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# Intellectual property financing in Indonesia: A comparative study with China and South Korea

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## Abstract

Creative economy actors and Small-Medium Enterprises in Indonesia are expecting Intellectual Property financing after the issuance of regulations in the form of Government Regulations. It forces the government to immediately implement Intellectual Property financing. This article applied an empirical juridical method by comparing practices of Intellectual Property financing in China and South Korea. The results show that Indonesia is still in the regulatory stage. There is still much to be conducted by the Indonesian government, especially policies related to funding sources and implementation, including post-loans provisions. The novelty of the article is related to how Indonesia can implement intellectual property financing by implementing a policy of funding sources originating from the APBN (State Budget) deposited to state-run banks, which have been implemented in several countries by several mechanisms such as with subsidized funds in Intellectual Property financing practice activities, using joint budgeting with the private sector or other possible financings. With regards to the guarantees aspect, government policies in the form of guarantor companies are also needed as well as policies after the implementation of loans. Finally, there is the government's institutional policy for this Intellectual Property financing to work.



## Introduction

Subsequent to the issuance of Government Regulation Number 24 of 2022 on Implementing Regulations of Law Number 24 of 2019 on the Creative Economy, the Indonesian government must immediately implement Intellectual Property financing in Indonesia. In Indonesia, Intellectual Property Financing arrangements are regulated in Government Regulation Number 24 of 2022 on Implementing Regulations of Law Number 24 of 2019 on the Creative Economy. In this regulation, all intellectual property can be given financing. After this regulation,

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Intellectual property financing must be implemented in Indonesia. On the other hand, the implementation of Intellectual Property financing is still inhibited by rigid banking systems in implementing the 5 C's (capacity, collateral, capital, characters, and Condition of Economy) (Khanna, 2018). The contradiction between these conditions means Intellectual Property financing will hinder the government regulation realization (Vepachedu, 2017).

The contradiction between the 5C principles in banking and Intellectual Property financing has become a problem in many countries, including Indonesia. This article will discuss the regulation and implementation of Intellectual Property financing as well as solutions that the government must take to realize this practice of Intellectual Property financing by making comparisons with South Korea and China (Halt et al., 2017).

## Literature Review

### *Application of the Droit de Suite Principle as the Basis Intellectual Property Financing in Indonesia*

Patent rights are part of Intellectual Property Rights. In the legal framework of intellectual property, patents are included in industrial property rights (Industrial Property Rights). IPR is known in various terms, such as intangible, intellectual, and creative property. The name of Intellectual Property (here in after written as KI), or in English known as Intellectual Property in Indonesia, has gone through a long journey and has undergone several term changes (Osinski et al., 2017).

Intellectual property is a material right that is part of the property (Dosso & Vezzani, 2020). Rights are legally enforceable demands from a person against another party having to act or not act (according to applicable law). Exclusive Rights are the rights to exclude other parties within a certain period taking into account the applicable restrictions (Battsengel et al., 2020).

Property rights that provide perfect enjoyment for the owner are called "ownership rights", which in various countries are known as "property rights". Juridically, the term intellectual property is always associated with the ownership of movable goods, immovable goods, tangible goods or intangible goods (Trequattrini et al., 2022). Viewed from the point of law of property, intellectual property rights are personal property rights that originate from natural human rights. Therefore intellectual property rights can be equated with other material rights that can be defended from the power of anyone who is not entitled.

According to the history of its birth, intellectual property rights are a new form of developing conventional property rights over an intangible movable object. Intellectual property rights arise as a form of reward for an intellectual activity or human thought in creating something new or original, both in the field of technology and the field of literature and science, as well as in the industrial sector.

Intellectual property rights are material rights, rights to objects that originate from the brain's work, and the creation of ratios, the result of the work of human reasoning proportions. The result of such work is in the form of immaterial objects or intangible objects. The work of the brain is then formulated as intellect. Likewise, the work of the human brain (intellectuality) in the form of research or findings in the technology field is also defined as intellectual property rights.

The principle of droit de suite (follow) is that property rights will follow the object in the hands of whoever the object is. Material rights are absolute in that these rights can be enforced against anyone, not only to the party that cooperates but also to other parties that may later be involved (Muchtar et al., 2021). This is different from individual rights or relative rights, which can only be enforced by certain parties, namely parties who cooperate. The material right has zaakgevolg or droit de suite, meaning that the right will continue to follow the object into the hands of whoever the object is. So, the property right is attached to the object, so if it changes hands, the person concerned will also be subject to the obligation to respect it. The attachment of objects to their owners is the primary basis for how an inventor can defend his rights and prohibit other parties from using and exploiting his invention.

Inventors also have absolute rights to their patented inventions. Absolute here means that they cannot be deviated from or can be defended from anyone if the inventor cannot exercise his fiduciary patent rights because there are no regulations, guidelines or policies related to the valuation of intangible assets. In the absence of rules for evaluating (valuation) intangible assets, these absolute rights cannot be maintained and cannot be utilized to the fullest. Inventors make patent inventions by devoting their thoughts and time and exerting all their abilities to produce these patents. After becoming patents, such are granted rights by the state where the rights granted have economic value and Utility Value.

The principle of droit de suite in the fiduciary guarantee law is regulated in the provisions of Article 20, that fiduciary guarantees will continue to follow wherever objects of fiduciary guarantees are located. This principle indicates that material rights will follow objects that have been made objects of fiduciary guarantees into the hands of whoever these objects are. This guarantees fiduciary recipients as owners of juridical rights over fiduciary guarantee objects so that it will provide legal certainty for fiduciary recipients to receive debt repayment from the sale of fiduciary collateral objects in the event of a breach of contract by the fiduciary recipient.

The relationship between an inventor and his invention based on the principle of droit de suite must be attached; if an inventor is recognized as a legal subject, then the result of his thinking in the form of an invention must also be recognized by the state. Currently, there is no regulation regarding the valuation (valuation) of intangible assets, which is a sign that material rights to patents have not been recognized de facto because, in practice, the fiduciary process for patents cannot be carried out because there are no regulations regarding the calculation (valuation) of intangible assets (Khanna, 2018).

### *Intellectual Property as Object of Loan Guarantee and Its Legal Arrangement in Indonesia*

The inventors also have absolute rights over the patent inventions they own. The term ‘absolute’ here means that it cannot be deviated or can be defended from anyone. If the inventor cannot exercise patent fiduciary rights due to the absence of regulations, there should be guidelines and policies related to the valuation of intangible assets (Chiesa et al., 2008). In the absence of regulations for the valuation of intangible assets, this absolute right cannot be maintained and cannot be utilized optimally (Wiederhold, 2014). Inventors make patent inventions by devoting their thoughts and time as well as exerting all their abilities to produce the patent (Eppinger & Vladova, 2013), after becoming a patent, the rights are granted by the state where the rights granted have economic and utility values (Vega-González et al., 2010).

Based on the principle of droit de suite, inventors have absolute rights and the State must facilitate the fulfilment of these rights. The droit de suite principle is a material principle that can be applied to all intellectual property because all works and inventions will be attached to their owners and reflect their owners. Intellectual property is an intangible object. Therefore all the principles of material rights are attached to it, including droit de suite. One of the intellectual properties is a patent or invention. Apart from that, this material guarantee right cannot be ruled out from its attachment to the form of a patent as an “object”. As an intangible object, this fiduciary should also be subject to intellectual property, especially patents. In other words, the State must establish regulations and policies to support the implementation of patent fiduciary, one of which is by making regulations for the valuation of intangible assets (Russell, 2016). The policies are needed to establish good coordination between financial institutions, banks and the Directorate General of Intellectual Property Rights, Ministry of Law and Human Rights (the Directorate General of Intellectual Property Rights).

The absence of regulations on the valuation of intangible assets means the absolute rights of patent material rights cannot be implemented (Chiu & Chen, 2007). This will lead to a nonoptimal function of patent, copyrights, trademarks and other IP (intellectual property) as objects in the property field. As a property, a patent can actually provide economic benefits, one of which is that it can be used as a fiduciary (Ionita & Dinu, 2021). The absence of regulations and valuation implementation of intangible assets makes the material rights treatment different, if tangible assets can be valuated properly and can be made fiduciary, similarly, it should also apply to intangible movable objects such as patents.(Battsengel et al., 2020). These differences create injustice in the field of property and weaken the benefits and functions of intellectual property as material rights.

Based on the droit de suite principle, in terms of the object, patents are objects that can be defended and have economic benefits, hence, the regulation and policy on the valuation of intangible assets for patents must be carried out to support the patent fiduciary process, to support accounting calculations in the company’s balance sheet, calculation of compensation and other activities that require the valuation of intangible assets (European Commission, 2006). Meanwhile, policies need to be implemented for good synergy between institutions such as financial institutions, banks, and the Directorate General of Intellectual Property as the institution that issues patent certificates (Eppinger & Vladova, 2013). This principle shows that material rights will follow objects that have been used as objects of fiduciary guarantee into the hands of whoever the object is located (Lai, 2018). This is a guarantee for the fiduciary recipient as the owner of the juridical right to the object of the fiduciary guarantee (Mysore, 2015).

Intellectual property as an asset that can be guaranteed has been provided in Law on Copyright, Law on Patent, and Law on Trademark and is also mentioned in Law Number 24 of 2019, especially in Article 16 (1) which contains the Government facilitating intellectual property-based financing schemes for Creative Economy Actors. Provisions on intellectual property-based financing schemes are regulated by Government Regulation. Creative Economy Actors are individuals or groups of Indonesian citizens or business entities with legal entities or non-legal entities established under Indonesian law that carry out Creative Economy activities. Meanwhile, the Creative Economy embodies added value from the intellectual property of human creativity based on cultural heritage, science and technology. Therefore creative economy actors are individuals or groups of Indonesian citizens or legal entities that carry out activities to create added value from intellectual property originating from human creativity based on cultural heritage, science and technology.

In 2022 Government Regulation Number 24 of 2022 was issued on the Implementation of Law Number 24 of 2019 on Creative Economy. In addition, this Government Regulation also regulates intellectual property-based financing or intellectual property-based loans. In the general provisions, the Intellectual Property-Based Financing Scheme is a Financing scheme that makes Intellectual Property an object of loan guarantee for banks or non-bank financial institutions in order to provide Financing to Creative Economy Actors.

In this Government Regulation, the Government also facilitates the Intellectual Property-Based Financing Scheme through bank and non-bank financial institutions for Creative Economy Actors (Fahmi et al., 2017). Facilitation of Intellectual Property-Based Financing Schemes for Creative Economy Actors is carried out through:

1. utilization of Intellectual Property that has economic value; and
2. Intellectual Property valuation.

Intellectual Property-based Financing is proposed by Creative Economy Actors to banks or non-bank financial institutions. The requirements for submitting Intellectual Property-based Financing at least consist of:

1. Financing Proposal;
2. having a Creative Economy Business;
3. having an engagement related to the Intellectual Property of Creative Economy products; and
4. having a registration letter or Intellectual Property certificate.

Bank or non-bank financial institutions, in providing Intellectual Property-based Financing, shall conduct:

1. verification of Creative Economy business;
2. verification of the registration letter or Intellectual Property certificate used as collateral that can be executed in the event of a dispute or non-dispute;
3. valuation of Intellectual Property that is used as collateral;
4. disbursement of funds to Creative Economy Actors; and
5. receive payments from Creative Economy Actors according to the agreement.

In the aforementioned Government Regulation, in particular Article 9, in the implementation of the Intellectual Property-Based Financing Scheme, bank and non-bank financial institutions utilize Intellectual Property as an object of a loan guarantee. The object of the loan guarantee is carried out in the form of:

1. fiduciary guarantee on Intellectual Property;
2. contracts in Creative Economy activities;
3. collection rights in Creative Economy activities.

In accordance with the laws and government regulation, Intellectual Property financing should be implemented according to the applicable laws and regulations, but in practice, it is difficult to apply because it is something new in the banking sector.

### *Intellectual Property Valuation*

The word valuation comes from the word assessment with the basic word "value" (Amirulloh, 2020). In some senses, value is a number or representation of the future economic benefits of an object. If the object in the form of property rights is exchanged for an equivalent transaction, then the agreed value is called "market value" at the time and place of the transaction. For buyers "market value" is "cost" (Wiederhold, 2014).

Both the buyer and seller have considered the future economic benefits of holding the property rights and have reached an agreement on the present value (Beauvois et al., 2019). However, over time, the price (of the transaction) never changes, and therefore the cost to the buyer remains the same (Osinski et al., 2017). However, the market value of such rights may change continuously as future benefits increase or decrease over time. As a result, opinions about value can only be expressed relatively at a certain time or "on" a certain date. In addition, the future benefits of ownership cannot be measured without defining who ownership is assumed to be and/or the purpose for which the valuation is based (Russell, 2016).

Valuation is utilized in a commercialization practice at the time an innovation or intellectual property is about to be commercialized or is planned to be commercialized and/or even when the company is going to reorganize the company's assets or prepare a company balance sheet. Valuation is closely related to the practice of intellectual property managemen. At what time and for what purpose the valuation is carried out will be illustrated in the following table (Laya, 2017):

Table 1 explains that valuation is not only used for fiduciary but there is valuation when intellectual property exists and has value (APEC Intellectual Property Experts Group, 2018). The function of valuation is useful for various matters and legal and economic aspects, hence, in valuation, it is necessary to have an independent institution that is separate from banking institutions (Parr, 2018).

Judging from the function that valuation is also a calculation of compensation in an intangible asset dispute, an independent valuation institution is critical, because, when compensation is asked for an intangible asset to the court, it becomes measurable and will ultimately bring about justice for the parties because the value in a case is an important aspect (Fink, 2005).

## Methodology

This study uses an empirical juridical research method by comparing the practice of Intellectual Property financing in China and South Korea. South Korea and China were chosen to conduct a comparative study because, based on the Global Innovation Index in 2022, China is ranked 11th with a region ranking at rank 3, while South Korea is ranked 6th in the world with a region at rank 1. Based on this data, based on IP financing activities which are already good and based on regional similarities in Asia, China and South Korea were chosen to be the objects of comparison (Bimrew, 2022). Practices and regulations in South Korea and China are studied and mapped with Indonesian conditions, hence, appropriate practices are produced for Indonesia in the application of Intellectual Property financing.

## Results

### *Intellectual Property Financing Practices in South Korea*

Currently the number of patent applications owned by South Korea is the 4th largest in the world. For Korea, this is a great potential for economic development, so the empowerment and utilization of patents must be maximized. For developed countries such IP-based financing, which is considered to be able to support innovation-based companies in Korea, with the addition of capital with patents as collateral, the Korean government concentrates on Intellectual Property financing (IP-based loans, Korean Intellectual Property Office [KIPO], 2021).

Based on the KIPO report, in 2019, the total IP-based financing in Korea reached KRW 1.34 trillion. From this value, the number of IP-based financing increased 77 percent compared to 2018. Furthermore, in 2022, Korea will make a medium-term plan in the economic sector. One of them is an IP-based loan with a target value of KRW 2 trillion to increase the income of 2,960 companies that will be credited (KIPO, 2022).

The increasing number of company revenues and increasing public participation in IP-based loans were realized due to government support, especially in terms of policy, coordination and government commitment in advancing innovation-based companies in Korea, which can be seen from the following points (Battsengel et al., 2020, KIPO, 2021):

1. State-run banks play a role in IP-based loans in Korea. This can be seen from the operation of IP-based loans carried out by state banks such as Woori, Shinhan and KEB Hana since 2019. This bank is a bank owned by the government.

**Table 1** Purpose of valuation

| Business Activity | Valuation Purpose |
|---|---|
| Planning Strategy | The basis for decision making, capital allocation, profit sharing |
| Financial statements | Required under International Financing Reporting Standards (IFRS) or most Generally Accepted Accounting Principles (GAAP) Sale |
| Sales Transaction Support<br>License | The basis for IP exploitation, as in negotiations involving the sale, license, or exchange of IP |
| Fiduciary Guarantee<br>Company Asset Valuation | To raise funds and secure financing, collateral, liquidation, merger, spin-off or bankruptcy |
| Calculation of Compensation | To assess claims for damages in disputes, infringement or infringement of rights, and for quantification of damages |
| Transfer Pricing | Relevant in cross-border transactions because tax authorities are involved in these types of transactions |

2. The Korean government has anticipated that after, IP-based loans will be implemented. This can be seen from the cooperation of the government and commercial banks including state-owned banks in establishing IP recovery institutions. This collaboration is in the form of jointly establishing IP recovery institutions. In practice, weapons recovery is done by; IPR collateral recovery agencies purchase IP defaults up to 50 percent of the number of credit defaults found. This institution will liquidate the guarantee (patent) or take the economic benefits contained in the patent.

3. In the practice of IP-based lending in Korea, KIPO also participates by providing a reduction of up to 50 percent for security costs for IP-based lending banks, especially for debtors with the status of SMEs and such applies to all types of IP.

The South Korean government will ease its intellectual property-based loan criteria and drastically increase the country's associated budget, seeking to promote access of small tech companies to loans (APEC Intellectual Property Experts Group, 2018; Intellectual Property Rights Experts Group, 2017). To encourage banks to expand IP-based lending, the government is working to set up a recovery institution that liquidates expropriated intellectual assets through licensing or disposal, officials said. In addition, KIPO will send an automatic notification to the lending bank if the legal relationship regarding IPR collateral changes and reduce registration fees for the bank in the event that it will take over ownership of IP Financing due to borrower default (Kang, 2017).

Intellectual Property (IP) Secured Loan and IP Fund are part of South Korea's access to financial policies based on intellectual property (including patents, trademark rights, design rights, and copyrights) owned by SMEs to encourage businesses and startups. All of these initiatives were put together to drive innovation and boost economic growth as well as job creation and contribute to the country's IP ranking (ranked 13th in 2019) Korean Invention Promotion Associantion [KIPA] , 2020).

In the practice of IP-based lending in Korea, several banks offer credit instruments according to the business stages of the debtor company. This categorization is based on analysis by the IP assessment technical team, in addition to the formation of organizations to facilitate IP-based loans.

For new companies, credits are offered to purchase IP. For venture companies and Small and Medium Enterprises (SMEs), IPR credit guarantees are offered to diversify sources of financing by recognizing intangible assets with HKI as collateral. For SMEs in the mature stage, IPR funding is offered to provide a comprehensive financing program (assistance for investment activities and loan programs, including loans, investment and IPR securitization).

The IP Secured Loan Program is categorized into loan funds with intellectual property guarantees. With the following process.(KIPA et al., 2008)

In Figure 1 Intellectual Property financing (IP loans) are assessed by an external appraisal agency and, based on the results, are recognized as collateral. In Korea the amount of credit is based on the IP assessment process developed by the Korean Intellectual Property Office (KIPO). If there is a problem of default until a billing must be made, the guarantor company and the government will provide assistance even to purchase a guaranteed IP so that it can provide assistance in credit recovery (Kang, 2017).

IP-based loans not only allow companies to secure funds through their intangible intellectual assets but also offer relatively low-interest rates ranging from 2 to 6 percent. The valuation activity is subsidized by the Korean Intellectual Property Office (KIPO), and it is carried out by other parties such as the Korea Invention Promotion Association (KIPA). Companies are allowed to choose the optimal assessment module according to their business needs and budgetary capacity. Accordingly, the KIPO will operate the fund on a two-track system, maintaining and enhancing current entries for patents and expanding investments for non-patent IP, such as trademarks and design rights. As part of its efforts to support SMEs in the field of technology, KIPO will share a value scoring system for IP assets, allowing companies to select the optimal module according to their business needs and budgetary capacity.

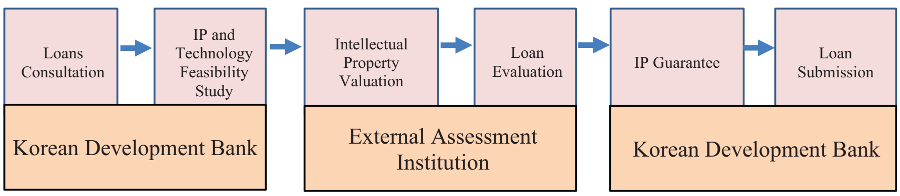


**Figure 1** IP-based loan scheme in South Korea

### *Intellectual Property-Based Loans in China*

Intangible IP assets, including patents, trademarks and copyright can be used as collateral to obtain loans in such a financing model, which can especially help small and medium enterprises (SMEs), promote IP commercialization and enhance the core competencies of enterprises. The new policy will focus on optimizing the IP-guaranteed financing service system, increasing innovation in services and improving risk management (*The Organisation for Economic Co-operation and Development* [OECD], 2021).

Intellectual property-based financing in China contained in the Civil Code of The People's Republic of China Year 2020 in article 444 explicitly states that: A pledge on a proprietary right in intellectual property, such as the right to the exclusive use of a registered trademark, a patent right, or copyright, is created upon registration. With regards to intellectual property rights, after being pledged, it cannot be transferred or licensed by the fiduciary to another person, unless otherwise agreed by the fiduciary and the pawnee through consultation. The results obtained by the fiduciary from the transfer or granting of a license to the intellectual property rights that are pledged are used to pay the pledgee to pay off his/her obligations before maturity or are placed in escrow (Mysore, 2015).

In the practice of IP based loans, the valuation standard is the main thing because the correct valuation process will produce the appropriate IP value and get the right credit. Based on this, the government issued guidelines and valuation rules for patents through the "Standard Valuation of Assets for Intangible Assets" and the "Guidelines for Valuation of Patent Assets" , which was issued and entered into force on July 1, 2009 (Lema et al., 2021).

China has successively issued IP valuation guidance documents, including the following: "Notice of Matters Related to the Ministry of Finance"; "Strengthening SIPO IP Asset Valuation Management"; "Asset Valuation Criteria"; "Asset Valuation Criteria–Intangible Assets"; "Suggestion Guidelines for Valuation of Patent Assets"; "Suggestion Guidelines for Valuation of Copyright Assets"; and "Guidelines for Valuation of Brand Rights Assets". The regulatory documents have been developed to establish management criteria for IPR valuation, as well as to provide a systematic approach to IPR valuation.

In IP-based loan the most important thing is the value of the asset (IP), so in the process the bank asks the asset appraisal agency to comprehensively assess and consider the marketable value of IP, whether IP will affect the company's operations and what can be the valuable value. if the borrowing company fails to pay. The IP value is the reference and basis for the bank to provide credit, therefore the bank also expects the appraiser company to provide a fair and appropriate value to the IP-based lending institution with the assumption, that later, the debtor will return the credit funds smoothly. The IP value that can be used as a reference by the bank is the IP value adjusted for risk when something happens in the future if the debtor experiences financial difficulties. Based on this in the IP assessment, there are "risk" and shrinking aspects that must be calculated.

Furthermore, considering that IP rights are ultimately a kind of legal right, at the time the bank refers to the valuation results and accepts the application, according to China's relevant laws and regulations, IP valuation is required when any of the following situations occur (Li, 2018):

1. Intellectual property in the company becomes capital investment by someone to the company to be established.
2. Entities or individuals attempt to obtain financing by pledging intellectual property.
3. The administrative unit conducts IP auctions, transfers intellectual property from one entity to another or replaces intellectual property with other assets.
4. State-owned public bodies or state-owned enterprises restructure, merge, divide, invest, transfer, replace or conduct auctions involving intellectual property.

For MSMEs getting a loan is very difficult because the business is not yet stable, IP is a way out of this difficulty by providing intangible asset guarantees to banks. Therefore, IP is a key factor for MSME financing, besides that the assessment also provides an overview of the business to ensure economic activities run smoothly (Menzies et al., 2013).

Intellectual Property Agreements or mortgage loans have become an important way to solve SME financing problems in China. At the time a bank receives an IP mortgage loan application, it first asks the asset valuation agency of its choice to assess the intellectual property pledged. Based on the results of the valuation, the bank will ask the credit analyst to conduct an in-depth analysis of the debtor's ability to facilitate credit limits, interest rates, credit extension limits and other conditions related to IP credit. The amount given is taking into account thoroughly the results of the assessment, economic situation, competition/competitors in the same field and other factors (State Intellectual Property Office [SIPO] , 2014).

Currently, IPR financing still faces challenges in valuing IPR assets, accessing IPR ownership information and maintaining IPR collateral value. Commercial banks are doing more research into IP collateral portfolios, providing more small businesses with easy access to IP secured loans, enhancing their professional competence and developing a greater tolerance for risk (Prud'homme & Zhang, 2017).

## Discussion

From the IP-based loan practical comparison with the practice in the country, there are several benefits that can be taken from the practice of the two said countries to be applied in Indonesia. In terms of regulation, Indonesia already has a government regulation related to intellectual property-based loans, which will be completed in 2022, in its application; however, it is still difficult to implement, therefore, it is necessary to map what things are needed by the Indonesian government to realize this rule.

Based on the practice in China and South Korea as seen in Table 2, this intellectual property-based loan requires IP valuation. Therefore, for the program to work, there must be legal measures and institutions to guarantee SMEs when these companies apply for loans based on their IP technology. In practice, the process of intellectual property-based lending is not yet known by banks and the

**Table 2** Comparison of valuation and IP based loan

| Comparison | China | South Korea | Recommendation for Indonesia |
|---|---|---|---|
| Institutional | - The State Intellectual Property Office (predecessor of CNIPA) issues Patent Pledge Registration Steps.<br>- There is a Valuation guide made by the government. | - IP-based loans are assessed by an external valuation agency and, based on the results, are recognized as collateral. The appraisal process is based on a valuation model developed with the support of the Korean Intellectual Property Office (KIPO). | - It is necessary to establish a valuation agency under the government in addition to a private valuation office.<br>- The public Intellectual Property Rights Valuation office is under the Directorate General of Intellectual Property.<br>- Private valuation offices, requires accreditation from the Directorate General of Intellectual Property<br>- It is necessary to divide the tasks between the Public Valuation Office and the Private Valuation Office due to a large number of valuation allocations.<br>- The Cooperation Model between the Korean Intellectual Property Office and Banks can be a coordination model that can be adopted in Indonesia. |
| Valuation Practices (guidelines) | Guidelines and provide rules for patent assessment. One of them is "Asset Valuation Standards for Intangible Assets". | The valuation guide is made by the Intellectual Property Right office in collaboration with banks. | A valuation guide that can be used by various parties is required, made by the Directorate General of Intellectual Property and banks and endorsed by presidential decree. |
| IP-Based Funding Practices | - Institutional regulatory support makes the IP-based funding process in China work.<br>- The bank's funding practice coordinates with Intellectual Property Right office and valuation agencies to determine an adequate value in order to minimize risk | - Conventionally, IP-based loans are mostly operated by state-run banks–Korea Development Bank and Industrial Bank of Korea.<br>- Establishment of an IPR collateral recovery institution that is jointly financed by the government and commercial banks.<br>- The IPR collateral recovery institution will buy Intellectual Property Right that defaults up to 50% of the default amount from the bank where the loan defaults, and will make a profit by liquidating or taking back the IPR purchased through a license or release.<br>- Establishment of a release license owned by the government | Commitment is needed from the State to take policies related to Public Private Partnership (PPP) funding and what subsidies must be implemented to realize IPR-based lending practices. |

public; with the strict lending conditions imposed by banks, it is difficult to realize this intellectual property-based loan. In the beginning, it must start with government policies by implementing large budgets or funds from the government (Ionita & Dinu, 2021).

Based on the comparison of China and South Korea as seen in Table 2, the policies taken by the government can be realized from various aspects, including budgetary aspects, guarantee aspects and institutional aspects that realize the fiduciary practice of intellectual property. these three aspects must be included in the IP Bases Loan Strategy strategy (Figure 2), and these three aspects become one integrated flow which is described in the following chart (Figure 2):

Based on Figure 2 which explains IP based loan strategy, The first aspect that must be prepared by the Indonesian government is the funding. The funding that is expected to run well is fund from banks channeled for intellectual property-based loans, but it is difficult to implement because the banking system in Indonesia is very rigid; hence, intellectual property is categorized as inadequate guarantee criteria. To overcome this, the government must use various strategies, among others, providing subsidies or joining the budget with private lending companies with the portion regulated in the agreement (Vega-González et al., 2010).

Besides, if bank funding is opted, there should be guarantees from the State for the program. In some countries, banks will provide loans if there is a guarantee from the government with certain conditions, for instance, if there is a default, the government will provide a reimbursement of 50 percent of the total loan funds, where the interest charged for this program is not included if it is compensated by the government (Khanna, 2018).

Another budget that needs government policy is the one that comes from the State budget. In the practice in countries such as China and Korea, the State budget is used to stimulate the practice of intellectual property-based lending, which is indeed this budget set aside for SMEs and funding for start-up business development. From the practice carried out by several countries, Indonesia can adopt this method but by channeling it through the State-run banks with the same terms and conditions as other lending in the bank, only with the State budget; the feasibility aspect provided for the guarantee is not too rigid, thus, it can work. This method can both stimulate and provide an example of how intellectual property-based loan can be implemented (Halt et al., 2017).

Other possible funding is with other loans such as fintech, crowdfunding or other loans other than banks, but what must be regulated by the government is the amount of interest on the loan. These relevant government regulations and policies greatly affect the development of SMEs and start-ups, because if they are not regulated, it will cause harm to Small and medium enterprises (SMEs) and start-ups that truly need assistance. Hence, even though the funding is from the State, the private sector should also be committed because the State must make policies for intellectual property-based loans, especially related to interest, the lending process and execution in the event of default (European Commission, 2006).

In addition, the government should also consider the existence of guarantees in intellectual property-based loans in Indonesia. For the risk of IP-based credit, if this program is carried out by the government, in practice there is usually a guarantee from the government to companies or other forms to hope that the credit will run smoothly and the government will be responsible for the risks that will occur in the future (Vepachedu, 2017).

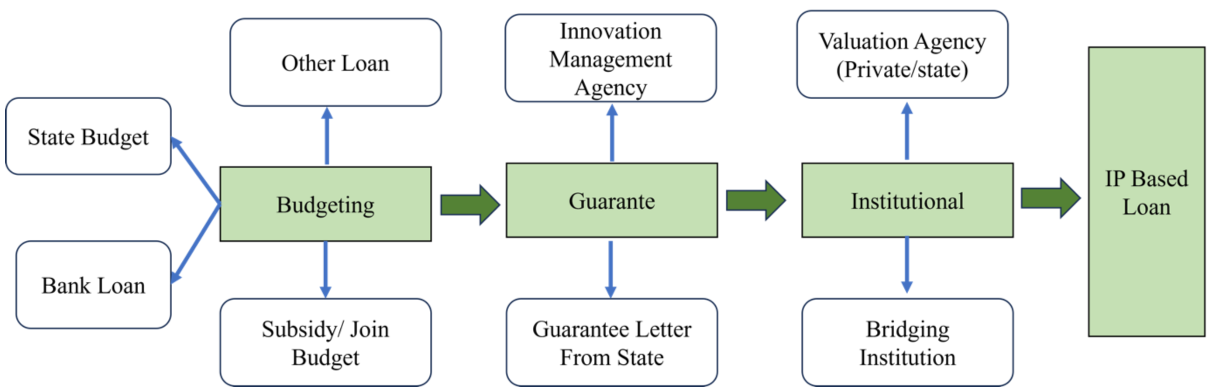


**Figure 2** IP based loan strategy

When Small and medium enterprises (SMEs) provide credit, the IP assessment is very important because the MSME business aspect is not yet stable. From this assessment, ideally, the amount of guarantee given is based on the IP value they have. After that, the government provides subsidies or any form made by the government to realize IP-based lending. Companies expecting to receive support from this program must apply for funding and guarantees. In the IP Based Loan process, because the deposit insurance agency is to guarantee credit and issue funds if something happens, the inspection must be accurate, the guarantor agency reviews all documents and inspects whether the credit is eligible for guarantee. Based on the results of the examination to fund managers and trust management institutions, the results of which are communicated to SMEs, SMEs will get financing (Kim et al., 2021).

A guarantee from a contracting institution is provided by an agreement signed between the guarantor and other public organizations (e.g., Korea Technology Finance Corporation (KOTEC), KIPA, and financial institutions). The range of SMEs that will receive the subsidy, the guarantee fee rate, and the guaranteed target is determined in the agreement. The following are recommended steps to implement (Og et al., 2020).

1. Develop secured loans with IP backing and secure guarantee institutions. This institutional support must be sought by the government. In some countries, there are state-owned and private valuation institutions. Such institution can be adopted in Indonesia by establishing a valuation institution and a valuation process that can support intellectual property-based loans.

2. In practice, choose a valuator who will assess assets, especially intangible assets with a good reputation. Then the relevant institutions can choose potential MSMEs with good business processes and adequate IP values and have IP as the main asset in the business and hope to guarantee IP to get financing. The main objective of this program is to obtain guarantees to minimize risks in the financing aspect based on the results of the IP assessment. Based on this, the MSMEs must have high business opportunities to prevent the risks that will occur. In this practice, the government should establish criteria for starting with activities with the guarantor agency and jointly conduct searches based on document examination, both administrative and legal documents.

3. In this process, the assessment agency is the main key because IP is the reference in giving awards for the assessment process to be important, in this case, certification and supervision so that there is no failure in this guarantee process. Back in the process, after getting the IP value, the appraisal agency will provide the assessment results to the guarantor agency. Before all processes are carried out, public institutions must make a cooperation agreement in the form of guarantee support and guarantee legal remedies.

4. The government can also provide IP cost subsidies for MSMEs because of this IP valuation process, by first checking the completeness of legal and administrative documents in the form of IPR assessment results, expenditures, transfer approvals, subsidy requests, and other legal documents that are possible. The next stage is the appraisal process for the appraisal fee subsidy. If it is in accordance with the appraisal then the public agency provides the agreed subsidy to the service provider entity.

5. The next stage that must be done is the post-financing process for IP-based loans. A system needs to be built in the execution of IP which is the guarantee and empowerment of the IP. The government and guarantee institutions can ask private companies to commercialize the IP that is the guarantee with a profit sharing agreement.

6. In the next stage from the program aspect, the government must unite all these processes until the end of the financing is complete and measure the increase in the income of MSMEs given IP-based credit and collect the results of the satisfaction level of MSMEs that receive fees from subsidized IP. Public institutions must select and manage service provider entities to evaluate IP to back the loans.

The cooperation program between the government, guarantor and other parties who manage IP means the government does not need to negotiate with financial institutions to make financial products outside of banking activities as usual because there are guarantors, so from the aspect of guarantees, it is sufficient to provide financing (Ionita & Dinu, 2021).

However, public institutions should make special efforts to promote the program at the early stage because most participants such as SMEs and researchers may not know the purpose of the IPR valuation, how to take advantage of the results, or how the valuation can be useful to them.

The key to IP-based financing is the extent to which the government is committed to making it happen in practice. This commitment can be seen from how the regulated regarding IP-based loans are, the extent to which the government provides funds or subsidies for the realization of IP-based loans, the inter-governmental coordination for this IP-based lending practice, and how the government socializes this for MSMEs and others.

IP Based-loan guidelines must also be made by the government as a commitment. These guidelines contain every step that must be taken in the selection of establishments, how to conduct an IP assessment, and the necessary data. Keeping all this done through the application system in order to simplify the process and the database is not lost and can be reused (Kim et al., 2021).

## Conclusion and Recommendation

Based on a comparative study with Korea and China, to implement IP-based loans in Indonesia, the first thing that must be included is the funding aspect. To overcome this aspect, the government must use other strategies, among others, being able to provide subsidies or join the budget with private loan companies with the portion regulated in the agreement. Another budget that needs government policy is the budget that comes from the state budget. Other possible funding is with other loans such as fintech, crowdfunding or other loans other than banks, which must be regulated by the government in the amount of interest on the loan. Another thing when using bank funds is to provide guarantees from the state for the program. From the institutional side, public institutions must select and manage service provider entities to evaluate IP for secured loans by establishing an innovation management agency to manage the guaranteed IP until the debt is paid off.

The recommendation given for implementing IP based loans is that the government must dare to make policies, both from a financial and institutional perspective, to realize this IP based loan.

## Conflict of Interest

The authors declare that there is no conflict of interest.

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