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The Role of Intellectual Property on National Economic Growth

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Abstract: Innovation is key to developing a knowledge-based economy because of its important role in creating labor markets and economic growth. In addition, policies to support the formation of a creative economy ecosystem must also be put forward, in this case, policies in the field of intellectual property rights (IPR); both in the field of registration, IPR protection, as well as IPR commercialization. Because in the global era, IPR is necessary for creating value, job opportunities, and economic growth. The aims of this research are (i). Analyze and examine the extent of the contribution of IP registration to increasing state revenue growth through Non-Tax State Revenue (PNBP). (ii) Analyze and review the extent of the contribution of IP registration to increasing revenue growth in the business sector. (iii) Analyze and assess the impact of policies taken by DJKI on increasing IP registration in Indonesia. The method of this research used a qualitative approach through Focus Group Discussion (FGD) and processed with NVivo.

Based on the results, this research concludes that: (i) The contribution of IPR registration has proven to have an impact on PNBP through an increase in PNBP from 2016-2022. The increase in IP registration itself is due to factors in the growth of awareness from the public and economic actors on the importance of IP. This also implies that the variable of public awareness has an indirect impact on the achievement of PNBP performance of DGIP; (ii). IPR registration can protect business actors so that business actors can run their businesses calmly and unlock business development potentials because the registered products indirectly have a positive effect on income and ease of doing business in Indonesia, especially related to IPR protection itself. (iii) The policy taken by the government (DGIP) towards efforts to increase IPR registration implies that the creation of increased public awareness will have an impact on increasing IPR registration carried out which can be achieved through increasing socialization activities on an ongoing basis and improving services with technology.

Due to the role of IPR being very positive for Indonesia's economic growth through its important role in the development of the creative economy and technology, this research recommends the DGIP become a ministry-level body so that the policies taken focus more on the economic sector.

Keywords: Business Sector, Economic Growth, Intellectual Property Rights, Qualitative Method, State Revenue

Introduction

The development of increasingly modern times encourages all countries to increase their economic growth, including countries in the Asian region, especially Indonesia. Positive and progressive economic growth can be seen from the many discoveries in the field of technology that make human resources more productive. The contribution of human capital is currently considered to have the most influence on market and financial values compared to structural capital efficiency and rational capital efficiency. Nimtrakoon (2015) states that there is a positive relationship between intellectual capital, which is one of human capital, with market value and financial performance. This confirms that large companies with greater intellectual capital tend to

have greater market value. Xu (2019) also stated the same thing that Intellectual Capital in small and micro businesses in China must be taken into consideration in planning future strategies. From an investor's perspective, it is necessary to develop insight and awareness about the importance of intellectual capital in helping select companies in their portfolio. For policymakers, it is necessary to train employees and increase managerial awareness about the importance of the relationship between performance and intellectual capital.

The results of studies from Amin & Aslam (2017) and Asiaei (2015) using the Structural Equation Modeling (SEM) approach also state that intellectual property has a significant effect on a company's financial performance. This is because intellectual property is related to increasing the competitiveness of a company. Meanwhile, Bayar, et al,. (2020) identified the influence of intellectual property and foreign investment on export performance in the high-tech industry. By using a systematic literature review approach, it was found that intellectual rights have a significant positive effect on export performance. This is also shown by the study of Kuznar & Folfas (2018) which shows that the problem of imitation in a country will have an impact on the export performance of the goods in question.

The role of government as a real form of government intervention in the economy has become an important object for research. Government intervention in the form of a policy that can directly influence the national economic climate in general. These policies will in the future encourage various incentives to drive national economic movement, in this case, the intellectual capital policy at the Directorate General of Intellectual Property (DJKI), Ministry of Law and Human Rights. Protection of IP is very important; both to increase the market values of a product and in terms of increasing IP registration itself. Lee (2018) stated that stronger IP protection in developing countries would enable developed countries to capture more of the fruits of R&D and other innovative activities. Although it cannot be denied that for developing countries which tend to be importers of IP, strengthening IP protection often incurs quite large costs. So strengthening IP protection is more beneficial for countries that are institutionally stronger, thereby influencing the relationship between IP protection and foreign investment (Asiaei, 2018). Therefore, a strong government role is also needed to overcome this.

Siregar & Sinurat (2019) state that IPR Law and Business Competition Law must be interrelated, and complement each other. A climate of healthy business competition and supported by the protection of Intellectual Property Rights in the business world will be able to increase Indonesia's economic development as a developing country in the future. The more domestic IPRs owned by Indonesia, the greater the potential for improving the business world in terms of competition in the free market era. Domestic products will be able to compete with foreign products, thereby creating prosperity for local communities. As also stated by Sinaga (2020), a country's economic development is closely related to the protection of its intellectual property. In essence, intellectual property is the right to economically enjoy the results of intellectual creativity. The formation of laws governing intellectual property must remain oriented towards national interests and accommodate international interests. Legal protection of intellectual property in Indonesia adheres to the theory of justice based on Pancasila. Even though various regulations have been established and implemented that regulate the field of intellectual property, there are still many problems that are influenced by various factors, including those related to substance, structure, and legal culture. Intellectual property protection can be realized well and realistically if each legal component functions properly and correctly, including substance, structure, and legal culture.

The current conditions related to intellectual property are of course related to the explanation above that the data obtained by the author from the results of research conducted by Indef related to studies of the last 16 years, patent investment, especially in the Information Technology sector, has been able to encourage economic growth. Investments and patents originating from non-residents of Indonesia have a positive and significant impact on the Indonesian economy. An increase of 10% in total approved patents correlates with an increase in economic growth of 1.67%. Furthermore, a 10% increase in Information Technology sector investment is significantly correlated with GDP growth of 1.87% and a similar addition in Information Technology sector patents results in an additional 2.34% GDP growth (Martawardaya, et al., 2018).

Intellectual property as a driver of the national economy is closely related to technological development, innovation, and creativity in a country. Intellectual property refers to the legal rights granted to copyright owners, patent owners, trademark owners, and other types of rights related to intellectual works. This includes innovation, design, art, literature, music, technology, branding, and many other fields. Below are several reasons why intellectual property is the main driver of the national economy: (i). Innovation and Research; (ii). Competitive advantage; (iii). Job Creation; (iv). Value-added; (v). Licensing and Sales Revenue; (vi). Fostering Creativity and Cultural Work; and (vii). Foreign Direct Investment.

The development and application of technology and science originate from discovery and innovation or through technology transfer from developed countries by considering the benefits and risks that may occur. Inventions and innovations carried out by universities need to be supported and supported by regulations and policies overseen by the government, especially DJKI. In a journal entitled "The link between intellectual property rights, innovation, and growth: A meta-analysis" although there is a lot of theoretical and empirical literature, evidence regarding the impact of IP protection on innovation and economic growth is still mixed. They found that after correcting for publication bias, the overall impact of IP on innovation and growth was positive. However, the impact on innovation is weaker in developing countries where investment in innovative activities is low and better imitation of external innovation than in developed countries, where related policies and the economic and institutional environment are conducive to domestic innovation (Neves, et al., 2021).

The creative economy is the embodiment of added value from intellectual property originating from human creativity based on cultural heritage, science, and technology. The contribution of the creative economy to GDP generally shows an increasing trend in 2021, recorded at 6.98%, an indicator showing the important role of IP in the national economy and its potential will continue to increase. When viewed from the perspective of Non-Tax State Revenue (PNBP), the income from IP registration is quite large but can be increased further with education and outreach about IP.

PNBP income from intellectual property can have a significant impact on a country's economic growth. However, it is important to note that effective intellectual property management, strong legal protection and appropriate incentives need to be implemented to ensure that the growth potential of intellectual property can be fully realized. Overall, PNBP revenues from intellectual property can play an important role in supporting a country's economic growth through encouraging innovation, attracting investment, diversifying the economy, and creating jobs. Therefore, effective management of intellectual property and policies that support innovation and utilization of intellectual property can be an important part of a country's economic growth strategy.

Based on the problems above, the research objectives of this dissertation include: (i). Analyze and assess the extent of the contribution of IP registration to increasing state income growth through PNBP; (ii). Analyze and assess the extent to which IP registration contributes to increasing revenue growth in the business sector; and (iii). Analyze and assess the impact of policies taken by DJKI on increasing IP registration in Indonesia.

Theoretical Background

Theory of State Revenue

According to Adam Smith, the process of economic growth will occur simultaneously and be interconnected with one another. The emergence of increased performance in one sector will increase the attractiveness for capital investment, encourage technological progress, increase specialization, and expand markets. This will encourage economic growth to become increasingly rapid. In the process, economic growth will be increasingly stimulated by the existence of a system of division of labor between economic actors (see Kuncoro (1997). According to this school, increasing profit levels will encourage investment development, and investment (capital formation) will increase the volume of capital stock. This situation will advance the level of technology and increase the number of goods in circulation so that wage levels rise, which means an increase in the level of prosperity of the population. David Ricardo in his book The Principle of Political Economy and Taxation (1772-1823), through Ricardian Theory, analyzed the process of economic growth, namely that initially the population was very low and natural wealth was still abundant. In situations like this, entrepreneurs run their businesses by using natural resources as a factor of production, resulting in entrepreneurs being able to obtain high profits to increase the level of capital they own so that they can increase labor productivity.

One of the goals of the Indonesian state stated in the preamble to the 1945 Constitution is to promote general welfare. Implementing this can be achieved by the government from a state financial perspective using the State Revenue and Expenditure Budget (APBN). In the APBN there is a budget for income, expenditure, and state financing. In terms of state income, Law Number 17 of 2003 concerning State Finance is defined as a right of the central government which is recognized as adding to the value of net assets. The types of state income include tax revenues, non-tax state revenues, and grant revenues. Tax is a mandatory contribution to the state owed by an individual or entity that is coercive based on law without receiving direct compensation and is used for state needs for the greatest prosperity of the people. Non-Tax State Revenue is income originating from non-tax (Law Number 9 of 2018 PNBP). The objects of PNBP are all activities, things, and/or objects that are sources of state revenue outside of taxation and grants. Grants are counted as receipts outside of PNBP. Therefore, grants are regulated and

stand in different groups or have their own rules. In PP Number 10 of 2011, grants are defined as state revenue in the form of foreign exchange. Grants have the aim of supporting national development programs, for example, allocations such as the development of an area affected by a disaster.

Theory of Intellectual Property

Intellectual Property (IP) refers to human creations involving thoughts, ideas, and innovation. This includes various types of intellectual property rights that provide legal protection for the results of the intellectual work (Sherwood, 2019). These rights give their owners exclusive control over the use and distribution of their work for a certain period. The definition of Intellectual Property Rights (IPR) by the world trade institution (WTO) is as follows: "Intellectual property rights can be defined as the rights given to people over the creations of their minds. They usually give the creator an exclusive right over the use of his/her creations for a certain time". From the definition above, it can be concluded that IPR is a person's right to a work he or she created which originates from his or her intellectual thinking or ability, and to that work an exclusive right is granted. Where this exclusive right can prevent other people from doing things without the permission of the creator which could harm the creator of the copyrighted work which is classified as intellectual property. About material rights, IPR is categorized as intangible movable objects as stated by the World Intellectual Property Organization (WIPO). Tangible objects are distinguished from intangible objects in civil law, objects based on the Civil Code are all goods and rights that can be controlled by property rights (Rahmatullah, 2015). Ekasanti (2012) In another sense, IPR are exclusive rights given to a person or group of people for the work they create. Specifically, Intellectual Property Rights or IPR can be described as part of objects, namely intangible objects.

According to Hartono (2001), what is called IPR are rights that have special and special characteristics because these rights only arise if there is a grantor. by the state for these rights where the state grants exclusive rights to the person who produces an intellectual work based on what is stipulated in the legal provisions of a country. IPR can also be interpreted as a right that arises from human intellectual abilities. So the term IPR is used to differentiate it from other rights that humans can have which originate from nature as a gift from God Almighty. Not all humans have the ability to produce intellectual work (Zakiyah, 2014). For the business world, these works can be called or categorized as Company assets (Hidayah, 2013). Apart from intellectual property rights themselves, what is important is how these rights are protected because intellectual property rights are intangible assets but have economic value. From the above, it can be concluded that IP protection is an important thing in supporting and encouraging the improvement of a country's economy. country so that the processes in an IP ecosystem, namely IP registration, IP protection and IP commercialization, run well and the economic impact can be positive, ultimately increasing state income in the form of PNBP and community income through the creative industry sector.

Previous Research

Many research has been carried out regarding the relationship between IP, company performance and economic growth, see among others: Kianto (2017); Inkinen (2017); Nimtrakoon (2015); Cabrillo (2018); Khalique (2015); Dženopoljac (2016); Ozkan (2017); Allameh (2018); Hussinki (2017); Agostini (2017). In Indonesia, research was found from: Martawardaya, et al., (2018); (ii) Siregar & Sinurat (2019); and (iii). Sinaga (2020). Martawardaya, et al., (2018) stated that patent investment, especially in the Information Technology sector, has been able to encourage economic growth. Investments and patents originating from non-residents of Indonesia have a positive and significant impact on the Indonesian economy. A 10 percent increase in total approved patents correlates with an increase in economic growth of 1.67 percent. Furthermore, a 10 percent increase in Information Technology sector investment is significantly correlated with GDP growth of 1.87 percent and a similar increase in Information Technology sector patents results in an additional 2.34 percent GDP growth.

Furthermore, Siregar & Sinurat (2019) entitled IPR Protection and its Impact on the Indonesian Economy in the Free Market Era: A Literature Approach where the research has variables including IPR, Economy, and Free Market. The results of the research are that IP Law and Business Competition Law are interrelated, complementing each other. A climate of healthy business competition and supported by the protection of IPR in the business world will be able to increase Indonesia's economic development as a developing country in the future. The more domestic IPRs owned by Indonesia, the greater the potential for improving the business world in terms of competition in the free market era. Domestic products will be able to compete with foreign products, thereby creating prosperity for local communities.

Meanwhile, Sinaga (2020) with the title The Importance of Legal Protection of Intellectual Property for Indonesia's Economic Development, has the variables Legal Protection, IP, and Economic Development. The results

of his research show that a country's economic development is closely related to the protection of its intellectual property. In essence, intellectual property is the right to economically enjoy the results of intellectual creativity. The formation of laws governing intellectual property must remain oriented towards national interests and accommodate international interests. Intellectual Property legal protection in Indonesia adheres to the theory of justice based on Pancasila. Even though various regulations have been established and implemented that regulate the field of Intellectual Property, there are still many problems that are influenced by various factors, including those related to substance, structure, and legal culture. Intellectual property protection can be realized properly and realistically if each legal component functions properly and correctly.

Research Method

The main design of this research uses a quantitative approach with a Grounded Theory type that includes coding techniques (see Creswell, 2009; Bandur, 2019; and Raco (2010). Data collection in this research was carried out through Focus Group Discussions (FGD). Furthermore, in the FGD carried out, stakeholders will be directed to provide perspectives on the problem formulation formed in this research so that the objectives of this research can be achieved. The results of the FGD activities will be expressed in the form of transcripts from each informant involved. Next, based on the transcripts that have been prepared, a systematic coding process will be carried out. In this case, coding is intended to be able to draw out existing themes contained in the informant's perspective in the form of coding nodes. Saldana, et al., (2014) stated that coding analysis is a crucial part in qualitative studies which usually takes the form of words or short sentences that symbolically (essence-capturing) signify parts of sentences or visual data. Saldana, et al., (2014) also said that coding is an interpretive act, not an exact science. This means that there are many ways to carry out coding analysis according to the needs of the study being carried out. Furthermore, coding types can be divided into two according to Saldana, et al., (2014), namely: (i). Decoding. It is a technique for decomposing a group of sentences into their original meaning; and (ii). Encoding. This is the most appropriate code-labeling technique. According to Saldana (2014), the types of data that can be coded can be interview transcripts, field observation notes, journal articles, images, artifacts, photos, videos, literature, and so on (Saldana, et al., 2014). Furthermore, coding can also be used to build/explore/discover patterns, theories, categorization, and other analysis processes (Saldana, et al., 2014). Miles, et al., (2014) stated that there are two stages in coding, namely: (i). First cycle coding; and (ii). Second cycle coding. Coding is the provision of symbolic labels to descriptive information or inferential information found during the study process (Miles, et al., 2014).

According to Raco (2010), qualitative research samples are purposive which are under the aims and objectives of the research. Apart from that, the sample used does not emphasize a certain number but rather the quality of information, credibility, and richness of information that can be obtained. The 7 informants involved will be categorized into informant groups based on related interests. The following is a profile of some related data, as follows:

Table 1 Informant Profile

No.	Informant	Occupation	Organization
1	Dra. Sri Lastami, ST., M.PIL	Director of Cooperation and Empowerment of IP	The Ministry of Law and Human Rights
2	Prof. Muhammad Zilal Hamzah, P.hD	Academics	Trisakti University
3	Ass. Prof. Dr. Freddy Harris, ACCS	IP expert	Practitioner/former Director General of IP
4	Olga K. Santoso, BSc., SH., LLM	Secretary General AKHKI	AKHKI
5	Hendy Amijaya	Legal Advisor	PT. Eigerindo Multi Produk Industri
6	Novi Mustika Dewi	Manager/Owner	Abon Rajawali Ciamis
7	Asraf Razak	Head Legal	PT. Roda Mas Group

Source: Author

Research Results and Discussion

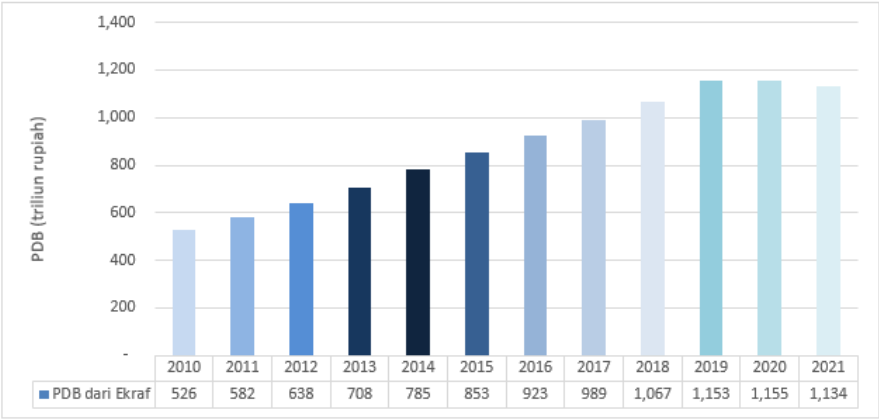
Types and Role of Intellectual Property

Intellectual Property Rights (IPR) are economic rights granted by law to a creator or inventor for a work resulting from human intellectual abilities. Economic rights are appropriate compensation for the creator or inventor for the creation or discovery of something beneficial to human life. IPR is the right to creative work that is produced through mental and mental utilization efforts accompanied by sacrifice of time, energy, and even costs. Donandi (2019). IPR is a type of intangible movable object that was first known in countries with an Anglo-Saxon legal system (common law system) (Hidayah, 2018). This IPR is an exclusive right given by the state to creators, inventors, or designers for their creations or findings which have commercial value either directly automatically or through registration with the relevant agency as an award, recognition of rights that deserve legal protection.

In general, the Directorate General of Intellectual Property Rights divides IPR into two categories, namely (i). *Copyright*. Copyright is an exclusive right granted to the copyright owner for works in the fields of art, literature, and science that have been realized in a tangible form that has economic value; and (ii). *Industrial Property Rights*. Industrial Property Rights in this case include: a). *Patents* (patents in principle seek to protect the work of scientists or inventors who make discoveries in the field of technology or are called inventions); b). *Brand* (a product of goods and services made by a person or legal entity is given a certain mark which functions as a differentiator from other similar goods and services); c). *Industrial Design* (a creation of shape, configuration, or composition of lines or colors or lines and colors or a combination thereof which is in three dimensions and can be used to produce a product, goods, industrial commodity or handicraft; (d). *Integrated Circuit Layout Design* (creation in the form of a three-dimensional layout design of various elements, at least one of which is an active element as well as some or all of the interconnections in an integrated circuit and the three-dimensional layout is intended to prepare for the creation of an integrated circuit; (e). *Trade secrets* (information that is not known to the general public in the field of technology and business, have economic value because they are useful in business activities and are kept confidential by the owner of the trade secret); and (f). *Plant variety* (a group of plants of a type or species characterized by plant shape, plant growth, leaves, flowers, seeds, and expression of characteristics of genotypes or combinations of genotypes that can differentiate those of the same type or species by at least one defining characteristic and which do not change when reproduced).

Meanwhile, the acquisition of IPR is through two systems, namely: a). *Declarative Systems*. A system that requires a declaration of an IPR as a condition for legal protection for that IPR. Registration at the DJKI office is not an obligation for IPR which is protected using a declarative system, but in the field, almost all citizens want written proof of the IPR so that the DJKI opens up opportunities by having the IPR recorded and what is included in this system are Copyright and CIC; and b). *Constitutive System*. A system which means that the party who is considered to be the owner of an IPR is the party who first registered or is registered as the owner of the IPR and what is included in this system are patents, trademarks, and trade secrets. The role of Intellectual Property in the current national economy from the creative economy sector can be seen from the following data:

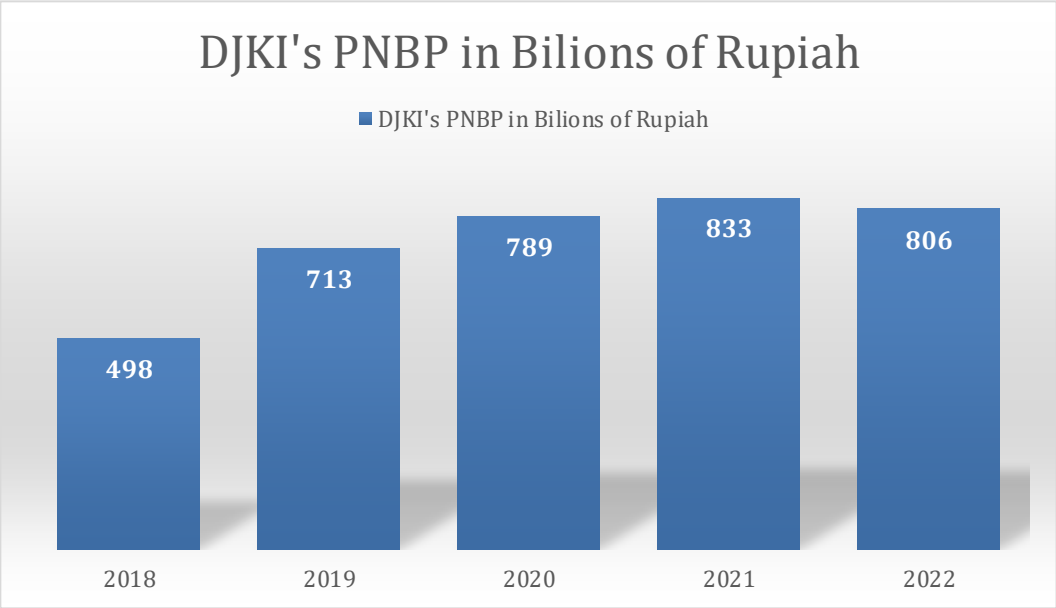
Graph 1. GDP Data of Creative Economy



Source: Website Kemenparekraf (2022)

The creative economy is the embodiment of added value from Intellectual Property which originates from human creativity based on cultural heritage, science, and technology. The contribution of the Creative Economy to GDP generally shows an increasing trend in 2021, recorded at 6.98%, an indicator showing the important role of IP in the national economy and its potential will continue to increase. When viewed from the perspective of Non-Tax State Revenue (PNBP), the income from IP registration is quite large but can be increased further with education and outreach about IP. PNBP data can be seen in the following graph:

Graph 2. DJKI General PNBP Achievements

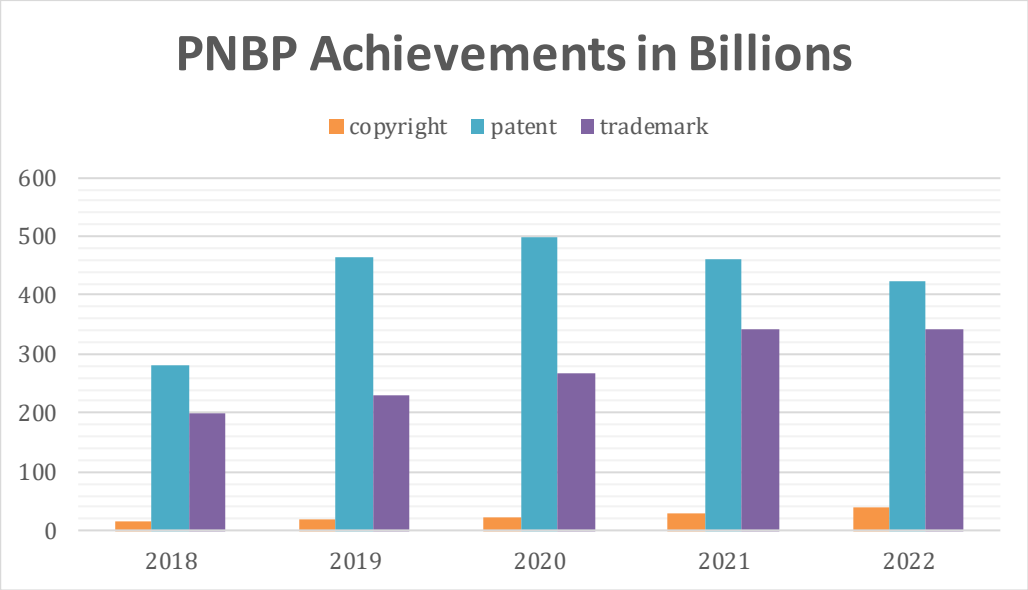


Source: Data PNBP DJKI year 2023

What is interesting about the PNBP income graph above is that in 2020, the economic crisis occurred because the whole world was hit by the Covid-19 pandemic, where the majority of all business sectors experienced paralysis so people who worked and tried in the conventional sector experienced bankruptcy. However, this is not the case with the creative economy sector which is quickly adapting to the creation of new online businesses both in terms of creations, brands, patents, and industrial designs. This can be seen from the data above where in 2020 PNBP income actually increased in the Covid-19 era where everyone could not leave the house so all activities were carried out at home. It turns out that this stimulated people's creativity to create creations of economic value, resulting in a large number of IP registrations during the pandemic era. In this context, PNBP income from intellectual property can have a significant impact on the country's economic growth. However, it is important to note that effective intellectual property management, strong legal protection, and appropriate incentives need to be implemented to ensure that the growth potential of intellectual property can be fully realized.

Overall, PNBP revenues from intellectual property can play an important role in supporting a country's economic growth through encouraging innovation, attracting investment, diversifying the economy, and creating jobs. Therefore, effective management of intellectual property and policies that support innovation and utilization of intellectual property can be an important part of a country's economic growth strategy. Detailed registration data can be seen in the following graph:

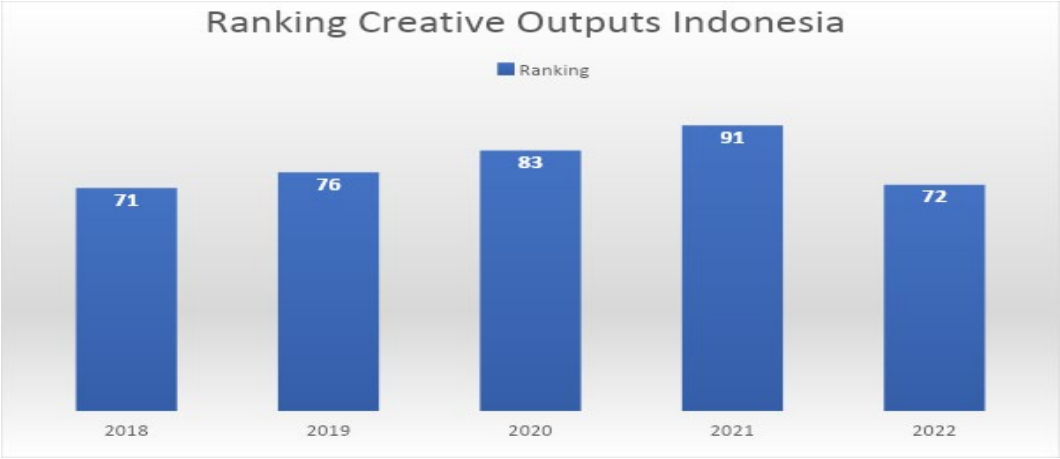
Graph 3. DJKI PNBP Achievements



Source: Data PNBP DJKI year 2023

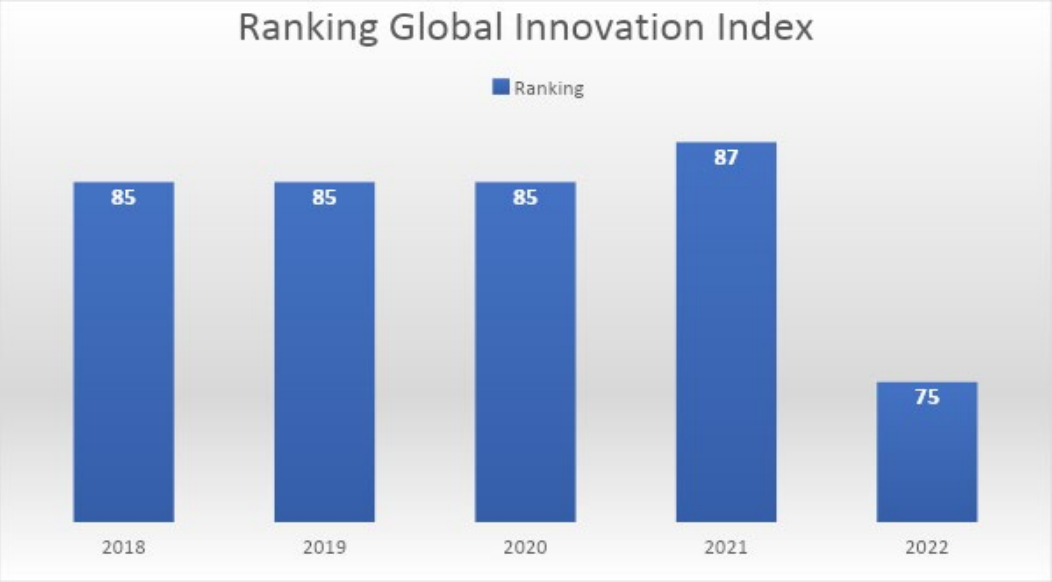
From the data above, the biggest source of income for DJKI's PNBP is from patent registration, then trademarks and finally copyright and industrial designs. Meanwhile, if we look at the Global Innovation Index data for the past five years, Indonesia's ranking globally and in the creative sector can be seen in the following data:

Graph 4. Indonesian Creative Output Ranking



Source: WIPO data processed

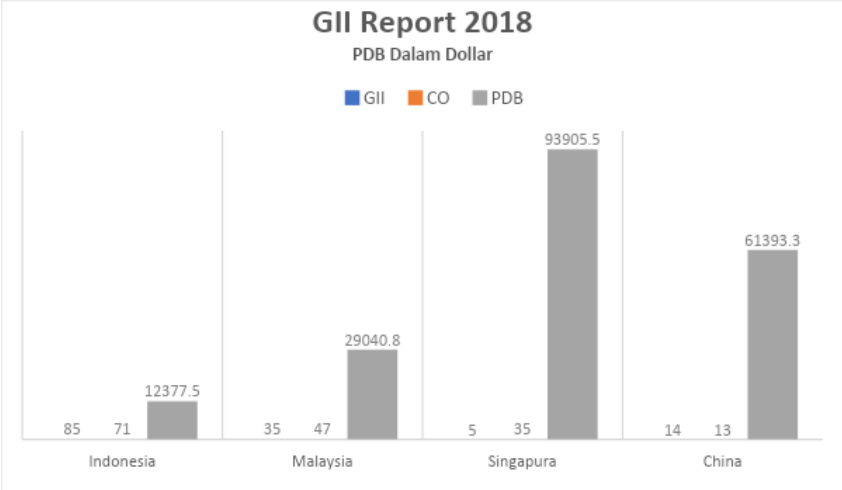
Graph 5. Indonesia Index of Global Innovation Ranking



Source: WIPO data processed

From the data above, Indonesia's global ranking during 2018-2020 was constant and there was no change, but in 2021 due to the Covid-19 pandemic, Indonesia's position experienced a change, dropping to 87th place. However, in 2022 Indonesia will again improve its ranking by making adjustments during the pandemic. so its ranking rose to 75th out of 129 countries. In the Global Innovation Index Report published by the World Intellectual Property Organization (WIPO) from 2018 to 2022, the author took data from four countries, namely Indonesia, Malaysia, Singapore and China, where there are three variables that the author focuses on, namely the Global Innovation Index ranking (GII), Creative Output (CO) and Gross Domestic Income (GDP), to see the comparison the author will put it in the graph as follows:

Graph 6. Global Innovation Index Data 2018



Source: WIPO data processed

From the data above, it can be seen that the upward trend in the GII ranking with GDP has a positive correlation as well as the relationship between CO and GDP, even though in some cases, such as the year where there was the Covid 19 pandemic, all state income decreased due to the regional isolation policy implemented by all countries in the world.

Focus Group Discussion (FGD) Results

As can be seen in the table above, in this research, informants were divided into 4, namely: Regulators, Operators, Academics, and Associations. The following will explain the views and recommendations of each informant.

Regulators

There is only 1 Informant representing the Regulator, namely Dra. Sri Lastami, ST., M. IPL. The explanation made by Informant 1 refers to the connection with aspects of Non-Tax State Revenue (PNBP) or the economy. Increasing economic activity which has implications for state revenues is achieved by making the Indonesian economic system based on Intellectual Property (IP). Furthermore, the informant also mentioned that Indonesia has great potential for MSMEs which can be used as a driving force for an IP-based economy. The informant also mentioned the influence of the digital era which is a driving factor in the growth of IP applications which is also related to PNBP receipts. Furthermore, the informant also, indirectly, touched on the supporting factors for creating increased public awareness regarding IP, namely socialization. Apart from that, it also touched on the supporting factors for improving service performance, namely the technological aspect.

Academics

There were two academic category informants involved, namely: (i). Prof. Muhammad Zilal Hamzah; and (ii). Assoc. Prof. Dr. Freddy Harris, ACCS. Informant 2's explanation generally refers to the relationship between IP and macroeconomic aspects. First, the informant touched on several terms found in a holistic search for themes about IP. Informants began to link IP aspects with the macro economy, such as innovation, SMEs, foreign investment (FDI) and international trade. Furthermore, the presentation made by Informant 3 generally also refers to economic aspects, especially in the digital era. Furthermore, the informant also indirectly mentioned public awareness regarding IP which must be instilled through outreach activities. Furthermore, the informant also touched on the potential of the digital era in making IP the basis of the economic system.

Operators

There were three informants involved, namely: (i). Handy Wijaya; (ii). Novi; and (iii). Asraf Razak. Informant 4's explanation generally refers to corporate experience in registering IP. First, the informant touched a little about the business profile of PT. Eigerindo Multi Industrial Products which has implemented sustainability principles. The informant also mentioned the importance of the IP aspect as a motor for business sustainability. The informant also touched on the obstacles associated with counterfeiting which often occurs. Furthermore, the presentation made by Informant 5 also referred more to business aspects. The above statement also indirectly shows that there is a point regarding the awareness of business actors regarding IP, which hinders the IP registration process. Apart from that, the informant also indirectly mentioned the important role of an IP consultant and the quality of services provided to obtain information as well as guidance regarding trademark registration. The informant also mentioned directly the positive influence of IP on business sustainability. The explanation made by Informant 6 touched more on the obstacles found in the trademark registration process.

Association

There was one Association category informant involved, namely Olga K. Santoso, B.Sc., SH., LLM. In general, the presentation made by Informant 7 refers to the role of IP consultants in increasing IP registration itself. The informant also mentioned the socialization activities carried out related to increasing public awareness regarding IP.

Coding Analysis

In aggregate, there are at least 17 nodes with the highest hierarchy. The following is a table that describes the aggregate number of references from each node, as follows:

Table 2. Aggregate Hierarchy Nodes Reference

No.	Nodes	Ref.	Files Coded	Max. Value	Share
1	Public Awareness	6	6	7	86%
2	Socialization	5	5	7	72%
3	Use of Technology	4	4	7	58%
4	Business Sustainability	4	4	7	58%
5	IP Violation	3	3	7	43%
6	Service Improvements	3	3	7	43%
7	IP Economic Based System > Economic Growth	3	3	7	43%
8	Business Competition	3	3	7	43%
9	Creative Economic Potential	3	3	7	43%
10	Business Profile	3	3	7	43%
11	IP Consultant	2	2	7	29%
12	Stakeholders Synergy	2	2	7	29%
13	PNBP Performance	2	2	7	29%
14	Digital Era	2	2	7	29%
15	Innovation	2	2	7	29%
16	Link & Match Research	2	2	7	29%
17	PWL	2	2	7	29%

Source: Data processed

These results show that the 17 nodes above have the largest contribution to the overall hierarchy, both in terms of number of references and data sources (transcripts). This shows that overall (4 categories of informants), they touched on the level of public awareness of the importance of IP, with a total contribution of 86%. This indicates that all informants touch on the importance of the issue of public awareness in an IP ecosystem. The other node, namely "Socialization", has a reference of 5 with a contribution value of 72%. This indicates that around 72% of informants mentioned the need for outreach related to increasing public awareness regarding IP. As for other nodes, they have a similar interpretation. Next, the following will be shown regarding System Nodes 1 (Impact of IP Registration), as seen in the following table:

Table 3. System Hierarchy Reference Nodes 1

No.	Nodes	Ref.	Files Coded	Max. Value	Share
1	Business Sustainability	4	4	7	58%
2	*IP Economic Based System* > Economic Growth	3	3	7	43%
3	Business Competition	3	3	7	43%
4	PNBP Performance	2	2	7	29%

Source: Data processed

From Table 3., it can be seen that the "Business Sustainability" node has a contribution of 58% of all available sources. This means that the impact of IP registration on business aspects was most frequently mentioned. Next, the following will be shown regarding System Nodes 2 (Policy Impact on IP Registration), as seen in the following table:

Table 4. System Hierarchy Reference Nodes 2

No.	Nodes	Ref.	Files Coded	Max. Value	Share
1	Public Awareness	6	6	7	86%
2	Socialization	5	5	7	72%
3	Use of Technology	4	4	7	58%
4	IP Violation	4	4	7	58%
5	Service Improvements	3	3	7	43%
6	IP Consultant	2	2	7	29%
7	Stakeholders Synergy	2	2	7	29%

Source: Data processed

From Table 4, the "Public Awareness" nodes have a contribution of 86% of all available sources. This means that, in the context of a given policy, increasing public awareness results in an increase in the number of IP registrants. Next, the following will show the hierarchy of the Other Nodes System (things that informants discuss outside the context of the stated research objectives), as follows:

Table 4.5. System Hierarchy Reference Nodes Others

No.	Nodes	Ref.	Files Coded	Max. Value	Share
1	Creative Economic Potential	3	3	7	43%
2	Business Profile	3	3	7	43%
3	Digital Era	2	2	7	29%
4	Innovation	2	2	7	29%
5	Link & Match Research	2	2	7	29%
6	PWL	2	2	7	29%
7	Globalization	1	1	7	14%
8	Import of Raw Materials	1	1	7	14%
9	Revenue Potential > IP Infringement	1	1	7	14%
10	*Public Awareness* > IP Infringement	1	1	7	14%
11	IP Terminology	1	1	7	14%
12	IP Consultant Duties and Functions	1	1	7	14%

Source: Data processed

From the table above, it can be seen that the "Creative Economy Potential" and "Business Profile" nodes contribute 43% of the total available sources. This means that 43% of the informants involved mentioned the large potential of MSMEs or creative industries.

Furthermore, the results of the comparison diagram analysis will be displayed. This section is the second stage in coding analysis (Second Cycle Coding). Second Cycle Coding is based on nodes or coding that has been created previously (First Cycle Coding). The results illustrate the similarities in things mentioned by each informant (category). These similarities are displayed in the nodes located in the middle of the informant's case. Meanwhile, the nodes to the right and left of the informant are nodes touched on by each informant which are not related to each other, which can replace the exploration diagram. The following will show the similarity of nodes between Regulators and Operators, a comparison diagram between Regulators and Academics, a comparison diagram between Operators and Associations, a comparison diagram between Operators and Academics, a comparison

diagram between Associations and Academics. Next, referring to the comparison above, the correlation coefficient of each node can be shown compared to each other. The following is a table that shows what is meant:

Table 4.6. Correlation Coefficient of Nodes

No	Code A	Code B	Pearson correlation coefficient
1	Marketing -) Study	Link & Match Research	0,900227
2	Socialization	Public Awareness	0,897676
3	Service Improvements	Utilization of Technology	0,88108
4	Public Awareness	IP Consultant	0,850761
5	Creative Economic Potential	A paradigm shift	0,844932
6	PWL	Foreign Direct Investment	0,802864
7	Socialization	IP Consultant	0,796088
8	IP infringement	Market Place Legal Clarity	0,788565
9	IP infringement	Globalization	0,783994
10	Term & Condition	Business competition	0,731456
11	Creative Economic Potential	IP Economic Based System -) Economic Growth	0,706879
12	IP Economic Based System -) Economic Growth	Innovation	0,694374
13	Service Improvements	PNBP performance	0,678243
14	Unilateral Exclusive Claim	Business Sustainability	0,660117
15	Utilization of Technology	PNBP performance	0,640694
16	Socialization	Utilization of Technology	0,636177
17	Consumer protection	Business Sustainability	0,6193
18	Public Awareness -) Public Confidence	Business Sustainability	0,6193
19	Socialization	Creative Economic Potential	0,611764
20	Business competition	Business Sustainability	0,607768

Source: Data processed

Based on the table above, it can be seen that: (i). The pair between the nodes "Socialization" and "Public Awareness" has a positive and high coefficient value, namely 0.89 on a scale of 1. This means that these two things are coded in a relatively similar sentence. Apart from that, it can also be said that increasing socialization to the public will have an impact on increasing public awareness regarding IP; (ii). The pair between the nodes "Service Improvement vs Technology Utilization" also has a very high coefficient, namely 0.88 on a scale of 1. Apart from being coded in one relatively similar sentence, this can also mean that the higher the use of technology, the greater the quality of services provided regarding IP registration is also high; and (iii). The pair between nodes "Public Awareness" vs "IP Consultant" also has a very high coefficient, namely 0.85 on a scale of 1. Apart from being coded in one relatively similar sentence, this also, implicitly, can mean that the greater the number of IP consultants serving the public, the higher the level of public awareness regarding IP registration.

Conclusions and Policy Recommendations

Conclusion

Based on the results and analysis described previously, several conclusions can be drawn regarding this research, as follows:

1. IP registration has been proven to have an impact on Non-Tax State Revenue (PNBP), where this is demonstrated through the existence of PNBP Performance nodes. The increase in IP registration itself is due to factors in the growing awareness of the public and economic actors regarding the importance of IP. This is

achieved through outreach activities carried out by the government through several forms of events/activities whose aim is to inform, develop, guide, and even register IP for each community. Apart from that, there is also the role of IP consultants who act as Human Resources (HR) for the government to carry out outreach activities. This is shown by the positive and high correlation between the "Socialization" and "Public Awareness" nodes. Apart from that, the support for the services provided is created by the use of technology carried out by DJKI so as to optimize/simplify the registration process. This can be seen from the nodes "Utilization of Technology" and "Improvement of Services" which have a high and positive correlation;

2. IP registration has an impact on long-term business sector income. This is because the IP protection provided has an impact on business sustainability and business competition. This can be seen from the nodes "Business Sustainability" and "Business Competition".

3. The policies taken by the government (DJKI) have an impact on efforts to increase IP registration by creating increased public awareness. This increase in awareness is achieved through socialization policies carried out by the government through several forms/event schemes whose aim is to educate and provide guidance to all levels of society, including entrepreneurs (MSMEs) and also academics (lecturers). The impact of policies that lead to increased registration also has an impact on increasing PNBP, as well as the sustainability of the business sector.

Recommendation

Intellectual Property is a large contributor to PNBP income (Patents, Brands and Copyrights). This is closely related to the creative economy which can encourage economic growth as in developed countries such as the United States and Japan. Where the creative economy sector originates from innovation and technology developed by individuals, industries or countries which leads to an increase in the country's income. The role of DJKI is to provide an understanding of how important intellectual property is in improving the community's economy so that this role can be implemented optimally if DJKI becomes a separate agency at the Ministry level so that the policies taken are more focused on the nation's economic advancement sector so as to encourage national economic growth.

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