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### Big Data based Law in the process of forming legislation in Indonesia

*Ley basada en Big Data en el proceso de formación de legislación en Indonesia*

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#### ABSTRACT

This paper aims to analyze the urgency of using Big Data in the formation of laws and regulations associated with the principle of forming good legislation. The results indicated that the use of Big Data to capture the aspirations of the people in the process of forming laws and regulations is a real solution to create laws. Its application can be done at the planning, drafting, and discussion stages of each statutory regulation made. Each input will be analyzed by Big Data and then processed into a new output that is concise and easily understood by the legislators.

**Keywords:** Big data, industry 4.0, law, legal reform

#### RESUMEN

Este documento tiene como objetivo analizar la urgencia de utilizar Big Data en la formación de leyes y reglamentos asociados con el principio de formar una buena legislación. Los resultados indicaron que el uso de Big Data para capturar las aspiraciones de las personas en el proceso de formación de leyes y reglamentos es una solución real para crear leyes. Su aplicación se puede realizar en las etapas de planificación, redacción y discusión de cada regulación legal realizada. Cada entrada será analizada por Big Data y luego procesada en una nueva salida que es concisa y fácil de entender por los legisladores.

**Palabras clave:** Big data, derecho, industria 4.0, reforma legal.

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## **INTRODUCTION**

Indonesia is a state of law. As a state of law, Indonesia places the law in the position and central position in carrying out the life of the nation and state, the law is considered to be something very urgent to organize the lives of Indonesian people (Siallagan: 2016, pp. 122-128). Because of its central position, it is fitting for the law to be formed based on the interests and aspirations of its people. This is in line with Jean Jacques Rousseau's concept of general will in social contract theory which was first popularized by Thomas Hobbes and John Locke (Note: 2012, pp. 267-278.). in a good society, people will give up their freedoms to different and more important collective freedoms through social agreements. Furthermore, through this social agreement, the united community forms a sovereign state, and the sovereign state forms legislation that reflects the public will (Devins et al.: 2017, p. 357).

There are still laws and regulations that are not following the aspirations and needs of the community so that it creates prolonged conflict. One example of a conflict that we cannot forget is the community's rejection of the Corruption Eradication Commission Bill and the Criminal Code Bill. The most massive rejection was made by students in various regions by holding mass actions. Also, the case of banning two-wheeled vehicles in several roads in Jakarta which was eventually canceled due to criticism from the people of Jakarta itself is an example of the rash decision-making, which in this case is the Jakarta government, in setting policies without proper review and screening of aspirations (Sungkar: 2008, pp. 95-120; Kayumova et al.: 2019, pp. 55-65).

The low level of satisfaction of the Indonesian people towards legal products made by the government can also be seen from the still high number of cases in the testing of laws and regulations both those that were submitted to the Constitutional Court and the Supreme Court. In the 5 years starting from 2004-2008, 2009-2013, and 2014-2018, the number of litigation cases against the constitution that entered the Constitutional Court continues to increase. Similar to the number of material test cases that entered the Supreme Court from 2009-2018, as described in the Supreme Court Annual Report tends to show an increase.

Departing from this problem, researchers assume that Indonesia needs a breakthrough to create an aspiration filtering and effective data collection system that is supported by technological advances. In this industrial era 4.0, technological advances have facilitated human work so that it is completed in a shorter time and with better results (Naikoo et al.: 2018, pp. 1-8; Ilikova: 2019, pp. 129-139). These technological advances should also be able to simplify the process of forming laws and regulations in Indonesia. In this study, the author will discuss the urgency of using big data in the formation of laws and regulations associated with the principle of forming good legislation. The author will also describe at any stage in the formation of legislation that can be supported by big data.

## **METHODS**

### **Establishment of Legislation in Indonesia**

Before discussing further, the main topic of this paper, the author needs to first discuss the normative rules of the formation of legislation in Indonesia. Regarding this matter, we can refer to Law Number 12 of 2011 concerning the Formation of Regulations and Regulations. In this section the author will divide into three topics, namely as follows:

### **Types and Hierarchy of Laws and Regulations in Indonesia**

Article 7 regulates that the types and hierarchy of laws and regulations are by their legal strengths, namely: the 1945 Constitution of the Republic of Indonesia; Decree of the People's Consultative Assembly; Law or Government Regulation instead of Law; Government regulations; Presidential decree; Provincial Regional Regulations; and Regency or City Regional Regulations. The existence of this hierarchy means that any type of lower statutory regulation may not conflict with higher statutory regulations.

## Stages of Formation of Laws and Regulations

Article 1 number 1 regulates that the formation of legislation includes five stages, namely: planning; arrangement; discussion; ratification or determination; and invitation. In this section the author will discuss in general terms, considering that although the stages outline the same, each type of legislation has different technicalities from one another. This becomes important because in the discussion the writer will describe at any stage in the formation of legislation that can be supported by big data.

## Principle of Formation of Good Regulations

The principle of establishing good laws and regulations is divided into formal and material principles. The formal principles relating to the process of forming legislation are regulated in Article 5 which includes: clarity of purpose; the appropriate institutional or forming authority; conformity between type, hierarchy, and material content; can be implemented; usability; clarity of formulation; and openness. Meanwhile, the material principles relating to the content or substance of the laws and regulations are regulated in Article 6, which includes: protection; humanity; nationality; kinship; archipelago Unity in Diversity; justice; equality in law and government; order and legal certainty; or balance and harmony.

## Technology in Legal Practice

The relationship between law and information technology is studied in two different fields of research: first, namely information technology law, oriented to the law and analyzing the legal implications of information technology, and addressing the legal problems that arise from the introduction and use of information technology in society; and second, technology-oriented and learning how to use information technology in the field of law (Oskamp & Lodder: 2006, pp. 1-22). The first field gets more attention from researchers than in the second field.

The use of technology, especially information technology in the field of law has been around for a long time, even since the end of the 20th century. One example is the SOLON project (System ter ondersteuning van Logistiek en het ontwerpen van normen or System to support legal drafting), an automatic drafting system that will be used by the government of Flanders (state of Belgium) developed at the Institute of Social Law, Katholieke Universiteit Leuven, Belgium (Debaene et al.: 2000, pp. 149-159). This system can ensure draft legislation meets the criteria both in terms of material and formal.

Johnathan Jenkins in his writing 'What Can Information Technology Do for Law?' (Jenkins: 2008, pp. 589-607) mentions what information technology has developed in legal practice, namely the database of legal material, software for document preparation, and software to support the world of litigation. Although modern law practices have adopted information technology in many fields, this technology is usually not as sophisticated as the technology found in other industries.

Information technology is developing very rapidly, especially after entering the industrial era 4.0. We have entered an era where algorithmic systems based on big data provide economic and institutional strength with enormous effects on resource allocation because of their capacity to control and manage processes (Bayamlioglu & Leenes: 2018, pp. 295-313). In 2016, Bart van der Sloot and Sascha van Schendel conducted an empirical and comparative study in eleven countries (Australia, Brazil, China, France, Germany, India, Israel, Japan, South Africa, the United Kingdom, and the United States), regarding the use of big data in government (van der Sloot & van Schendel: 2016, p. 110). The results of the study show that the tendency for the use of big data in government is related to the field of administration and public services. Also, the majority of countries provide a large investment for research of big data itself, but no one has used big data in the aspirations and data collection in the process of forming the legislation. In the world of big data, laws should be calibrated to achieve the objectives of the policy, which are based on a large amount of data analysis engine, to eliminate bias, incompetence, and human error (Devins et al.: 2017, p. 357).

According to H.W. Arthurs as quoted by Paul Chynoweth, the style of legal research based on his

perspective is divided into two namely doctrinal research (research in law) and interdisciplinary research (research about law), where doctrinal research focuses more on legal doctrines, whereas interdisciplinary research involves the view external to the law itself such as its historical and social context. This type of research is interdisciplinary research because it views the issues to be studied not only in terms of the law but also in the context of technological developments that can accelerate the development of the legal system. Furthermore, Arthurs divides interdisciplinary research style into pure legal research (fundamental research) and applied law research (law reform research). This dichotomy shows that fundamental research examines the implementation of the law for academic purposes such as the sociology of law, law, and economics, etc. , whereas law reform research discusses the implementation of the law with specific objectives which are generally to facilitate changes in the future (Chynoweth: 2008, pp. 28-38). This research is a law reform research because this research aims to offer a new paradigm in the industrial era 4.0 with the rapid development of technology; it should be that the development of the technology supports the process of forming laws and regulations.

As a law reform research, where not many previous studies discuss similar themes, this research is an exploratory study. Researchers explore when they have little or no scientific study of the group, process, activity, or situation they want to examine but still have reason to believe that it contains elements that are worthy of research (Stebbins: 2001, pp. 2-17). The approach used in legal research is the statutory approach, conceptual approach, case approach, historical approach, and comparative approach (Marzuki: 2005). The approach used in this study is the approach to the law relating to the formation of laws and regulations and a comparative approach to the practice of using technology, especially big data in legal practice in general and the process of forming laws and regulations in particular.

## **RESULTS**

### **The Urgency of the Use of Big Data in the Formation of Laws and Regulations**

According to Milakovich as quoted by Bram Klievink (Klievink et al.: 2017, pp. 267-283), big data can help governments improve the efficiency, effectiveness, and transparency of their performance, including in the formation of legislation. In this discussion, the authors focus on the use of big data that aims to encourage public participation in the process of forming the legislation.

One form of the application of public participation is in the form of legal studies and research so that it can be recognized what are the needs, problems, desires and interests and aspirations of the people properly and correctly, and therefore the policies and regulations made will be able to reflect what is of interest and people's aspirations (Nasional: 2016). All people certainly have the same right to give their aspirations regarding a statutory regulation, as guaranteed in Article 96 paragraph 1 of Law no. 12 of 2011. But, unfortunately, the provisions of paragraph 2 of the article limit how the aspirations of the people are conveyed, namely through: public hearings; work visit; socialization; or seminars, workshops, or discussions. This provision certainly raises the question, how is the validity of community input delivered through ways other than those mentioned in the paragraph.

Considering that Indonesia is an archipelagic country whose people are spread across thousands of different islands, these methods are very ineffective, because it will take a very long time and a very large cost to do aspiration collection. Besides a large number of Indonesian people (number 4 largest in the world), with various backgrounds, it can be assumed that the input related to laws and regulations will be numerous and varied. If the input analysis from the community is done manually it will require a long time and a lot of resources. However, the existence of geographical factors in such a way and the amount of data in the selection of people's aspirations can be overcome by big data. By using big data, large scale data can be analyzed to produce legal directives and recommendations that are precisely following the needs of the regulated entity (Devins et al.: 2017, p. 357).

## Potential Application of Big Data in Forming Regulations in Indonesia

Before discussing the application of big data can be done at any stage of the formation of laws and regulations, the author will first review the existing information technology systems that have the potential to be integrated with the use of big data. Although Law No. 12 of 2011 limits the ways of conveying the aspirations of the community, but in practice in the field, several government agencies have taken the initiative to go beyond this, namely: Expertise Board of the Republic of Indonesia (BK DPR RI) through the application of Community Participation in the Drafting of the Law (SIMAS PUU) [21] and the National Legal Development Agency through the application of Partisipasiku! (Lauriano et al.: 2018, pp. 4-7). SIMAS PUU provides an opportunity for anyone to provide input on academic texts and draft laws and regulations that are being discussed by the Expertise Board of the Republic of Indonesia, only by entering identities such as name, age, gender, last education, occupation, email, and telephone number.

Likewise with the application Partisipasiku!, technically more or less the same. These two applications are still in the testing and development stages, so they still need a lot of improvement. Indeed, this can be a good start to open access to the widest possible community participation, but the authors find several important notes to consider, namely: a) The system for collecting people's aspirations accommodated by the SIMAS PUU and Partisipasiku applications! This, limited to the formation of laws, does not include other statutory provisions under the law. Based on the recapitulation of material test cases in the Supreme Court, the types of statutory regulations that are most frequently tested are ministerial and regional regulations. Therefore, this aspiration selection system should be carried out comprehensively for all types of laws and regulations; b) The system for collecting people's aspirations for all types of laws and regulations should be integrated into one application so that overlapping does not occur and the community will be easier and more practical in providing input. The public does not need to visit the website of the makers of different laws and regulations.

## DISCUSSION

Entering the core discussion of this section, normatively, the author does not find any provisions that rigidly regulate community participation can be done at any stage. The author assesses community participation can be done since the planning process, preparation, until the discussion. Meanwhile, the process of ratification or enactment and enactment does not require public intervention because it is only administrative. The description of the application of big data in the stages of forming legislation is as follows:

First, the planning process. Planning, in this case, relates to planning the formation of legislation compiled in an annual or five-year legislation program. In this process the community has the right to provide input on 2 things, namely changes to existing regulations and proposes the formation of new regulations. Proposed changes to existing regulations can be a means of evaluating these regulations and proposing the formation of new regulations aimed at filling the legal vacuum. It is hoped that with valid data regarding the legal needs of the community, the legislators will no longer produce regulations that are not following the needs and aspirations of the community.

Second, the preparation process. In this case, the drafting process starts from the stages of drafting the academic manuscript until the initial draft legislation. The selection of people's aspirations can be done after the academic paper and the initial draft of the legislation has been prepared. The academic paper and the initial draft were sent into the big data system so that it could be accessed by the community and then given input, such as features in the SIMAS PUU application and Partisipasiku! this time.

Third, the discussion process. The discussion is carried out through two levels of discussion, the first level of discussion is carried out to discuss issues related to the regulation and the submission of the views of each party involved in making regulations, then in the second level of discussion, a plenary meeting is held for decision making. In this case, community participation is carried out before the second level of discussion is held. The selection of aspirations at this stage becomes very crucial because it aims to ensure that all the

formulations and sounds of an article by article in the laws and regulations are following the needs and aspirations of the community.

The community as individuals and representatives' groups has the right to provide input on the laws and regulations that are being made. The various aspirations of the people who enter will be analyzed by big data and then processed into a new outcome that is concise and easily understood by the legislators.

## **CONCLUSION**

The use of big data for the collection of people's aspirations in the process of forming laws and regulations is a real solution for creating data-based laws and following the needs and aspirations of the community. Also, the use of big data will increase the effectiveness of the process of forming legislation because it can save time, money, and energy. Its application can be done at the planning, drafting, and discussion stages of each statutory regulation made. Each input will be analyzed by big data and then processed into a new output that is concise and easily understood by the legislators. Suggestions from this research are explorative research, so there needs to be further studies to discuss the application of big data in the formation of these laws and regulations. One study that can be further studied is about how big data not only analyzes the substance of input from the community but can also classify based on its legal position and validate its identity.

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