Music Genre Classification in Industrial Revolution 5.0 from the Perspective of Legal Axiology

By:
Elizabeth Nurmiyati Tamatjita[1], Ahmad Taufik[2]
[1,2]STMIK Widuri
[1]Email: tamatjita@gmail.com; [2]ahmadtaufik2108@gmail.com

Sections Info

ABSTRACT

Globalization is an inevitable process and the music industry is growing in line with the development of information technology. Music genre is a classification method to classify similar music of fusion of several music types. Music is enjoyed generation-wide through LP's, cassette tapes, CD, DVD and audio streaming. In Indonesia, after the 1998 reform, there is a strong tendency to support freedom of expression in music. This research is focused on the philosophy of law on the usage of big data in industrial revolution 5.0 age to classify music genres using internet-sources digital data, so that the audio data can have the economical, physical, entertainment, social, character, aesthetics, intellectual values, also moral, religious, technical and instrumental values which are beneficial to people with artistic sense in listening the sequence of words contained within the lyrics of songs of certain genres. Music genre classification in industrial revolution 5.0 from the perspective of legal and values has fulfilled the values contained therein, namely moral values, aesthetic values, religious values and technical or instrumental values.

I. INTRODUCTION

Revolution of industrial in the world cames from Continental European and United States in the period form about 1760 to more or less between 1820 and 1840. The history of industrial revolution in Asia started form Japan after the end of world war II special in Japan sundued by American allied since 1965. Right now in the world become more complex for that revolution to next step. The big data 5.0. Indonesia move forward to following the way world way by inplementation and socialization from the latest big data, there is 5.0. Why we must follow the world by using big data 5.0 and implementation. Because all the world use it right now and especially pandemic by covid-19 virus. All the bussiness, education, entertainment exectra use it.

Our research focus on industrial revolusion with the name big data 5.0 in Indonesia from the perpective legal and values. Indonesia right now use big data 5.0 to follow another country such Europe and United States. Esspecially on the entertaiment industry in listening the music.

Philosophy is a theory as a result of perception (reflection) based on reason and the experience of human life, especially the philosophers who question everything, including the question itself. Everything about reality and the possibilities that can be thought of or happened so that it gets basic questions (essential) about everything (reality) that exists or reality in the idea of reality itself, according to Rhiti (2011: 47). Frans Magnis-Suseno (2005: 37) has the opinion that philosophy has undergone several distinctive shifts. First, from the cosmocentric paradigm through theocentric to anthropocentric. Second, from substantial philosophy (from basic questions: what is there and what is there?) to critical. So that the philosophy of science according to the opinion of van Peursen (2003: 74-76) is by starting the person with whatever is encountered or experienced in everyday life. So the statement was philopsophie, labt sich nicht in eine Definition einfangen, sondern kann nur im Philosopieren selbst gelernt und erfahren werden, according to Rhiti (2011: 27) in order to understand and study philosophy itself as a science begins by understanding it by philosophizing.

Understanding the philosophy of law itself according to the general understanding of philosophy is: Love for wisdom regarding law; Continuous reflection on experience regarding legal reality or about law; An attitude towards legal norms and legal practices or realities related to law; A view of life related to law, with the law. In this case related to the values contained in law, an art of asking about law, methods or approaches to law, science or philosophy of law. As a science, of course, it also deals with issues of science and do other opinions related to the philosophy of law itself make sense and can be used to explain the meaning of philosophy of law itself? So the philosophy of law itself can be interpreted as a way of studying law philosophically or it can be said by using philosophical methods. For example, people reflect (analyze and synthesize) about the experience and understanding of law and legal phenomena experienced by humans.

According to Jan Gijssels and Mark van Hoecke (translation Bruggink, 1996: 179-180), one of the authors used in this research from seven areas of study of philosophy The law itself is to study the philosophy of law from Legal Axiology (value teachings, waardenleer): Determination of content and values such as feasibility, equality, justice, freedom of truth and abuse of rights. Meanwhile, according to Kattsoff (1989: 327) says that axiology is "the science that investigates the nature of values which are generally viewed from a philosophical point of view." In other words, axiology is a philosophy of values. These values can be seen from several points of view, for example psychologically and sociologically about the meaning of the term "value" and also about what is called "good" and the highest good. Similarly according to the views of Plato, Aristotle, Hegel, St. Augustine and Thomas Aquinas value is virtue, virtue and knowledge. Back to the statement from Gijssels and Hocke themselves who said that in this part of the philosophy of law decisions were not made about reality, but rather processed certain values, which were accepted first as the basis for positive legal rules and the legal system itself.

Music is part of the arts, which is an art genre that sings a creative work through processed objects that are rhythmic as accompaniment and vocals that convey the lyrics of a song. This study focuses on the use of data in a storage area that is in a cloud media

(storage that we do not know the exact place) but is on the internet network. Part of the copyrighted work in the world is represented on a chart such as the Billboard Hot 100, then awards for the achievements of singers, songwriters and composers such as the Grammy Award and American Music Award for example from awards for music in other worlds. Usually, song lovers like certain types of songs, namely genres. Such as rock, pop, jazz, keroncong, dangdut, latin, rhythm and blues music genres, alternative and other music genres. This research is focused on the music that is listened to by music lovers through internet-based streaming media by retrieving data through storage from one of the paid applications to listen again with a list of certain genres, namely Spotify.

The current digital age causes everyone to move quickly. Information obtained through online media is very fast, although not all of the information is accurate. Data is currently scattered and scattered online, both paid and free. Throughout the middle of 2020 and the end of 2021, social media users increased significantly as a result of the COVID-19 corona virus pandemic. At the same time, work that was originally carried out face-to-face has turned into work from home. All industries are affected by this pandemic. The entertainment sector is also not spared. The purpose of this research is how to create happiness for people affected by the pandemic through music at the lowest cost, so that when happiness is created, all existing problems can disappear and can create optimism for everyone, especially the Indonesian people, especially by listening to songs according to the flow or genre. preferred genre. It was said by Tamatjita and Mahastama (2019: 112-113) that several types of original music genres from Indonesia got contact from foreign cultures that came and in the end created several types of Indonesian khan music, for example Keroncong which came from Indonesia. Many musical elements from the island of Java with music from Portugal. This type of music is considered contemporary local music. It can be said that music with a genre (type/stream) in the form of Keroncong is Indonesian local music, but does not have characteristics that are identical to the cultural roots of a particular culture in Indonesia.

Based on research from Panagakis, Benetos and Kotropoulos (2008: 583), handling large data using databases in handling bear tensor data and obtaining compact feature vectors especially those that are suitable for classification, using three multilinear subspace technique as examined, the three are named the Non-Negative Tensor Factorization (NTF), the High-Order Singular Value Decomposition (HOSVD), and the Multilinear Principal Component Analysis (MPCA). Meanwhile, in the research conducted by Carlos N. Silla Jr.1, Alessandro L. Koerich2 and Celso AA Kaestner (2008:16), which presents a new approach to the problems that occur in classifying song genres, based on the ensemble approach and decomposition of musical signals based on the dimensions space and time. The feature vectors are selected from different time segments. The selection of feature vectors is based on different time segments, namely from the beginning, middle and end of the music to apply a simple but precise and effective song classification with an approach through spatial decomposition of the One-Against-All and Round Robin approaches used. The results obtained from the partial classification through the view of the problem space in the determination of the genre itself, then a unique final classification label is provided. According to Thomas Lidy and

Andreas Rauber (2005: 34), the study emphasizes the importance of transforming psycho-acoustic studies for the effective calculation of audio features. The results obtained, the good and problematic part of the algorithm for Rytem Patterns feature extraction is identification. Furthermore, two new feature representations are used, namely the description of Statistical Spectrum and Rhythm Histogram features. The results of both individual and combined feature sets were achieved through the assignment of music genre classification, which involved 3 reference audio collections. Then the results are compared with measurements obtained in the same data set. The results of the experiments carried out confirm that in all settings, incorporating psycho-acoustic improvement transformation resulted in a significant increase of classification accuracy. Organizing and arranging large amounts of music is said by Zhang, Lei, Xu and Xing (2016: 3304) that it is impossible for humans. Through genre classification is one of the ways used to compose music content. Effective and precise systemically in classifying music genres is needed by enabling automatic ordering and organizing of large music archives.

According to Riswandi (2016: 345), in research regarding the use of the internet in existing applications by: First, the existence of the internet has a negative impact on human attitudes and behavior. The negative impact is seen through the rise of cases of copyright infringement. For this reason, the issue of copyright protection on the internet is one of the crucial issues. Second, copyright protection on the internet can be implemented through a technological approach or a legal approach. If this approach is carried out individually, then copyright protection on the internet becomes very difficult to implement. The model of collaboration between technology and legal approaches becomes difficult to realize. Third, the existence of copyright protection instruments on the internet is collaborated through technological and legal approaches. The era of the industrial revolution 5.0 in the development of information technology will be more advanced and sophisticated. This is what changes the pattern of interaction between law and society. Law itself in interaction with artificial or artificial intelligence and the use of algorithms, hopes to be able to provide better answers to various situations and human problems that always exist and arise from time to time. Even with this technology, it is predicted that in Indonesia it self will replace the role of lawyers and judges to decide cases in the future. The predictions were analyzed in this study from the point of view of progressive legal theory which views the law in principle must be developed for humans, the opinion of the Qur'ani Dewi Kusumawardani (2019: 166).

II. METHOD

The method used in this research is one of the studies of legal philosophy according to Jan Gijssels and Mark van Hoecke (1982, translation from B. Arief Sidharta, 2001: 57 or Bruggink (1996: 179-180), namely Legal Logic (Rechtslogika) namely research on the rules of legal thought and juridical argumentation, logical building and the structure of the legal system. Legal logic has developed into an independent branch of Legal Philosophy and even become a discipline of its own in the science of law, in which it takes its own right next to Philosophy of Law. According to Rhiti in his book (2011: 63), the scope of legal philosophy in the context of this book is the sections discussed in the

philosophy of law, namely about humans, the nature of law, knowledge (epistemology) of law, values, ethics or morality, justice, freedom, truth and power. Apart from the values above, another method in the area mentioned above is legal axiology which states the teachings of values, waardenleer: where the determination of content and values such as feasibility, equality, justice, freedom, truth and the use of rights. The emphasis on the method of 2 (two) areas of study of the philosophy of law is the main part of our research. The object of our research data is a mobile based application, namely Spotify which is currently widely used by cyberspace user in Indonesia. Spotify itself is a paid application with a basic subscription per month of 59 rupiahs. The advantage of this application is that it can listen to music according to the genre we want. In this case, Sportifly provides a sense of happiness for humans, so that it affects the quality of human life itself, which is currently in a pandemic period, especially in Indonesia. The genres of music that are given and offered to loyal users are arranged in order based on how often they are listened to and accessed by users every week in the order of the top 10 charts.

III. RESULTS AND DISCUSSION
A. Humans and Legal Axiology

Determination of content and values such as feasibility, equality, justice, freedom, truth, abuse of rights is studied from the human side as social beings. Human philosophy is brought to the fore in the context of law. According to Notohamidjojo (1975:11) that the classic question that has been asked in ethical juristic issues in legal philosophy is one of them, what is the position of humans in law? The answer is not only normatively, namely humans are legal subjects, but there are many other aspects related to humans and the law. So it is necessary to ask first, who is a human being? Likewise, how is the law in humans? Determination of content and values such as feasibility, equality, justice, freedom, truth, abuse of rights is studied from the human side as social beings, which will be discussed in this study, namely:

1. Appropriateness
   In terms of cognitive abilities, humans are said to be worthy if they can interact socially with other humans.
2. Equality
   Seen from the level of education.
3. Justice
   Justice is declared according to class based on justice in a democratic country like Indonesia.
4. Freedom
   Freedom itself is not interpreted as broadly, but based on morality.
5. Truth
   Absolute truth is expressed in quantitative terms as in the field of mathematics.
6. Abuse of rights
   Done if humans take rights that don't belong to them.

B. Legal Logic (Rechtslogika)

Legal logic is focused on research on the rules of legal thinking and juridical argumentation, logical buildings and structures of the legal system itself which is part of the philosophy of law as previously mentioned. Rene Descastes (1596-1650), a French philosopher, who once stated the importance of human reason or rationality (Siswadi, 2021). Rationality is universal in all human beings, and that ratio is a way to determine what is morally right and good and the elements that make up a good society (T.Z. Lavine, 2002: 80). So that in this study the moral nature of using the Spotify application whose data is in a large server in the cloud which for the user himself does not know for sure where the server is located, is subject to the rules of use as a user and has been approved by the user during the installation process.

C. Orientation of Value Understanding

What is the meaning of value? If people often refer to identification as good or valuable, then it can be said as the definition of value itself. It can also be interpreted as everything that is good in terms of decency. If it is connected with the material, the value will be attached to the object in itself and the subject who gives the value. For example the computer. Good value because it can provide convenience to humans in the simplest work, namely data processing as currently carried out by the author. So it can be said in this context that value can be intrinsic, namely value in material or object as well as instrumental (value can be utilized). Another meaning of value itself is judgment, which is connecting or comparing something with something else and the end result is decision making. The decision is a value decision (H. Rhiti, 2016: 173).

D. Classification of Values

The classification of values has been widely put forward by philosophers. The author uses only one of the values from Bruggink (1996: 249) in his description of value ethics, classifying it as follows:
1. Moral values, which are related to what is morally good. This value must be realized by humans in their lives.
2. Aesthetic values, including the values of beauty. This is a necessity that does not always have to be realized.
3. Religious values, which include moral and aesthetic values from another order, namely from the point of view of a particular religion.
4. Technical or instrumental value, namely the value associated with the proper functioning of a particular tool.

E. Values in Law

The value of individual or human personality would be more appropriate in the recognition of property rights and basic human rights themselves, so that humans, both individuals and communities, develop as a whole. Frans Magnis-Suseno (2001: 114), suggests three basic values in law which according to him are:
1. Equality, which is meant is the equality of all people before the law.

2. Freedom, which is an important value that must be guaranteed by law.
3. Solidarity or the value of togetherness, namely the law is the institutionalization of togetherness or human socialization. The law must not only be able to guarantee solidarity, but also give birth to solidarity between people.

The hierarchy of values in law, is a matter of the hierarchy of values in the sense of high and low and important or less important than the values themselves. According to Eduardo Garcia-Maynez (Mexican legal expert) who accepts the objective truth of legal values. So that it can be interpreted that the value in the law cannot be interpreted or determined in a hierarchical order because of its relative nature, according to Rhiti (2011: 193).

## 1. Spotify as an Application for Listening to the Music based on Genre

Spotify as a song sharing application that can be installed on tiny computers such as cell phones, ipods or tablets. The current trend is all-streaming, namely by obtaining data and enjoying music directly from the tiny computer that is used without the need to download the song you want to listen to first. If you like music as part of your life, then this Spotify application can be chosen to be used as one of the achievers of mental happiness which will later create inner peace so that later you will get a better quality of life. This study focuses on the taste obtained from listening to music through the Spotify application. As for the songs uploaded by both the label and the artist on the Spotify application, especially Indonesian songs, there are those that have not been registered in Law No. 28 of 2014 concerning Copyright. But if it has been published by a singer for the first time, legally it can be said to be legal. If anyone imitates the copyrighted work, it can be legally resolved.

2. Legal Axiology for Paid Music Apps

In reality, when humans listen to music, it is another way of conveying the deepest feelings of human beings that sometimes cannot be conveyed to other humans directly. So a container is needed as a place for reflection about his heart, whether happy, sad, and so on. In the philosophy of law that examines the teachings of values that refer to eligibility, equality, justice, freedom, truth and abuse of rights for Spotify applications in this study are discussed from the user side.

First, for the feasibility value as a music application that provides songs based on genre, the results obtained from 2 users when researchers conducted interviews turned out to result in the conclusion that Sprotify is worthy of being one of the paid application providers that provides users' needs according to their promises. Second, according to the value of the equation, in this case Spotify can be accessed by all genres listed on the application and users can choose both Indonesian songs themselves and songs in English or other foreign languages along with the chosen artist (singer). So that it does not differentiate or create classes from the user side (social status). Third, the value of justice itself is fair, which is unfair in the sense that ordinary users (standard) and premium users get different treatment unequally, because they pay different subscriptions. Fourth, the value of freedom in question for this Spotify application is for users to be more flexible

in choosing the songs they like based on their genre. If users often play the same type of music (genre) over and over again, Spotify creates a playlist based on the genre they like along with a list of songs. Fifth, the truth of this Spotify application that it provides all songs based on a list of genres legally, meaning that none of the songs on Spotify are cover versions. Sixth, Spotify itself is subject to the laws that apply in the countries where the application sells its products. So that the abuse of moral and economic rights against composers, singers and songwriters does not occur. The Spotify paid music application used by one of the paid users is shown in Figure 1. Genre of Crying Song.
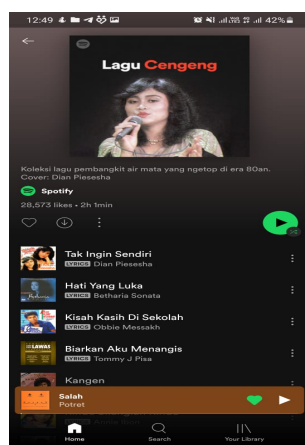
Figure 1. List of Songs on the Spotify App with crying songs genre

3. Bruggink's classification of values for the Spotify App

There are four values that are classified as ethical values according to Bruggink. The classification based on the values in the description of the ethics of the values themselves towards the Spotify application for users is as follows:

First, the moral value of the Spotify application is that users consciously buy the use of both standard at a subscription price of 59,000 rupiahs per month and premium subscribers at a price of 300,000 rupiahs per three months. Means giving awareness to users to appreciate other people's copyrighted works by making payments and not downloading the songs for free let alone reselling them. This means that the morale of users in Indonesia is good because it indirectly helps protect the moral and economic rights of actors in the music industry itself.

Second, the aesthetic value contained in songs with certain genres produces a beauty that can be artistically and visible. Whether or not it is mandatory, just like users who listen to songs of the selected genre on the Spotify application, their subconscious depictions of individual song representations differ in the minds of users from one another. It will be the same description for the genre of the song and the music played.

Third, from a certain religious point of view, the moral and aesthetic values of the songs played as playlists for subscribers have rules and elements related to immorality in the lyrics, do not offend any particular religion, do not contain invitations that are contrary to religious values. so far. The results of this study were obtained from 2

resource persons who use the Spotify application which is a part of their daily lives by giving them a sense of happiness.

Fourth, the technical or instrumental value of the Spotify application for users is very good. It is proven by the presence of high quality streaming songs, so that it spoils the listeners. Another advantage that customers get is the option to change songs, want to suffle, get good audio, a month free to change songs with a calculation a day can be free to change songs as much as 12 and for 1 hour free to change songs as much as 6. So it can be said that this Spotify application has provided value technical or instrumental that a standard or premium paid user expects.

IV. CONCLUSION

The conclusion was obtained based on the values in the description of ethics-values according to Bruggink, it was found that the rapid technological development and using big data 4.0 in the industrial revolution that is currently happening in Indonesia awakens application users to obey written legal rules, namely subscriptions that are unconsciously carried out on composers, artists and songwriters whose work is on the Spotify app. Figure 1 shows the Music Genre Classification in Industrial Revolution 4.0 from the Perspective of Legal and values has fulfilled the values contained therein, namely moral values, aesthetic values, religious values and technical or instrumental values.

So it can be argued that humans who get the results of values based on the classification of aesthetic values according to Bruggink are seen from the point of view of legal philosophy as part of the law itself by obeying the Spotify application to get happiness and the values used in this study are suitable. Finally, Indonesia got implementation from its citizens in the implementation of the industrial revolution 4.0 by using one of the paid applications Spotify as a means of sharing data in a large storage area with the term big data 4.0. Hopefully Indonesia with the awareness of its citizens to gain happiness through the use of internet applications can improve the goals and missions of the President of Indonesia like other developed countries by taking a role in the industrial revolution 5.0 later.

So it can be argued that humans who get the results of values based on the classification of aesthetic values according to Bruggink are seen from the point of view of legal philosophy as part of the law itself by obeying the Spotify application to get happiness and the values used in this study are suitable. Finally, Indonesia have got an implementation from citizens of the industrial revolution 4.0 by using one of the paid applications Spotify as a means of sharing data in a large storage area with the term big data 4.0. Hopefully Indonesia with the awareness of its citizens to gain happiness through the use of internet applications can improve the goals and missions of the President of Indonesia like other developed countries by taking a role in the industrial revolution 5.0 later.

REFERENCES

Bruggink, J.J.H. (1996). *Refleksi Tentang Hukum*. Bandung: Citra Aditya Bakti, p.179-180, p. 249.

Kattsoff, L.O. (1989). *Pengantar Filsafat (alih bahasa Soejono Soemargono)*. Yogyakarta: Tiara Wacana, p. 327.

Kusumawardani, Q.D. 2019. *Hukum Progresif dan Perkembangan Teknologi Kecerdasan Buatan*. In journal of Veritas et Justitia, vol. 5, pp. 166. https://journal.unpar.ac.id/index.php/veritas/article/view/3270/2712.

Lavine, T.Z. (2002). *From Socrates to Sartre: the Philosophic Quest (terjemahan Indonesia: Petualangan Filsafat dari Socrates ke Saetre)*. Yogyakarta: Jendela, p. 80.

Lidy, T. and Rauber, A. (2005). *Evaluation of Feature Extractors and Psycho-Acoustic Transformations for Music Genre Classification*. In proceeding of ISMIR, pp. 34, 2005. https://ismir2005.ismir.net/proceedings/1033.pdf.

Magnis-Suseno, F. (2001). *Etika Politik. Prinsip-prinsip Moral Dasar Kenegaraan Modern*. Jakarta: Gramedia Pustaka Utama, p. 114.

Magnis-Suseno, F. (2005). *Pijar-pijar Filsafat*. Yogyakarta: Kanisius, p. 37.

Notohamidjojo. (1975). *Soal-soal Pokok Filsafat Hukum*. Jakarta: BPK Gunung Mulia, p. 11.

Panagakis, I., Benetos, E. and Kotropoulos, C. (2008). *Music Genre Classification: A Multilinear Approach*. In proceeding of ISMIR 2008 – Session 5a – Content-Based Retrieval, Categorization and Similarity 2, pp. 583. https://archives.ismir.net/ismir2008/paper/000181.pdf.

Rhiti, H. (2011). *Filsafat Hukum, Edisi Lengkap (Dari Klasik ke Post Moderenisme)*. Yogyakarta: Universitas Atma Jaya Yogyakarta, p. 27, p. 47, p. 63, p. 173, p. 193.

Riswandi, B.A. (2016). *Hukum dan Teknologi: Model Kolaborasi Hukum dan Teknologi dalam Kerangka Perlindungan Hak Cipta di Internet*. In Jurnal Hukum Ius Quia Iustum, vol. 3, pp. 345. https://media.neliti.com/media/publications/84135-ID-hukum-dan-teknologi-model-kolaborasi-huk.pdf.

Silla Jr., C.N., Koerich, A.L. and Kaestner, C.A.A. (2021). *A Machine Learning Approach to Automatic Music Genre Classification*. In journal of the Brazilian Computer Society, pp. 16, 2008. https://journal-bcs.springeropen.com/articles/10.1007/BF03192561.

Siswadi, G. A. (2021). *Argumen Logis tentang Eksistensi Tuhan dalam Wacana Filsafat Ketuhanan. Sanjiwani: Jurnal Filsafat, 12(2), 127-135.*

Tamatjita, E.N. and Mahastama, A.W. (2019). *Classification of Traditional and Modern Music using NCC and k-NN*. In Proceedings of the 1st International Conference on Intermedia Arts and Creative Technology - CREATIVEARTS, pp. 112-113, 2019. https://www.scitepress.org/PublicationsDetail.aspx?ID=S4Io4SXsF5M=&t=1.

Van Peursen, C.A. (2003). *Menjadi Filsuf, Suatu Pendorong ke Arah Berfilsafat Sendiri*. Yogyakarta: Qalam, 2003, p. 74-76.

Zhang, W., Lei, W., Xu, X. and Xing, X. (2016). *Improved Music Genre Classification with Convolutional Neural Networks*. In proceeding of Interspeech, pp. 3304. https://www.isca-archive.org/interspeech_2016/zhang16h_interspeech.pdf.

*Elizabeth Nurmiyati Tamatjita (Corresponding Author)
Department of Informatics, STMIK Widuri
Jl. Palmerah Barat 353, Jakarta Selatan, 12210
Email: tamatjita@gmail.com

Ahmad Taufik
Department of Information System, STMIK Widuri
Jl. Palmerah Barat 353, Jakarta Selatan, 12210
Email: ahmadtaufik2108@gmail.com