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LEGAL CERTAINTY TO PROTECT SPORTS INDUSTRY COMPANIES RELATED TO TECHNOLOGICAL DOPING AMONG ATHLETES IN ATHLETICS

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ABSTRACT

This study aims to analyze the legal problems of the phenomenon of technological doping in athletic sports, legal certainty for the protection of sports industry companies related to the phenomenon of technological doping among athletes in athletic sports, and the impact of world athletics policies on patent enforcement. The author uses normative legal research methods with a statutory approach and a conceptual approach that is analyzed qualitatively with descriptive methods sourced from primary, secondary, and tertiary legal materials. The results of the study indicate that the legal problem of the phenomenon of technological doping in athletic sports is that there is no legal certainty regarding the characteristics of the elements of the use of sports equipment technology which is considered to provide unfair advantages for athletes in competition. So that regulations are needed that can explain how technology is considered to be able to provide unfair advantages in competition. Legal certainty for the protection of sports industry companies related to the phenomenon of technological doping among athletes in the field of athletics is through the examination of sports equipment by independent experts, the availability of products in general sales, the suitability of shoe soles based on a predetermined thickness, and sanctions against athletes and delegation members. However, the policies in World Athletics may result in the reduction of exclusive rights owned by inventors to products that have obtained patents. So that to obtain maximum benefits in patent registration for athletic sports products, it is necessary to consider several things including the originality of the invention against other products, the potential harm caused, and consideration of the time between patent filing and sales to the open market.

Keywords: *legal certainty, doping technology, athletic sports*

INTRODUCTION

Technology development in sports is one way of innovation upon products developed by sports industrial companies. This innovation in sports equipment is expected to give the best performance for athletes in worldwide competitions. Technology development in sports is fundamental for athletes, and referees, even supporting all the needs including tools and equipment. However, the development itself does not rapidly grow without issues that it has been causing challenges that are likely threatening sports integrity. The product potentially disturbs sports integrity whenever it possesses any advantages to increase athletes' performance during competition, causing inequity. This technological advantage is similar to when an athlete uses doping which has been prohibited for a long time. World Anti-Doping Agency (WADA) examines that doping is fraudulent action and contradicts integrity and intrinsic values as "the spirit of sport", which is a standard to ensure athletes can compete in a fair and equal kind of way (Rees, 2017).

The definition of doping based on Article 1 paragraph 21 of Law Number 11 of 2022 concerning Sports states that doping is defined as the use of prohibited substances and/or methods to improve performance and violations of anti-doping regulations. However, the rumor about doping has manifested into 'technological doping' due to technological

advancement which releases various types of high-tech sport equipment. In 2006, WADA responded this rumor which is currently becoming a real threat, while the decision to permit or ban the latest technology that is related to sports equipment, is the responsibility of each sports organization (Breakingmuscle.com.). The phenomenon of technological doping has become a hot issue in the field of athletics related to Nike Vaporfly 4% shoes which have been used in marathon races by athlete Eliud Kipchoge who has broken the world record for the fastest marathon time in the world in 2019. The problematic issue was the thick foam made of polyether block amide (PEBA) and carbon fiber plates (CFP) in the special Alphafly version of the Nike Vaporfly shoe used in the competition. These shoes are considered to improve the performance of athletes during matches. The performance increase from CFP is comparable to the 4-6% increase in EPO doping results (Haile, et.all, 2019).

World Athletics decided in 2020 that Vaporfly 4% was not banned as it did not improve athletic performance but only contributed to the efficiency of the foot mechanism (O'Riordan). According to Nike's CEO, the technology in the Vaporfly 4% “takes only the same materials incorporated in regular shoes and incorporates them in innovative ways that enable athletes to run best and safely” (Reuters.com). Technological developments provide conveniences and new ways of helping human activities, including sports. However, the innovation causes legal problems which can ultimately threaten the integrity of sports and also limit companies in developing their products. The results of research conducted by World Athletics also suggest that new technology can provide improvements to the performance of athletes, raising concerns that it could threaten the integrity of the sport. (Sport Tempo.com).

During the competition, athletes have the right to get the best quality equipment to support performance during matches and to win championships, and the sports industry should be given legal protection for their product innovations to support the development of sports. However, these efforts in making innovation can be a problem for companies if they are considered technological doping. Meanwhile, some sports organizations do not yet have clear regulations regarding sports equipment whether or not to include or exclude technological doping. Based on the description of the background above, the problems in the research are as follows; first, what are the legal problems with the phenomenon of technological doping in athletics? Second, What is legal certainty for the protection of sports industry companies related to the phenomenon of technological doping among athletes in the field of athletics? And third, how does World Athletics' policy impact patent enforcement?

METHOD

It is normative research, which is research conducted by analyzing norms of the law written with the main topic in this research (Zaini, 2011). The legal materials used include laws and regulations, books, articles, journals, reports, and other legal literacy. The research approach used a statutory approach, and a conceptual approach. The statutory approach is carried out by analyzing various rules and regulations related to the topic. A conceptual approach is an approach referring to perspectives and doctrines that develop in law (Marzuki, 2015).

RESULTS AND DISCUSSION

1. Legal Problems of Technological Doping Phenomena in Athletic Sports

The definition of doping is literally known within the scope of the prohibition of the use of drugs and prohibited substances. However, doping-related meanings can develop with the existence of a "Technological Doping" phenomenon. In terms of meaning related to technological doping, it can be interpreted that technological doping leads to the element of "the use of prohibited methods to increase sports performance". This is in accordance with the opinion of Klaus Vieweg which states:

"…, in order to avoid misunderstandings and regulatory loopholes, I would suggest replacing the term 'techno-doping' with 'forbidden measures and method'. This definition would include technical measures which are suited to creating unfair advantages in competition, endangering the health and bodily integrity of the athletes, and/or damaging the reputation of the sporting discipline and the organizations representing it. This definition allows us to comply with the principle of fairness, which requires differentiation without discrimination" (Vieweg, 2013).

Technological doping is not about increasing physiological performance, but about improving performance to gain a competitive advantage. It is to prevent fraud through the use of sports equipment. World Athletics published policies that regulate the characteristics of sports equipment that are prohibited from being used by athletes, for example in the World Athletics Technical Rules in Article 6.3 paragraphs 6.3.3 and 6.3.4 states that:

6.3. For the purpose of this Rule, the following examples shall be considered assistance, and are therefore not allowed:

6.3.3. Except for shoes complying with Rule 5 of the Technical Rules, the use of any technology or appliance provides the user with an advantage that they would not have obtained using the equipment specified in, or permitted by, the Rules.

6.3.4. The use of any mechanical aid, unless on the balance of probabilities the use of an aid would not provide them with an overall competitive advantage over an athlete not using such aid.

Furthermore in World Para Athletics Rules and Regulation in Article 7.3. point 7.3.1 about Prohibited technology states that:

Use of the following technology is prohibited at World Para Athletics Recognised Competitions:

1) equipment that breaches the fundamental principles outlined in the IPC Policy on Sports Equipment;
2) equipment that results in athletic performance being generated by machines, engines, electronics, motors, robotic mechanisms, or the like; and
3) osteo-integrated prosthesis.

Furthermore, the World Athletics Shoes Regulation prohibits the use of certain sensing technologies hidden in shoes as stated in Article 10.6 point 10.6.4. mentions that:

10.6. Until further notice, unless in exceptional circumstances and specifically agreed by the Competition Commission in writing, any Athletic Shoe used in Applicable Competitions:

10.6.4 must not contain any embedded 'sensing or intelligent' technology whatsoever. This does not prevent heart rate or speed distance monitors or stride sensors carried or worn personally by an Athlete pursuant to Technical Rule 6.4.4.

Technological doping has become a controversial issue in the world of athletics. The implementation of the policy prohibiting the use of technology applied in athletics which has the potential to increase the performance of athletes unlawfully has created legal problems that are prone to causing injustice to athletes and sports producers. Some well-known examples of cases related to the phenomenon of technological doping are in the case of the Oscar Pistorius prosthetic leg and the Nike Vaporfly shoe. The first case involved the use of the Cheetah Flex-Foot prosthetic leg used by Oscar Pistorius which was initially considered a form of "technological doping" based on the results of research on biomechanical performance systems conducted by Professor Brüggemann. The results of this study stated that Pistorius's prosthetic leg had a more efficient performance, than a normal human's leg. Based on the results of Brüggemann's research, Oscar Pistorius was banned from participating in the competition by the IAAF through IAAF Council Decree No. 2008/01 because it was deemed to have violated Article 144.2 letter e of the IAAF Competition Rule which states that: "For the purposes of this Rule, the following shall be considered assistance, and are therefore not allowed: […] (e) Use of any technical device that incorporates springs, wheels, or any other element that provides the user with an advantage over another athlete not using such a device"

Oscar Pistorius considered that the results of Bruggman's research solely took into account biomechanical elements and did not take into account other factors involved in running activities (such as the ratio of the stride length produced when running between prosthetic legs to artificial legs, the comparison of the level of fatigue produced, and the comparison of metabolic consumption produced generated between athletes wearing prosthetic legs and human feet) (Richard, 2021). Oscar Pistorius then filed an appeal against this ban through the Court of Arbitration for Sport with case number Arbitration CAS 2008/A/1480 Pistorius v/ IAAF, on May 16 2008 by conducting an independent comparative study through a laboratory in Houston in February 2008. Based on the results of the research disclosed in the Houston Report found that Pistorius used the same amount of oxygen as able-bodied runners at sub-maximal running speeds, and thus had no metabolic advantage. Other test results also show that Oscar Pistorius' fatigue level is on par with athletes with normal bodies. The results of research conducted by Oscar Pistorius through the Houston Laboratory were recognized by the Assembly as sufficiently convincing evidence.

The Court of Arbitration for Sport finally decided to lift the ban, on the grounds that Brüggemann's report did not have sufficient evidence to show that Oscar Pistorius's prosthetic leg had a performance advantage over the human leg. This can be reviewed in section The Panel's Assessment of the Evidence point 44 of CAS 2008/A/1480 Pistorius v/ IAAF which states that "In summary, the Panel determines that the IAAF has not met its "on the balance of probability" burden of proof that Rule 144.2(e) is contravened by Mr. Pistorius' use of the Cheetah Flex-Foot prosthesis for several reasons. First, as noted above, a violation would only occur if the user of the prosthesis gained an overall net advantage over other runners, and the IAAF did not ask Prof. Brüggemann and his colleagues to make that determination. The terms of reference put to Prof. Brüggemann and his team by the IAAF did not propose the appropriate question".

The second case is related to the use of 4% Nike Vaporfly shoes in marathon running. This shoe became controversial among athletics after marathon runner Eliud Kipchoge broke the world record for running a marathon while wearing a special version of the Nike Vaporfly 4% called Nike "Alphafly" in 2019 by obtaining a time of less than 2 hours, 1 hour 59 minutes 40 seconds (Fondeville, 2022). Besides, in the same year, Abraham Kiptum broke the world record half marathon wearing Nike Vaporfly 4% (nytimes.com). The achievement of this record has sparked a debate in athletic circles about the limited 'fairness' application of technology in Nike Vaporfly shoes and evidence regarding whether the technology in these shoes is a form of 'technological doping' (Tam, 2019). Several other experts tried to examine the impact of using Nike VaporFly shoes on running performance, including research conducted by Wouter Hoogkamer, et. al. conducted laboratory experiments with runners and found that Nike VaporFly increased energy efficiency by an average of 4% (Hoogkamer, 2018). Guinness et al. compared marathon running times of elite runners, with and without Vaporfly shoes, and estimated performance gains of 1% to 3% (Joseph Guinness, 2020). Senefeld et al. also found that developments in footwear technology contributed to energy efficiency increases of 2% to 3% over series bests World Marathon Major (Senefeld, 2021).

The Nike Vaporfly 4% shoe is made of special, thick foam made of material polish block amida (PEBA) known as Zoom X foam which is claimed to function to increase energy efficiency. These shoes also have materials from carbon fiber plates (carbon fiber plates) embedded in the midsole for increased rigidity in the form of longitudinal bends. The special thing about the Nike VaporFly shoe is that it is lighter in weight than similar marathon racing shoes (Kim Hébert-Losier, 2020). The Vaporfly 4% name reflects the energy efficiency of running by 4% which results from features of carbon fiber plates that extend from heel to toe, thick soles, and other materials that result in the more efficient movement of the foot (runnersworld.com). This shoe was patented in 2018 thru US patent application no. 16/543.825 and obtained a patent with the number US20180213886. The impact of technology in the Nike VaporFly shoe on athletics over the last half-decade World Athletics enacted a new policy on standard footwear regulations on January 31, 2020. This effort was in response to shoe companies starting to develop technology for their products in an effort to keep their products superior in a competitive market environment (Gracey, 2020).

The policy was later amended into new rules which were published in a press release by World Athletics. The new policy includes, first, restrictions on the thickness of the sole may not be thicker than 40 mm and shoes may not contain more than one plate or blade (Gracey, 2020). This rule is based on research results that prove that the specifications in specially designed shoes prove that the mechanical performance in shoes has the potential to improve performance. Second, the shoes used by athletes must be available on general sale. This policy renders the Nike “Alphafly” prototype shoe invalid, but the Nike Vaporfly 4% is still valid. (Francis, 2019). This rule prevents specially designed shoe products that are not available in general sales where there is concern that these products will provide benefits not found in other shoes.

Philipus M.Hadjon in Pujiyono argued that legal protection is a collection of regulations or rules that enable the protection of one thing from another. The community also has values and interests both individually and collectively which must be protected by law. The purpose of

law in general, among others, is to create justice, security, order and to enforce the law consistently without discrimination. If these goals have not been achieved, it can be interpreted that the existing legislation has not been able to provide legal protection (Pujiyono a. U., 2019). Based on the results of the analysis, the author concludes that with regard to certainty of legal protection regarding companies in the development of the sports industry, clear guidelines are needed regarding what is permissible and what is not permissible in athletic sports. Failure to distinguish between the two conditions can have two serious consequences. First, it can hinder innovation in the development of sports products in the future. Second, issues related to injustice in determining the existence of an element of unfair advantage in the use of sports equipment caused by "doping technology" will continue without an effective solution. This of course can be detrimental to sports producers and athletes.

2. Legal Certainty for the Protection of Sports Industry Companies Related to the Phenomenon of Doping Technology Among Athletes in the Field of Athletics Sports

Gustav Radbruch argues that "there is a hierarchy scale that should be fulfilled, with justice coming first, then benefits, and finally legal certainty" (Pujiyono U. K., 2021). The existence of the principle of legal certainty is defined as a situation where the law is certain because of the concrete power of the law in question. The existence of principle of legal certainty is a form of protection against justiciable (justice seekers) arbitrary actions, which means that someone will and can get something that is expected in certain circumstances (Sulistyawan, 2019). In the flow of legal positivism, the law is an explicit product of a certain legal source of political power. In this case, especially law is an explicit order that has been positively formulated to guarantee certainty, such as laws and regulations that apply nationally in a country. Therefore, it can be said that the implementation of these schools is primarily based on positive legal norms from the positive normative realm (Indarti, 2010).

The common thread that connects the principle of legal certainty with positivism is the goal of providing positive legal clarity. Law in the positivistic flow requires "regularity" and "certainty" to support the proper legal system (Buana, 2010). Therefore, the goal of absolute legal certainty is to be achieved in order to protect the public interest (which also includes personal interests) with the function of being the main engine of upholding social justice (order), upholding citizens' trust in the authorities government), and uphold the authority of the ruler before the eyes of the citizens (Sulistyawan, 2019).

The problem of technological doping in sports requires a policy as a solution to solving problems that guarantees legal certainty in the form of clear regulations to protect sports industry companies and athletes in order to advance the sports industry and uphold sports integrity and at the same time as an analysis regarding the impact related to the implementation of this policy on sports producers, athletes, as well as the enforcement of other regulations. Synchronization of laws and regulations is needed to achieve justice and laws and regulations can be carried out effectively and efficiently (Pujiyono, 2018). World Athletics as the body of the world athletics organization has the authority to make policies that aim as contained in Article 4.1 points (a), (c), (d), and (e) World Athletics Constitution, which mentions:

The purposes of World Athletics are to:

a. promote, develop, and be the governing body for the sport of Athletics worldwide;
b. establish, manage, control and supervise International Competitions and recognise records in Athletics from International Competitions;

c. regulate the sport of Athletics through the development of rules and regulations and a judicial system by which they are enforced;
d. protect the integrity of Athletics and World Athletics by developing and enforcing standards of conduct and ethical behaviour and implementing good governance."

So as to prevent technological doping actions that could threaten the integrity of athletics, then World Athletics determine preventive measures as follows:

a. Supervise and inspect sports equipment

In Article 7.2 point 7.2.1 World Para Athletics Rules and Regulation which states that:

World Para Athletics will monitor the use of technology and equipment used, or, intended to be used, at World Para Athletics Recognised Competitions to ensure that it conforms to the principles outlined in the IPC Policy on Sport Equipment. The following examples shall be considered contrary to that policy; technology and/or equipment that, in the opinion of the World Para Athletics:

1) provides an unrealistic enhancement of height of release in throwing events;
2) provides an unrealistic enhancement of stride length;
3) is not commercially available to all athletes;
4) contains materials or devices that store, generate or deliver energy designed to provide an athlete with an overall competitive advantage over an athlete not using such technology and/or equipment (unless, in relation to technology and equipment not yet commercially available or commercially available from February 2020, the athlete can establish on the balance of probabilities that the use of such technology and/or equipment would not provide him with an overall competitive advantage over an athlete not using such technology and/or equipment)

Further rules are in World Athletics Shoe Regulation who explained that World Athletics appoints an Expert or Independent Expert to inspect the shoes in order to ensure that shoe inspection requirements are enforceable. As explained in Pursuant to Article 12 point 12.1 the Independent Expert has the following responsibilities and authorities:

12.1.1. to check if the physical Athletic Shoe complies with the technical requirements of these Regulations (which includes, if necessary, cutting up the Athletic Shoe);;
12.1.2. to review and evaluate physical Existing Shoes, New Shoes, Development Shoes or Customised Shoe and/or their specifications against the criteria and requirements set out in these Regulations;
12.1.3. to liaise with and seek input from the Chief Executive Officer (or their nominee) concerning their tasks;;
12.1.4. to present the results of their reviews and evaluations to the Chief Executive Officer (or their nominee); and
12.1.5. to carry out such other tasks as instructed by the Chief Executive Officer (or their nominee) from time to time.

Sports manufacturers or athletes who are required to submit a shoe inspection first fill out a shoe specification form, and submit it to World Athletics for further examination by an Independent Expert containing the following information:

1.1. sports manufacturer's brand name and shoe/model name;

1.2. size, dimensions, sole thickness, structure (including number and construction of plates, technology (including if it contains any smart, responsive, adaptive technology), date of availability, photograph, diagrams;;
1.3. confirmation if the shoe is a New Shoe, Development Shoe or Customised Shoe; and
1.4. if the request relates to a Customised Shoe pursuant to Regulation 7.2, then the relevant medical information relating to the athlete's condition and the medical advice, report or information setting out the reasons why the customisation is necessary.

Shoe inspection conducted by World Athletics carried out within 30 days of receipt of shoes. If the shoe has passed the test then the New Shoe and Development Shoe category will be included in the approved Athletic Shoe List (World Athletics Shoe Compliance List).

b. Product availability in general sale

Policies regarding the supply of shoes in general sales are regulated in World Athletics Shoes Regulation. The shoe availability policy only applies to categories Existing Shoes and New Shoes. The policy on the availability of shoes in general sales does not apply to Development Shoes. The policy can be seen in the following rules:

13.1. Existing Shoes and New Shoes must be Available for Purchase by any Athletes participating in Applicable Competitions.
13.2. Where an Athlete proposes to wear a New Shoe at an Applicable Competition, if approved by World Athletics in accordance with these Regulations, the New Shoe must be made Available for Purchase by the relevant sport manufacturer no later than one month prior to the start date of the first Applicable Competition at which the Athlete proposes to wear the New Shoe unless otherwise agreed in writing by the Chief Executive Officer (or their nominee).
13.3. In accordance with Regulation 13.2 above, the Chief Executive Officer (or their nominee) must be notified where and how the New Shoe is or will be made Available for Purchase at the time of seeking approval in accordance with Regulation 6 above and Appendix 1 below.
13.4. The Chief Executive Officer (or their nominee) may, on written request, require evidence from the sports manufacturer that the New Shoe is or will be Available for Purchase.
13.5. The procedure for the Availability Scheme is set out in Appendix 4.

c. Shoe sole adjustment based on predetermined thickness.

Based on various studies that have been conducted, it has been proven that the thickness of the shoe sole can affect the performance of athletes; through this regulation World Athletics apply a shoe sole thickness limit policy that can be used by athletes in competition based on the table as follows:

Event	**Maximum thickness of the sole (as per Regulation 10.6).**
Field Events (except Triple Jump)	20 mm
Triple Jump	25 mm
Track Events (including hurdle events) up to but not including 800 m	20 mm

Track Events from 800 m and above (including steeplechase events)	25 mm
Cross-Country	25 mm spike shoe or 40 mm non-spike shoe
Road Events (Running and Race Walking Events)	40 mm
Mountain and Trail Races	Any Thickness
Track Events including hurdle and steeplechase events	20 mm spike shoe or non-spike shoe
Field Events	20 mm spike shoe or non-spike shoe
Road Events (Running and Race Walking Events)	40 mm
Cross-Country	20 mm spike shoes or 40 mm non-spike shoes
Mountain and Trail Races	Any thickness

d. Provide sanctions against athletes and prohibit the use of sports products that are used if they violate the policy World Athletics.

Article 7.3 World Para Athletics Rules and Regulation, mentions that:

7.3.2. At any IPC Games, IPC Competition or World Para Athletics Sanctioned Competition the World Para Athletics Technical Delegate shall be entitled to prohibit the use of any equipment prohibited by these Regulations. In every case of a suspected breach the World Para Athletics Technical Delegate must report the matter to World Para Athletics. Upon receiving such a report World Para Athletics must refer the matter to the IPC Medical and Scientific Director. Any further investigation and/or action will be determined by the IPC on a case by case basis.

7.3.3. World Para Athletics shall be entitled to prohibit the use of equipment either permanently or on a temporary basis (to allow for further investigation) where it considers, acting reasonably, that any of the fundamental principles of equipment design and availability are breached.

Similar policies are also regulated in World Athletics Shoe Regulation which stipulates that for Athletes or Sports Manufacturers and/or Members of Sports Federations who violate shoe inspection regulations, the Chief Executive Officer reserves the right to apply various sanctions as in Article 15.3 World Athletics Shoe Regulation which covers:

15.3.1. issuing a warning to the Athlete and/or Member Federation;

15.3.2. imposing a fine on the Athlete and/or their Member Federation;

15.3.3. disqualifying the Athlete and declaring the Athlete's performance as invalid for non-compliance with these Regulations with all resulting consequences for the Athlete,

including the forfeiture of all titles, awards, medals, points and prize and appearance money;

15.3.4. declaring an Existing Shoe, New Shoe, Development Shoe or Customised Shoe as being non-compliant;

15.3.5. removing an Existing Shoe, New Shoe or Development Shoe from the list of shoes which have been approved by World Athletics;

15.3.6. withholding, for a reasonable time, approval of subsequent requests for an Existing Shoe, New Shoe, Development Shoe or Customised Shoe from a particular shoe manufacture.

3. Policy Impact World Athletics on Patent Enforcement

A patent is an exclusive right granted by the state to an inventor for his invention in the field of technology for a certain period of time to carry out the invention himself or give approval to another party to carry it out. A patent is granted for a period of 20 (twenty) years from the date of filing, whereas a simple patent is granted for a period of 10 (ten) years from the date of filing. In order to obtain patent protection, the following criteria must be met:

a. It is a novel invention, contains an inventive step, and is industrially applicable.
b. Is the development of an existing product or process, and can be applied in industry (Law Number 13 of 2016 concerning Patents).

Patents on technology are economic assets that have extraordinary value because they are exclusive where the patent holder can prohibit other parties from using them so that if other parties want to use or exploit the patent, of course, they have to pay a fee required by the owner (Utama, 2012).

Shoe companies are one of the largest sectors to benefit from design patents. They primarily seek protection for the upper and the sole for their decorative and non-functional purpose (Olowononi, 2022). One of the sports shoe products worn by Eliud Kipchoge is the Nike Vaporfly shoe which is a special version of "Alphafly" which has obtained a United States patent with patent number US20180213886 which was filed in 2018. Since its publication World Athletics Shoes Regulation by World Athletics, Nike company then revised the patent rights revision of the shoe as a result of intervention from World Athletics through regulation of shoe settings in order to limit innovations that can enhance the athlete's performance to give an unfair advantage over his competitors (Rao, 2021). Prohibiting the use of shoes that do not meet the qualifications in the regulation has the potential to hinder the implementation of exclusive rights for sports equipment that has patent rights because shoemakers other than Nike cannot use the technology and athletes sponsored by sports industry companies have the potential to be disadvantaged. So to get maximum benefits in obtaining exclusive rights from the enforcement of patents, the following aspects need to be considered (Roy, 2020):

a. Originality of invention to other products

An invention that is granted a patent can only be granted to an invention that is considered new and not the same as the previously disclosed technology. The process of examining a patent application until it can be legalized as an official patent right often takes quite a long time. This is because the patent inspection process is complicated to ensure that the product really meets the requirements to be granted a patent. So it is important to ensure that the product to be filed for a patent must be truly original and not violate patents on other products.

b. Potential losses incurred

The impact of regulations set by the International Sports Agency (World Athletics) can have an impact on the scope of enforcement of exclusive rights for patent holders on sports products. For example, the rules for the thickness of the soles of running shoes are set World Athletics not thicker than 40 mm (World Athletics Shoe Regulation, 2022). This policy was enforced after the Nike Company patented the Nike Vaporfly Shoe product so that this policy could have an impact on the Nike Company for their product, namely Nike Vaporfly shoes, especially the special version "Alphafly" which did not comply with the said policy. This policy certainly has an impact on limiting exclusive rights obtained by patent holders because it reduces economic value. This is because in the end the patented product is prohibited from being used by athletes who are the target consumers of the company. In addition, athletes who are sponsored by companies or competing companies indirectly prevent the use of this technology because it violates regulations which are their target consumers. Thus that the patents in the Nike Vaporfly shoe product are more focused on the form of innovation for each new component in the shoe, such as using a thinner shoe with a single blade that complies with established regulations. World Athletics. Patents granted for these products are considered very valuable so that companies can remain competitive in the business world.

c. Time considerations between filing patents and selling to the free market

The estimated time used to establish a patent for sports products by selling these products to the market needs to be considered carefully. This has an impact on obtaining revenue from the use of these shoes on market sales and as an effort to comply with sports regulations which require sports products to be available in general sales (World Athletics Shoe Regulation, 2022). However, the sale of shoes that have been released must first be filed for patent registration so that inventions in sports product technology have exclusive rights. Considering that an invention is not deemed to have been announced if within a period of 6 (six) months prior to the Filing Date, the invention has been shown in an official exhibition or in an exhibition that is recognized as an official exhibition, whether held in Indonesia or abroad (Law Number 13 of 2016 concerning Patents). So it is important for companies to consider the best time to release a new product and when to apply for a patent. So that companies can benefit from the sale of products that can be purchased freely, including for athletes, and at the same time obtain economic benefits from exclusive rights obtained from patents.

CONCLUSION

1. The legal problems of the phenomenon of technological doping in athletics are the absence of legal certainty related to the elemental characteristics of the use of sports equipment technology which are considered to provide an unfair advantage for athletes in competition. So that regulations are needed to explain a technology is considered providing an unfair advantage in competition. Failure to distinguish between the two conditions can create two serious consequences. First, it can hinder the innovation of sports product development in the future. Second, the issue of injustice due to obtaining an unfair advantage in the use of sports equipment caused by "doping technology" will continue without an effective solution.
2. Legal certainty for the protection of sports industry companies related to the phenomenon of technological doping among athletes in the field of athletics, namely through inspection of sports equipment through independent experts, availability of products in general

sales, adjustment of shoe soles based on predetermined thickness, and imposition of sanctions on athletes and members athlete delegation. But the inner policyWorld Athletics may result in reduced exclusive rights owned by inventors for products that have obtained patents, especially technology in sports shoes. Therefore, in order to obtain maximum benefits from patents for athletic sports products, several things need to be considered, including the originality of inventions for other products, potential losses incurred, and consideration of the time between filing patents and selling them to the open market.

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