

THE CONCEPT OF GAMIFICATION IN THE TRAFFIC CRIMINAL SYSTEM IN INDONESIA

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Article's Information	Abstract
<p>Keywords: gamification, small crime, traffic.</p> <p>DOI: https://doi.org/10.31599/s52t5e91</p>	<p><i>The use of game elements in non-game situations with the aim of increasing positive learning behavior is known as gamification. This paper aims to investigate the concept of gamification in the Indonesian light traffic criminal system. Incorporating gamification components such as points, levels, badges, rankings, and avatars to improve compliance with traffic regulations is a key goal. To understand the potential of gamification in traffic law, this research looked at related literature and regulations. The findings show that gamification can be used to increase awareness and compliance of traffic laws effectively. Gamification elements such as points and badges provide positive incentives, while levels and rankings offer motivating feedback. Avatars help in personalizing the user experience. Gamification in the light traffic criminal system can be a creative way to improve legal compliance by providing road users with a more interactive and engaging approach.</i></p>

I. INTRODUCTION

Transportation is a very important and strategic tool for improving the economy, strengthening national unity and integrity, and influencing various aspects of national and state life. Transportation is also useful for meeting living needs, increasing population and economic growth in developing countries like Indonesia. high mobility. To meet high mobility needs, people certainly need transportation facilities. Currently, the mode of transportation most widely used by the public is land transportation, namely private and public transportation.



In Indonesia, minor traffic violations are often considered trivial by society, but have a significant impact on order and safety on the road. The applicable traffic regulations aim to create a safe driving environment, but violations still often occur such as exceeding the speed limit, not using a helmet, or violating traffic lights. Compliance with traffic laws is a critical aspect in reducing the risk of accidents and maintaining order on the roads.¹

In this context, the concept of gamification emerged as an innovative strategy to increase awareness and compliance with traffic laws. Gamification is the application of game elements in non-game contexts to increase participation and motivation. In a traffic criminal system, this could include the application of points as incentives for good driving behavior, levels to mark individual progress, badges or badges to recognize specific achievements, rankings to foster a sense of healthy competition, and avatars for personalization and deeper engagement.² By applying the principles of gamification, it is hoped that a system can be created that not only enforces the law but also actively encourages road users to follow traffic rules in a more interactive and interesting way. This approach has the potential to change society's perception of legal compliance from one that is boring and punitive to a more positive and motivating experience

II. METHODS

This research uses observational research methods in a normative manner. This method is carried out by reviewing and researching library materials in the form of primary legal materials and secondary legal materials. The primary legal materials used are the laws and regulations in force in Indonesia, namely Law Number 22 of 2009 concerning Road Traffic and Transportation, Government Regulation Number 80 of 2012 concerning Procedures for Inspecting Motorized Vehicles on the Road, and Minister of Transportation Regulation Number 108 of 2017 concerning Procedures for Issuing Driving Licenses. The secondary legal materials used are books, articles and scientific journals that discuss gamification, law enforcement and traffic.

¹ Doli Novaisal, 'Juridical Review of Legal Enforcement and Legal Certificate of Violations of Tilang Reviewed from The Book of Criminal Law (Criminal Code)' *Riau Law Journal*. 3.1 (2019): 23, online, Internet, 5 Dec. 2023. , Available: <https://rlj.ejournal.unri.ac.id/index.php/RLJ/article/view/5640>.

² Sean Hinton et al., 'Enterprise gamification systems and employment legislation: a systematic literature review' *Australasian Journal of Information Systems*. 23 (2019), Available: <https://journal.acs.org.au/index.php/ajis/article/view/2037>.

Data was collected through literature studies by reading and studying relevant legislation and secondary legal materials. Data analysis was carried out using qualitative descriptive analysis methods. This research aims to comprehensively understand the existing legal framework and explore how gamification elements can be integrated into the minor traffic criminal system in Indonesia. The analysis was carried out critically and systematically to assess the feasibility and potential impact of applying the gamification concept in the context of existing traffic laws

III. DISCUSSION

Factors causing minor traffic crimes

Law Number 22 of 2009 concerning Road Traffic and Transportation was created to support economic growth and regional development by ensuring security, safety, order and smoothness of traffic and road transportation. One of the factors that influence traffic crimes is weak human resources. This weakness causes people to not care about driving problems on the road, which causes chaos on the road which can lead to criminal cases even at a lower level of resolution.

One of the human resource problems that often arises as a cause of traffic crimes is underage driving. Minor traffic crimes are often committed by minors who drive vehicles, such as not having a driver's license, STNK and wearing a helmet,³ then driving while using a cell phones.⁴ Apart from children, teenagers also often commit traffic violations such as driving vehicles without paying attention to traffic signs and not equipping motorized vehicles with number plates that match their intended uses.⁵ Foreign nationals are also recorded as committing traffic violations, especially in areas that are gathering places such as tourist destinations.⁶

Another factor that can cause minor traffic crimes to occur is vehicles. Some examples of traffic violations related to vehicles are violations of the permitted capacity

³ Rahmat Fauzi, 'Penegakan Hukum Terhadap Pelanggaran Lalu Lintas Oleh Anak Sebagai Pengendara Sepeda Motor Di Wilayah Hukum Polres Bukittinggi' *Pagaruyuang Law Journal*. 3.2 (2020): 148–163, online, Internet, 5 Dec. 2023. , Available: <https://jurnal.umsb.ac.id/index.php/pagaruyuang/article/view/1803>.

⁴ Rizki Agustina and Agus Machfudz Fauzi, 'Pelanggaran Lalu Lintas Oleh Anak Dibawah Umur di Jalan Tunjungan Surabaya' *Jurnal Hukum Sasana*. 8.2 (2022): 405–414, Available: <https://ejournal.ubharajaya.ac.id/index.php/SASANA/article/view/1119>.

⁵ Rahayu Nurfauziah and Hetty Krisnani, 'Perilaku Pelanggaran Lalu Lintas Oleh Remaja Ditinjau Dari Perspektif Konstruksi Sosial' *Jurnal Kolaborasi Resolusi Konflik*. 3.1 (2021): 75, Available: <http://jurnal.unpad.ac.id/jkrk/article/view/31975>.

⁶ Foreign nationals are also recorded as committing traffic violations, especially in areas that are gathering places such as tourist destinations.

and load of goods according to their intended purposes,⁷ and other violations related to vehicle safety.

Legal and Technological Innovations Related to Minor Traffic Crimes

Several legal and technological innovations have been carried out and/or are in the process of being discussed by law enforcement officials, including the Police, Prosecutor's Office and Supreme Court. The Supreme Court through Supreme Court Regulation number 12 of 2016 concerning Procedures for Resolving Traffic Violations which categorizes traffic violations according to the Rapid Examination Procedure.⁸ In relation to technological innovation efforts to reduce traffic violations, ETLE (*Electronic Traffic Law Enforcement*) is an electronic tool that uses *Automatic License Plate Recognition* (ANPR) technology which has a camera to detect traffic violations and motorized vehicles.

Initially, ETLE could only detect red light and flag violators, now it can detect various violations. These include speed limits, seat belt use, cell phone use, and helmets. Once used, the e-ticket system has worked well, although there are deficiencies that can still be improved. The number of violations has decreased, and people using road traffic feel helped by this system.⁹ Regarding perpetrators of traffic crimes committed by children, the consequences of accidents always include good and fair legal solutions. In this settlement, the rights and obligations of each party must be fulfilled and protected as best as possible, especially in cases of accidents that cause injury or death. Legal diversion is sought to be a means for the purpose of fair resolution of criminal cases of traffic violations committed by children.¹⁰ By considering the age and characteristics of the child's actions, new diversions can be carried out. Diversion can only be attempted and offered to parties who have reached an agreement and meet the conditions for doing so.

Proposed Gamification Concept in Legal Efforts for Traffic Crimes

⁷ Rosmawati, Muhamad Hadziq, and Fitrah Rumaisa, 'Analisis Data Pelanggaran Lalu Lintas di Persimpangan Kota Bandung : Studi kasus Jalan Raya Soekarno Hatta' *Jurnal Informatika-COMPUTING*. 10.1 (2023): 7–14, online, Internet, 5 Dec. 2023. , Available: <https://ejournal.unibba.ac.id/index.php/computing/article/view/1131>.

⁸ Erly Pangestuti and Fajar Sulisty Wahyudi, 'Prosedur Penyelesaian Hukum Terhadap Pelanggaran Lalu Lintas Dalam KUHP' (2021) 7 *Yustitiabelen* 72 accessed 5 December 2023.

⁹ Aldy Putu Nagendra and Vera Rimbawani Sushanty, 'Efektivitas Penerapan e-Tilang Dalam Penindakan Pelanggaran Lalu Lintas di Wilayah Hukum Polrestabes Surabaya' *Jurnal Tatapamong*. (2022): 143–154, Available: <https://ejournal.ipdn.ac.id/jurnaltatapamong/article/view/2513>.

¹⁰ Yoga Nugroho and Pujiyono Pujiyono, 'Penegakan Hukum Pelanggaran Lalu Lintas oleh Anak: Analisis Kepastian dan Penghambat' *Jurnal Pembangunan Hukum Indonesia*. 4.1 (2022): 49–60, Available: <https://ejournal2.undip.ac.id/index.php/jphi/article/view/13544>.

Handling minor traffic tickets is often considered less effective. This is because people tend to view traffic tickets as an obligation that must be fulfilled without awareness of obeying traffic regulations. Apart from that, the ticketing process is also often considered complicated and takes a long time. One effort to increase the effectiveness of handling minor traffic tickets is to apply the concept of gamification. Gamification is the application of game elements in non-game activities. This concept has been widely applied in various fields, including education, health and business. The application of the gamification concept in handling minor traffic tickets can be done using basic gamification elements, namely points, badges, levels, leaderboards and avatars.

1) Points

Points can be used to measure a person's achievements or accomplishments in an activity. In the context of handling minor traffic tickets, points can be given to people who do not commit traffic violations during a certain period. For example, people who do not commit violations for 30 consecutive days will get 10 points. People who do not commit violations for 60 consecutive days will get 20 points, and so on. Points can also be awarded to residents who participate in activities to help police officers handle traffic accidents, such as reporting traffic accidents or helping to socialize traffic order in the community. Points can be awarded in stages for activities at the sub-district (polsek), district (polres), provincial (polda) and national levels.

2) Badge

Badges can be used to reward someone for their achievements. In the context of handling minor traffic tickets, badges can be given to people who have achieved a certain number of points. For example, people who have collected 100 points will get the "Exemplary Traffic Performer" badge. People who have collected 500 points will get a "Traffic Hero" badge.

3) Levels

Levels can be used to show a person's progress in an activity. In the context of handling minor traffic tickets, levels can be used to show public compliance with traffic regulations. For example, people who have just started this activity will be at level 1. People who have collected 100 points will move up to level 2. People who have collected 500 points will go up to level 3.

4) Leaderboard

Leaderboards can be used to display a person's achievements in an activity. In the context of handling minor traffic tickets, a leaderboard can be used to display people who

have the highest level of compliance with traffic regulations. Leaderboards can be published publicly, so people can compete to be the best.

5) Avatars

An avatar is a digital representation of a person. In the context of handling minor traffic tickets, avatars can be used to provide identity to the public in this activity. Avatars can be designed according to the wishes of each community. This can increase people's motivation to participate in this activity.

IV. CONCLUSION

The application of the gamification concept in handling minor traffic tickets has several potential benefits, namely: first, increase public awareness to comply with traffic regulations. Gamification elements, such as points, badges, levels, leaderboards, and avatars, can provide motivation for people to become more compliant with traffic rules. Second, increase the effectiveness of the ticketing process. The complicated and time-consuming ticketing process can be minimized by implementing the concept of gamification. This is because people can carry out the ticketing process online. Third, increase transparency and accountability in the ticketing process. The online ticketing process can be monitored in real-time by the public. This can increase public confidence in the ticketing process.

The application of the gamification concept in handling minor traffic tickets is still in the development stage. However, this concept has the potential to be an effective solution to increase the effectiveness of handling minor traffic tickets in Indonesia.

V. SUGESTIONS

The following are several recommendations for applying the gamification concept in handling minor traffic tickets: *first*, the application of the gamification concept must be carried out in a comprehensive and integrated manner. All basic elements of gamification must be implemented simultaneously to provide maximum effectiveness. *Second*, the application of the gamification concept must be adapted to the needs and characteristics of society. Gamification elements must be designed in such a way as to attract people's interest and motivation to participate. *Third*, the application of the gamification concept must be carried out continuously. The effectiveness of the gamification concept can decrease if it is not carried out sustainably. With proper implementation, the gamification

concept can be an effective solution to increase the effectiveness of handling minor traffic tickets in Indonesia

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