OPDs.

In line with the development of Science and Technology, the reporting system through the regional innovation index application has been established since the birth of PP No.38 of 2017. In 2018 this application began to be established. Entering its sixth year, there is a lot of data that

has been stored accompanied by system updates that are getting better and better. The enthusiasm of the facilitator in inputting data in the application, makes this application very important to map regional competitiveness through document proof and a very large outcome, namely innovation invention. Even this system has been able to read which areas are good, areas that experience weaknesses, for example in terms of technology, infrastructure and human resources. Digital technology is increasingly rapidly developing due to the existence of an internet network that makes it easier to obtain information (Santos et al., 2019, p. 129).

Real technological advances must be balanced with skilled human resources when using these technologies. Empowering every individual with relevant skills in the digital world can be key to participating in the economic, social, and cultural life of their country now and in the future. Currently, the change of times with technological sophistication is progressing super fast in the midst of the industrial revolution 4.0 (Reflianto & Syamsuar, 2018). This phenomenon is proof that regional innovations that will be reported cannot be separated from the influence of the industrial revolution 4.0, namely operationalizing the application of regional innovation indices to report the progress of their innovations.

The application of the regional innovation index tells a lot about the regional innovation achievement system in the Province / Regency and City in accordance with the indicators contained in the application. The Ministry of Home Affairs (2023) states indicators in its measurement, the regional innovation index refers to 35 indicators. This number is divided into two aspects, namely 14 indicators referring to local government units, and 21 indicators of innovation units. Indicators of local government units are general, that is, they contain data on the vision and mission, institutions, the number of innovations and so on. Meanwhile, the innovation unit indicators are more focused on measuring the quality and impact of innovations carried out by the regions, such as the existence of a legal umbrella, technical guidance agenda, information about services, community polls, socialization, involvement of implementing teams, online business processes and several other data.

Data recorded in a data system is very important for creating an innovation data base. Each year can be monitored for progress, including viewing last year's archives that have been inputted by the facilitator. Even in the event of an official mutation, the application can be reused and even restarted by the central admin, namely the Domestic Strategic Policy Agency. The application in 2022, underwent changes in indicators and formulations of accumulated calculations. However, in 2022, the application can be accessed by the Regional Device Organization (OPD) by creating a login and password by the regional admin. So each OPD can access and input its innovation report data by first reporting to the regional admin.

The problem is that this application is made by a third party, which is very vulnerable to not being given shortcuts. Moreover, technical obstacles When at the end of reporting the regional innovation index, it often experiences system bottlenecks due to too much access to it. Moreover, throughout its development, the system has not been carried out digital security, although dozens of incoming data are worried that it will experience data leakage. The purpose of this study is to determine the facilitator's support for the application including the essence of the application in supporting the innovation report, Secondly the urgency of the data security system in the regional innovation index application.

## RESEARCH METHOD

This study was conducted with the spread of Goggle-Form within the whatsapp community. For 5 days the research was carried out intensively. Randomly drawing, anyone who joins can answer the Goggle-Form because the community that joins is the party responsible for inputting

comprehensive regional innovation reporting. So that the question that is rolled out is around the use of regional innovation index applications that are considered useful and important.

Data collection techniques with the dissemination of technological media through goggle forms and short interviews with respondents. Data analysis is qualitative and presented in the form of a pie chart as an element of distributing questionnaires that have been responded to by respondents

## RESULTS AND DISCUSSION

The regional innovation index application is a system that records, records, and maps areas that are innovative, innovative, less innovative and cannot be assessed. These four categories are the center of regional attention, especially to evaluate the development of regional innovations. The app is easy to operationalize by looking at the technical instructions that can be accessed on the web [https:// indeks. inovasi. litbang. kemendagri. go. id/](https://indeks.inovasi.litbang.kemendagri.go.id/).

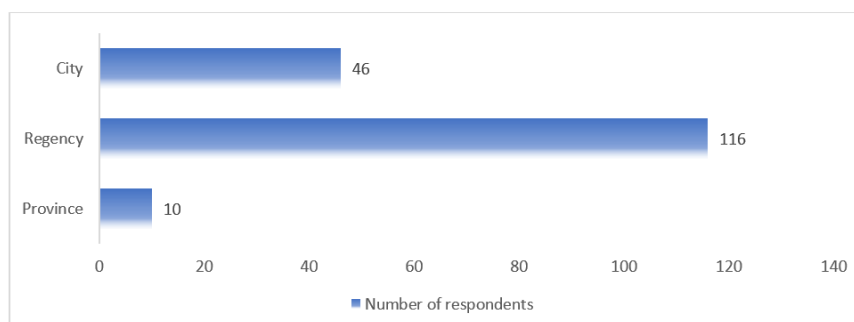
Applications that are not paid, each region can open the link above without any difficulty. The system also explains technical instructions and manual books that can be accessed by each region. The division of work duties is also clear, the Central Government, namely the Domestic Strategic Policy Agency as the central admin, R&D or the unit in charge of R&D as a regional admin in accordance with Government Regulation No. 38 of 2017

The regional innovation index application is an application that also records trial innovations, initiatives and applications. All activities carried out by innovators, the evident base must also be uploaded in the application. Documents can be in the form of word, excel or video. If the data is needed again, the system will archive the data to be able to reopen in the coming year. Reported innovations must take the form of governance innovations, public service innovations and other regional innovations.



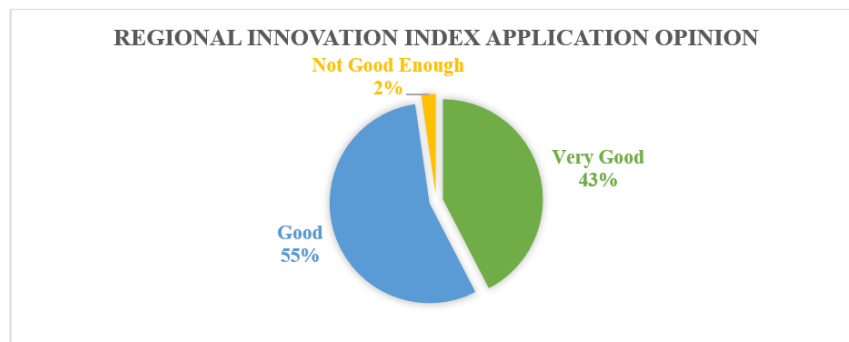
**Data Source: Ministry of Home Affairs, 2022**

Respondents were dominated by 116 districts. The city of 46 people and the city of 10 people with a total of 170 respondents.



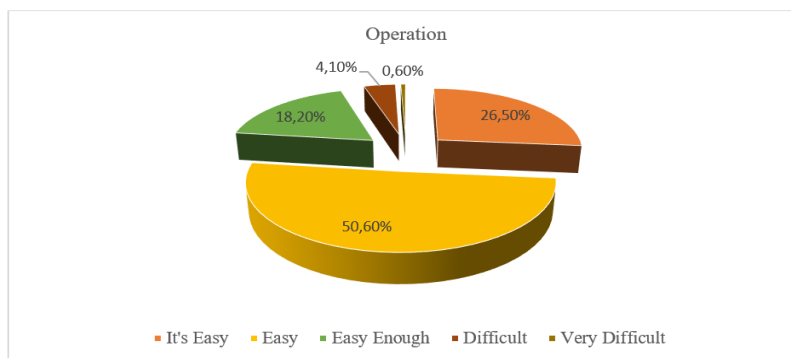
**Data Source: Ministry of Home Affairs, 2022**

Respondents also answered the ideas and measurement and assessment of regional innovations through the application of the regional innovation index. The idea of the application boils down to its practical aspects, namely first to make it easier for regions to submit innovation reports, secondly one of the achievements of bureaucratic reform in terms of improving service quality with coverage and regional affordability, the third impact of the industrial revolution 4.0 in terms of mastering technology, the fourth efficiency, the fifth the accountable and transparent administrative arrangement



**Data Source: Ministry of Home Affairs, 2022**

The picture above which reveals a very good 72 people, who says good about 94 people, who says not good 3 people, not bangus only 1 person. The operation of the innovation index application is a procedure for use that is balanced with the understanding of regional innovation facilitators. In addition to being given a login and password, the appearance does not change like the previous year, only additional features make this application more contemporary

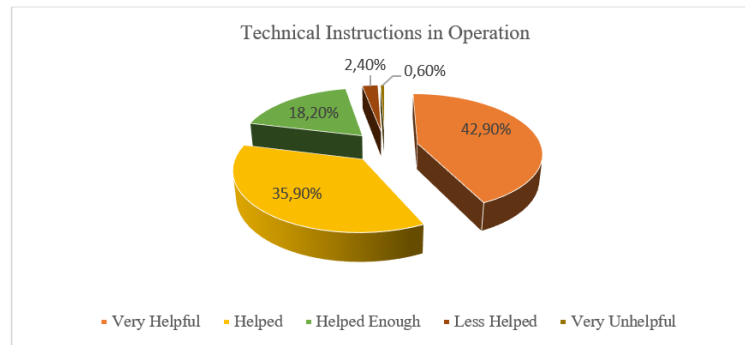


**Data Source: Ministry of Home Affairs, 2022**

Respondents who stated that it is easy to use this application as many as 86 people, Very easy as many as 45 people, Easy enough as many as 31 people, difficult as many as 7 people, very difficult as many as 1 person.

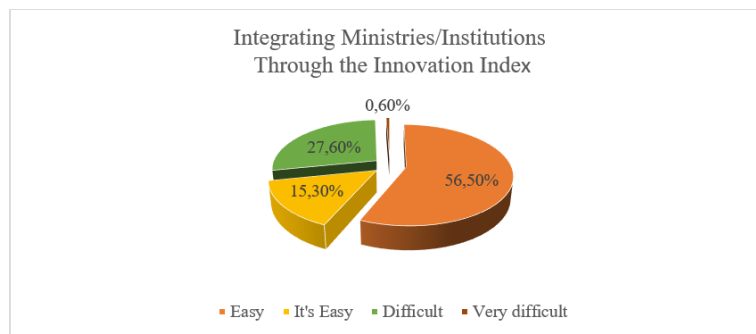
The ease of operationalizing the application is commensurate with a study that shows the existence of cultural integration in a person will increase the willingness of individuals and groups to create new ideas in their environment and applied to grow their cognitive knowledge, academic success, career, and social care (Sharif, 2019, p. 24). The facilitator responsible for reporting proves that Society is no longer learning formally but is beginning to transition through the cyber world (Efendi, 2019, p. 173).

Technical instructions can be accessed on the dashboard of the application page, respondents who stated that they were greatly helped by 73 people, helped by 61 people, helped enough as many as 31 people, less helped by 4 people, very unhelped by 1 person.



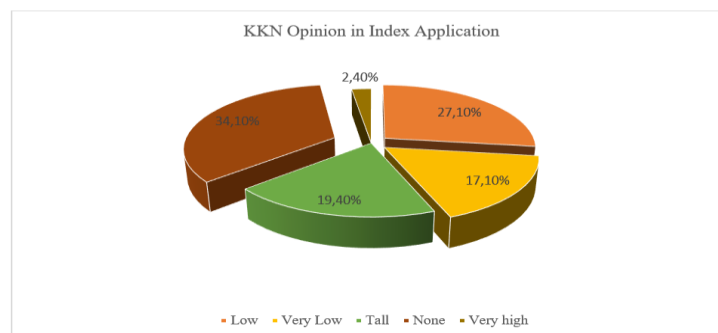
**Data Source: Ministry of Home Affairs, 2022**

As is known that innovation is not only carried out by the Ministry of Home Affairs but also by other ministries / institutions. Each K/L prepares software for its innovation. There are several indicators that are almost relevant to other K/L, namely usefulness. In response to this, the Respondent argued as follows:



**Data Source: Ministry of Home Affairs, 2022**

The application of the regional innovation index creates a climate of information disclosure to the public. Although the public cannot access, at least other OPDs can monitor the development of innovation through mapping the results of scores and categories of innovations achieved. Respondents in principle stated that this application is far from KKN, because the results of the achievements can be accessed by each region. This is in line with the results of research which states that habituation related to the use of technology can make the academic climate in accordance with the industrial revolution 4.0 can be well realized (Setiawan et al., 2019, p.156).



**Data Source: Ministry of Home Affairs, 2022**

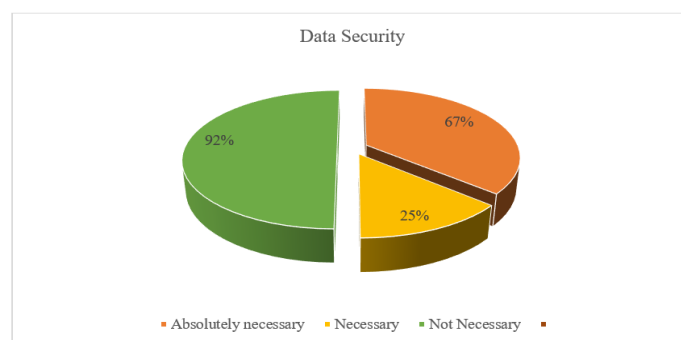
Looking at the pie above, respondents stated that there were 46 people low, 33 people high, 29 people low, 58 people declared, and 4 people very high.

The data, which is numbered in the dozens recorded in the application of the regional innovation index, is indeed the need to create a data security system. Pradipta ....stated that the implementation of Information and Communication Technology (ICT) governance has now become a necessity and demand in every public service provider agency considering the increasingly important role of ICT for efforts to improve service quality as one of the realizations of Good Corporate Governance.

Santosa (2016) stated that leakage of existing data can be fatal to the interests of the state. Application indexing becomes important When all data is collected in one database, in the future there is an overlap of data. For example, one of the regions uploading a video, it could happen that the video is confused with the video of another area due to too full data base. For example, one of the regions uploading a video, it could happen that the video is confused with the video of another area due to too full data base. This once happened during an innovation competition, one system made a fatal mistake with heavy data on the video. Abidian (2020) conducting security gap analysis is a form of early detection of future threats and to ensure confidentiality, integrity, and data validity, availability or commonly referred to as the CIA Triad which is a basic component of information security.

The data security system in the regional innovation index application if it is to be implemented can adopt ISO / IEC 27001 as a concept to specialize in implementing management both large and small scale. The framework encapsulates the security controls used to protect information assets from various risks and provide security confidence for stakeholders. The organizational structure of ISO/IEC 27001 is divided into two majors, namely (Erfini, Utami and Sunyoto, 2018): First, the Clause (mandatory process) is a requirement that must be met if the organization implements an Information Security Management System using the ISO/IEC 27001 framework. Second, Annex A (security control) is a reference document provided and can be used as a reference to determine what security controls need to be implemented in the Information Security Management System.

Information Security Management System (SMKI) as a series of activities regarding information risk management so that agencies can connect what will happen including confidentiality, integrity and availability. This is interesting if it can indeed be implemented, because this system will lift or provide protection to anticipate cyber attacks, improve branding, protect innovation information inputted into the system. As the respondent thinks regarding data security, namely:

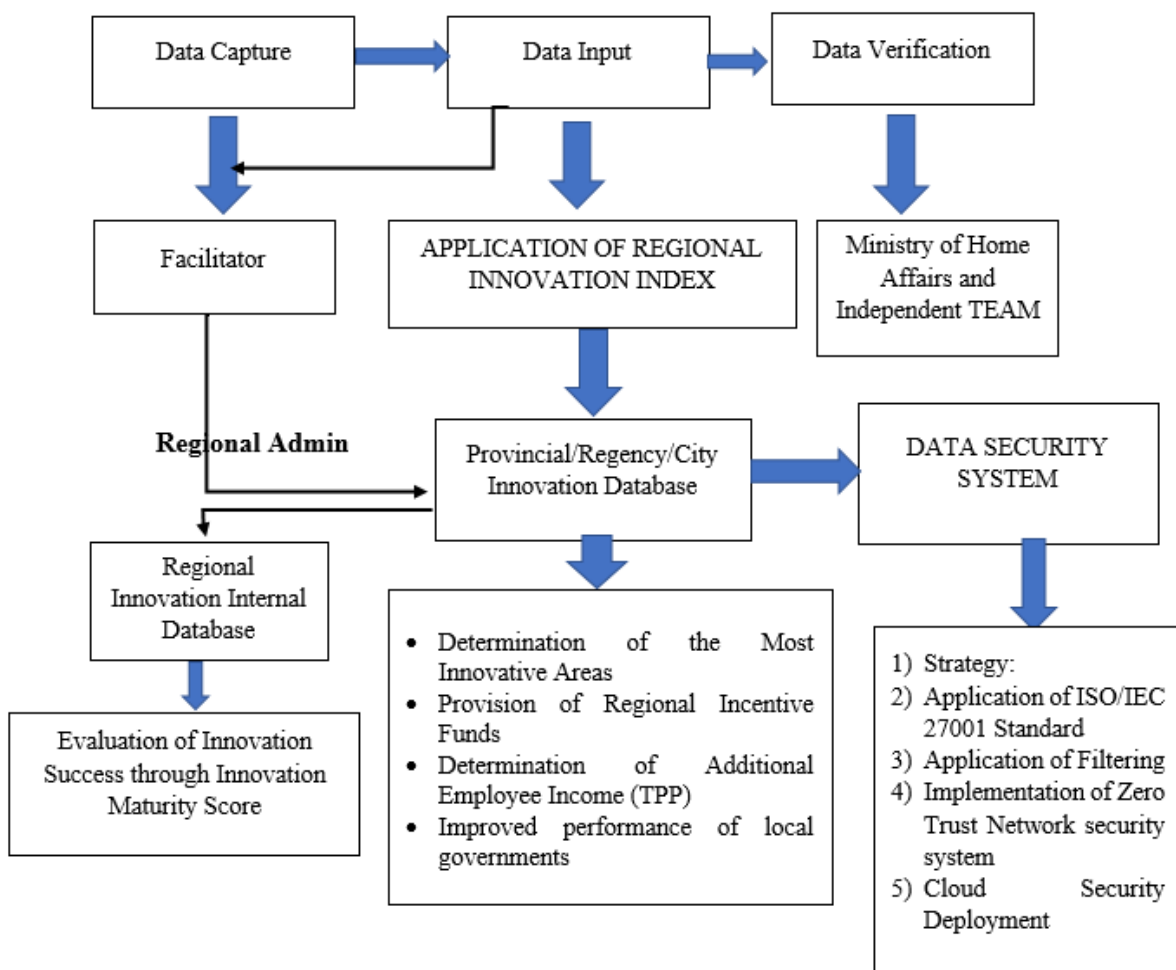


**Data Source: Ministry of Home Affairs, 2022**

Information systems collect, store, analyze, and disseminate information for specific purposes (Indrawati and Hernikawati, 2016). This means that the system works by filtering undue content or data. This once happened when the region uploaded an innovation video but what was sent was an irrelevant video. Like this, it is also thought by the Ministry of Home

Affairs to make data security breakthroughs in every application in the Ministry of Home Affairs so that the incoming data is safer and maintained confidentiality.

Strengthened Supriyatna (2014) stated that information system security is an activity of protection or prevention against interference with misuse of information carried out by people who are not responsible for the running of a system (Supriyatna, 2014). Information system security is a data privacy ability, so everyone can determine who has the right to access or change information according to their needs and desires. (Kristanto, Fransisca, & Pramana, 2017). The application of the index is not only for the benefit of the Ministry of Home Affairs, but the interests of the regions in reading the situation of their innovations, especially the innovations that have been carried out by technical OPDs. So as long as the application can be accessed internally or externally, the data that has been uploaded can still be edited as long as it has not been sent to the Ministry of Home Affairs. A vulnerable position if data that has not been sent to the Ministry of Home Affairs can be accessed by people who are out of interest. This is what makes data security very important in the application of the regional innovation index system. TIM created a data security system flow for the regional innovation index application process as follows:



**Picture. Regional Innovation Index Application Security System Model**

## CONCLUSION

The data security system is a form of attention in preparing the device to secure the data that has been stored. The concept of data security becomes important when data is stored in a large capacity and is needed annually to update or develop the concept of innovation that has been reported. For now, the Ministry of Home Affairs has not prepared for the security of the data, the data is still glued to the application of the regional innovation index. The treatment of data must still be boosted to make the data conceived and can be used for the long term. The validity of the data in the application of the regional innovation index is important when determining the ranking of the most innovative regional innovations, because it is an appreciation and appreciation in building an innovation ecosystem.

The results of the study explained that the regions stated that this system is very useful for local governments in reporting innovations, especially in terms of cost and efficiency. The data security system model that refers to the results of this study is that security systems can adopt ISO / IEC 2700i, Filtering, Zero Trust Network and Cloud Security standards.

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