RESEARCH ARTICLE

THE POLICY OF EMPLOYMENT INFORMATION SYSTEM DEVELOPMENT IN BALI PROVINCE IN THE ERA OF INDUSTRIAL REVOLUTION 4.0

I Wayan Gde Wiryawan1, Dewi Bunga2
1 Faculty of Law, Universitas Mahasaraswati Denpasar, Indonesia
2 Department of Law, Institut Hindu Dharma Negeri Denpasar, Indonesia
✉ gde.wiryawan1976@gmail.com

CITED AS

ABSTRACT

The era of Industrial Revolution 4.0 encourages the implementation of information technology-based government in various fields including in the field of manpower. The Regional Government of Bali Province has a legal product in the form of the Bali Provincial Regulation Number 10 of 2019 concerning Manpower Implementation mandating the development of a labor system. In this study, two issues will be discussed, namely the basic considerations for the development of an employment information system and the formulation of a law regarding an employment information system. The development of a manpower information system is based on the government’s duties in providing public services and regional autonomy. The legal formulation regarding the manpower information system is written in the form of a regional regulation which should also be followed by a governor's regulation.

Keywords: information system; employment; industrial revolution 4.0.
INTRODUCTION

The modernization and development of the globalization era nowadays will affect various sectors of life as a nation and state. Technological advances have changed the face of the world’s economy. In the beginning, everything was done conventionally to a modern direction, especially in the industrial and trade sectors. As part of a nation in the world, Indonesia, the country with the most population in the Southeast Asia region, has an ever-increasing population growth resulting in the increasing number of workforce every year amidst the limited employment opportunities because of the economic growth that has not been able to absorb it to enter the job market.

According to data from the Central Statistics Agency of the Republic of Indonesia, the total workforce in February 2020 was 137.91 million, an increase of 1.73 million compared to February 2019. In contrast to the increase number of the workforce, the Labor Force Participation Rate (TPAK) decreased by 0.15 percentage point. In the last year, unemployment increased by 60 thousand people, in contrast to the TPT (unemployment rate) which fell to 4.99 percent in February 2020. Judging from the level of education, the TPT for Vocational High Schools (SMK) was still the highest among other education levels, which was 8.49 percent. The working population was 131.03 million people, an increase of 1.67 million people from February 2019. Employments experienced the increase in percentage were mostly Educational Services (0.24 percentage points), Construction Services (0.19 percentage points), and
Health Services (0.13 percentage point). Meanwhile, the decline in employment were mainly in Agriculture (0.42 percentage points), Trade (0.29 percentage points), and other services (0.21 percentage points) (BPS, 2020).

Manpower problems in Indonesia are increasingly complex when entering the era of the Industrial Revolution 4.0 resulting in disruption in various fields, including the labor sector. Regarding the relationship between the industrial revolution 4.0 and employment, Beni Agus Setiono stated the following:

The rapid development of technology will sooner or later affect the demand for labor in the future. Going forward, the demand for labor will shift. Industry will tend to choose middle and highly skilled labor instead of less-skilled labor because its role in doing repetition work can be replaced by robot autonomization (Benny Agus Setiono, 2019: 182).

One of the important phases in technological development at this time is the emergence of the 4th wave industrial revolution, or better known as the Industrial Revolution 4.0. Not only in the industrial and trade sectors, but with the 4.0 industrial revolution, everything is connected to information and communication technology which is very helpful for human activities in fulfilling their daily needs. The use of digital technology makes it easier for humans to exchange information, communication, and meetings indirectly. In addition to the community having the advantage of enjoying the use of digital technology, the government can also use this technology to maximize the government’s duties in regulating its country, such as registering the population, accessing information about matters relating to the community such as economy, politics, social and culture to monitoring the activities of its people. to fit the ideology of the country. This will have implications for the effectiveness of decision-making and policies taken by the government.

Accurate and effective information systems, in fact, always relate to the term ‘computer-based’ or computer-based information processing. Such fast, accurate and reliable information is needed, for example in the context of making strategic decisions” (Moekijat, 2019: 89). The need for big data in information systems is the main thing by the Regional Government of Bali Province in taking policy strategies that will be issued, both in drafting regulations, supervision, and other activities so that they are right on target. This has also led the Governor together with the DPRD to formulate several policies that include several articles regarding regulations regarding information systems. The policy is expected to be able to use information technology optimally and effectively in providing policies and supervision regarding the implementation of the regulations themselves.

The Bali Provincial Government has issued Bali Provincial Regulation Number 10 of 2019 concerning Manpower Implementation. This provision mandates the development of an employment information system. This study examines two problems, namely the basic considerations for the development of an employment
information system and the formulation of a law regarding an employment information system.

**METHOD**

This research is a normative legal research that discusses legal issues regarding the legal policy for the development of an employment information system in Bali. At a macro level, the policy for the development of an employment information system is contained in The Bali Provincial Government has issued Bali Provincial Regulation Number 10 of 2019 concerning Manpower Implementation. These provisions have not been translated into juridical technical regulations. As a result, Bali does not have an employment database. This research was carried out with a statute approach and legal conceptual approach. Legal materials consist of primary and secondary legal materials which are collected through literature study. The analysis was conducted qualitatively argumentative.

**EMPLOYMENT INFORMATION SYSTEM: HOW DOES THE LAW REGULATE IT?**

I. BASIC CONSIDERATIONS FOR THE DEVELOPMENT OF AN EMPLOYMENT INFORMATION SYSTEM

The development of a manpower information system at the regional government level cannot be separated from the idea of the industrial revolution 4.0. The word Industry 4.0 was born from the idea of the fourth industrial revolution. The industrial revolution has occurred four times. The first industrial revolution occurred in England in 1784 where the invention of the steam engine and mechanization began to replace human jobs, so that production increased significantly. The second revolution occurred at the end of the 19th century in which production machines powered by electricity were used for mass production activities. The use of computer technology for manufacturing automation starting in 1970 marked the third industrial revolution.

Today, the rapid development of sensor technology, interconnection and data analysis has led to the idea of integrating all these technologies into various industrial fields. This idea is predicted to be the next industrial revolution. The number four in the term Industry 4.0 refers to the fourth revolution. Industry 4.0 is a unique phenomenon when compared to the three industrial revolutions that had preceded it.
Industry 4.0 is announced a priori because the actual event has not happened yet and is still in the form of ideas. The era of the fourth Industrial Revolution is marked by artificial intelligence, super computers, genetic engineering, nanotechnology, automatic cars, and innovations. These changes occur at an exponential rate that will impact the economy, industry, government and politics. In this era, the world has become a global village (Satya: 2018: 20).

The potential benefits of Industry 4.0 include improving the speed of production flexibility, improving service to customers and increasing revenue. The realization of these potential benefits will have a positive impact on a country’s economy. Industry 4.0 does offer many benefits, but it also has challenges to face. The challenges faced by a country when implementing Industry 4.0 are the emergence of resistance to changes in demographics and social aspects, instability in political conditions, limited resources, the risk of natural disasters and the demand for environmentally friendly technology. There is a wide gap in terms of technology between the current conditions of the industrial world and the conditions expected from Industry 4.0. Companies are reluctant to implement Industry 4.0 for fear of the uncertainty of benefits. In general, there are five major challenges that will be faced, namely the aspects of knowledge, technology, economy, social and politics.

Talking about the challenges of the political aspect, the State must be able to follow technological developments so that policies issued by the Government are effective and in accordance with the development of this modern society. One of them is when the Government provides public services and population data collection. Based on Law Number 25 of 2009 concerning Public Services, Public Services are activities or a series of activities in order to fulfill service needs in accordance with statutory regulations for every citizen and resident for goods, services and/or administrative services provided by public service providers.

Public services regarding the manpower information system in the era of the Industrial Revolution 4.0 are currently clearly described in Law Number 25 of 2009 concerning Public Services. Referring to Article 23 paragraph (1) of Law Number 25 of 2009 concerning Public Services, it is stated that ‘In order to provide information support for the implementation of public services, it is necessary to establish a national Information System.’ Article 23 paragraph (4) of Law Number 25 of 2009 concerning Public Services further states that the Provider is obliged to manage the Information System which consists of Electronic or Non-electronic Information Systems which at least includes: profile of organizers, executive profile, service standards, service announcements, complaint manager and performance appraisal.

The availability of manpower information is an implementation of achieving government targets in implementing public services. Marsh and Ian suggest 2 (two) perspectives that are important to observe in public services, namely: First, the dimensions of service delivery agents (government agencies or work units) and Second, the dimensions of customers or users (the people who utilize them). Based on the dimensions of service providers, it is necessary to pay attention to the level of performance achievement which includes fair services (spatial dimensions and social
class), work readiness and work mechanisms, affordable prices, simple procedures and a certain time for completion. Meanwhile, from the dimension of public service recipients, they must have an understanding and be reactive to deviations or unqualified services that appear in the practice of public service delivery. The active involvement of the community both in monitoring and submitting complaints against the practice of public service delivery is an important feedback factor for improving the quality of public services and meeting the standards set (Salam, 2004; Herlambang, 2018; Ndun, Helan, & Pekuwali, 2020).

As a consequence of the inherent function of public services, state administration is required to accept positive responsibility in terms of creating and distributing levels of income and wealth and providing public welfare programs. If this positive responsibility can be carried out, the existence of the government will grow into a large and strong government, both within the scope of functions and the number of personnel required to carry out its duties and responsibilities.

Each operator is required to provide a national information system. That way, information technology can play a big role in fulfilling the system on a national scale. The role of information technology is not only needed by the community in facilitating the information provided by the Government, both regional and national, but the Government also benefits from the information system provided. As what is felt by the Government in Bali.

The manpower aspect which covers various dimensions in government and industrial society in fact has problems regarding the validity of employment data which makes employment policy making based on valid data. This is in fact the manpower data issued between government agencies in particular out of sync and when compared to data in the field, as well as the industrial community is also not the same. This raises the assumption that the manpower sector is one of the areas least ready to face the Industrial Revolution 4.0, one of which is data mastery.

Legal breakthroughs in the legislative process in Bali Province in the implementation of manpower policies is the development of an employment information system. The development of an employment information system is one of the most interesting issues to analyze in relation to the integration of employment data in Bali Province. This policy is one of the government’s efforts to provide data needs for the benefit of policy making by the government itself as well as the needs of the industrial world for valid data on employment as a basis for business development in Bali Province. This policy of information system development is an act of government law. Regarding this matter, R. Abdoel Djamali said the following:

Policy as a government legal action falls within the context of administrative law, namely the legal regulations governing administration, namely the relationship between citizens and their government which is the cause until the state functions. State administrative law is as a whole legal rule that regulates how the state as the ruler carries out efforts to fulfill its duties (Djamali, 2001: 67).
Satjipto Rahardjo said that when talking about law, the target of the discussion is not only around the law as a consistent, logical and closed system but also as a means of channeling policies in development or changing society (Rahardjo, 1980: 13). Local government policies in regulating manpower are carried out by developing an employment information system. The development of a manpower information system is based on regional autonomy. Regional autonomy is the authority to establish and implement policies on its own initiative. The implementation of regional autonomy is the equivalent of regional government, namely the government of, by and for the people of the national territory of a country through system government institutions that are formally separated from the central government (Hoessien, 2009: 25).

The development of a manpower information system by the Regional Government is a mandate of the central government policy in providing public services for the community. According to Bagir Manan, the basics of the relationship between Central and Regions within the framework of decentralization are of four types:

1. The basics of deliberation in the state government system: The 1945 Constitution requires that people be implemented at the regional level government, meaning that the 1945 Constitution requires that participation in the administration of regional level government is only possible by desen
tralization.

2. The basis for the maintenance and development of the principles of indigenous governance: At the regional level, the original government structure to be maintained is in accordance with the basis of deliberation in the state government system.

3. Basics of diversity: ‘Unity in Diversity’, symbolizing Indonesia's diversity, autonomy, or decentralization is one way to loosen the ’spanning’ that arises from diversity.

4. Basic rule of law. In its development, the understanding of the rule of law cannot be separated and has a popular understanding. Because in the end, laws that regulate and limit state or government power are interpreted as laws made on the basis of people’s power or sovereignty (Manan, 1994: 161-167).

An information system is a system within an organization that meets the daily transaction processing needs, supports operations, is managerial and strategic activities of an organization and provides certain external parties with the necessary reports. Information is generated by an information system process and aims to provide information to assist management decision making, day-to-day operations of the company and appropriate information for the company (McLeod, 2004: 43).

II. LEGAL FORMULATION REGARDING EMPLOYMENT INFORMATION SYSTEM
Information systems are a combination of information technology and the activities of people who use technology such as computers, gadgets, radios, etc. to support human activities such as operations and management. In a very broad sense, the term information systems is often used to refer to the interactions between people, algorithmic processes, data and technology. In this sense, this term is used to refer not only to the use of information and communication technology organizations, but also to the way in which people interact with this technology in supporting human activity processes. In short, it is to facilitate all human needs through unlimited information, to communication which can be done with no distance limitation.

The development of information systems has also become an aspect of governance. The government information system is the use of information technology by the Government in the state governance process to make it easier for the government to determine policies, such as using the intranet and the internet, which has the ability to connect the needs of the population, business and other activities, such as the process of business transactions between the public and the government through an automation system and internet networks as well as monitoring activities carried out by the government towards its citizens in implementing regulations established by the Government itself.

The information system is a collection of sub-component sub-systems both physical and non-physical which are interconnected with one another and work together in harmony to achieve one goal, namely processing data into useful information. Information systems are as a combination of humans, technological tools, media, procedures and controls that aim to organize communication networks so that they can help in making the right decisions. Activities contained in the information system, among others:

a. Input, an activity to provide data to be processed.
b. Process, an activity of how data is processed to produce value-added information
c. Output, an activity to generate reports from the above process.
d. Storage, an activity to maintain and store data.
e. Control, an activity to ensure that the information system runs as expected (Azhar, 2000: 43).

In more depth, government agencies in preparing the vision and mission of information technology policies will look more at the equity factor (making information technology to improve service quality for public use). To achieve the target of effective application of information technology, it is necessary to establish a computerized government or e-government and human resources and education. The reason is because the application of information technology will be optimal if the users of technology services have knowledge and really understand the technology so that the target of applying information technology is achieved.

The manpower aspect is one of the areas that requires high data accuracy, so that accuracy in policy making cannot be separated from the support of employment data held by the government. The development of a manpower information system by the Government is basically to be able to find out manpower information so that it can...
provide policies to a more effective and efficient supervision. The development of an employment information system is regulated in the Bali Provincial Government which has issued a Regional Regulation of the Province of Bali Number 10 of 2019 concerning the Implementation of Manpower.

Regional regulations that are formed by the Regional Government, the Governor, the Regent, the Mayor together with the Regional People’s Representative Council, basically have a function as a policy instrument for implementing regional autonomy and co-administration as mandated in the 1945 Constitution of the Unitary State of the Republic of Indonesia and Law on Regional Government. Regional regulations are the implementing regulations of higher laws and regulations. In this function, Regional Regulations are subject to the hierarchical provisions of the statutory regulations, thus Regional Regulations may not conflict with the higher laws and regulations; Regional regulations are also a means of accommodating regional specificities and diversity as well as channeling the aspirations of the people in the regions, but in their regulation they remain within the corridors of the Unitary State of the Republic of Indonesia based on Pancasila and the 1945 Constitution of the Republic of Indonesia; and as a development tool in improving regional welfare (Dirjen Peraturan Perundang-undang, 2008: 7).

In Article 8 of the Bali Provincial Regulation Number 10 of 2019 concerning the Implementation of Manpower, it is stated as follows:

(1) The Provincial Government is obliged to build a Manpower information system.

(2) The Manpower information system as referred to in paragraph (1) shall contain at least:
   a. obliged to report about employment;
   b. must report job vacancies;
   c. reports on the use of foreign workers;
   d. reports on the placement of workers at home and abroad;
   e. reports of apprenticeship participants at home and abroad;
   f. certification;
   g. reports and recording of Work Agreement;
   h. registration of a Trade Union / Labor Union;
   i. Outsourcing agreement; and
   j. Disability employment information.

(3) Entrepreneurs / management of Companies, Workers / Laborers and Workers / Labor Unions are required to report the contents of data as referred to in paragraph (2) online to the Manpower information system as referred to in paragraph (1).

(4) The Manpower information system as referred to in paragraph (1) shall be implemented independently and / or integrated with other information systems.

Article 8 of the Bali Provincial Regulation Number 10 of 2019 concerning Manpower Implementation is the legal basis for the Bali Provincial Government to take policies
in building an integral labor information system. In this connection, Hobbel states four basic functions of law, namely:

1. Establishing the relationships between members of society, by indicating what types of behavior are permitted and what are prohibited;
2. Determining the distribution of power and specifying who is allowed to enforce coercion and who must obey it and at the same time choosing the appropriate and effective sanctions;
3. Resolving disputes;
4. Maintaining the community’s ability to adapt to changing living conditions, namely by reformulating the essential relationships between community members (Warassih, 2005: 27).

The manpower information system will cause the government have a data base which can be used by the central and regional governments as a basis for consideration in government policy and management through the output generated from the manpower information system. The Provincial Government of Bali issues manpower through several clauses regarding the use of information systems. This is very important for Bali Provincial Government in the context of utilizing information technology in running the government. It is different from before in which the use of technology was not so optimal that information attainment, policy making, and supervision were less effective. Considering the above conditions allows the Bali Government to pay attention to the use of information technology from various sectors, for entering into the formulation of regulations.

The manpower information system policy is a legitimate government action in the laws and regulations. Basically, there are two measuring tools for the validity of governmental acts, namely: 1) statutory regulations as written legal rules and 2) general principles of good governance as unwritten legal rules. For the government, first of all, a rule is needed as a norm of governmental action. Such formulation is a general norm of state administrative law which in its development in several countries is currently accommodated in a general state administrative law codification (Nasution, 2006: 126).

In the most basic concept of governance, there are three main stakeholders interacting with each other and carrying out their respective functions, namely the state or government, the private sector or business world, and society. Government institutions function to create a conducive political and legal environment, while the private sector creates jobs and income, while the community plays a role in building social, economic and political interactions, including inviting community groups to participate in economic, social and political activities (Sumarto, 2004: 73). The three components must cooperate in providing accurate data at least concerning the mandatory manpower report; are obliged to report job vacancies, the use of foreign workers, the placement of workers at home and abroad, the apprenticeship participants at home and abroad, the certification and recording of Work Agreement, the registration of a Trade Union / Labor Union, the Outsourcing agreement, and the disability employment information
The information system is a procedure for submitting data provided to related parties to the Government. Therefore, the information obtained can be used as one of the considerations in providing policies, supervision, and other activities related to the work itself. The data in question is in the form of data concerning the employment itself, such as the workforce, educated, experienced, and migratory workforce, etc., in which all the data will be collected in a data system called big data. This big data will be used by the Government as a later consideration.

In practice, the policies of the Bali Provincial Government still encounter obstacles, namely weaknesses in the use of big data. In a Big Data system, some data is classified according to its scope. Regarding employment where Big Data is available at the manpower office, and the information received also consists of several bodies that have their respective jurisdictions, such as migrant labor which is held by an agency that has the authority is to collect data on migrant workers, an agency that specifically covers local, women, and children manpower. These several agencies that have a specific scope of authority regarding manpower will provide information to the manpower office as the center of the manpower itself which is then used as considerations taken by the Government in responding to the needs of the community itself. The problem is where there are differences regarding the data from the center, namely the manpower office, with the agencies under it. Therefore, the policies that should be in accordance with the results of the information received are less effective in the society.

The inclusion of clauses on the information system of local regulations is considered so important that all parties involved can position themselves and improve coordination. Therefore, the data obtained has similarities between the center and those under it. The errors in the data received will greatly impact the policies that will be issued by the government itself. In accordance with the vision of the Government, which is to make information technology to improve the quality of services for public use, it is mandatory to be regulated in that regional regulation.

**CONCLUSION**

Government information system is the use of information technology by the Government in the state governance process to make it easier to determine policies, such as using the intranet and internet, which has the ability to connect the needs of residents, businesses and other activities, such as the process of business transactions between the public and the government through an automation system and internet networks as well as monitoring activities carried out by the government towards its citizens in implementing regulations that have been established by the Government itself. The Bali Regional Regulation has regulated several clauses regarding the development of information systems. This is very important for the Bali Provincial Government in the context of utilizing information technology in running the...
government. The government should maximize the use of information technology. A more optimal use will have a good impact on the running of the government. However, if it is not maximized, it will result in confusion of data and policies issued that are not as expected. Regulations that have been made must be immediately realized so that they have a legal basis in the implementation of the employment sector. Apart from being realized, it is necessary to provide counseling to related agencies regarding the delivery of information regarding employment.

REFERENCES


QUOTE

Resources are hired to give results, not reasons.

Amit Kalantri, Wealth of Words