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Intellectual Property and Islamic Finance: Opportunities and Challenges for a New Islamic Intellectual Property Finance Framework

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ABSTRACT

This paper explores the intersection of Intellectual Property (IP) and Islamic finance, proposing a policy framework to integrate IP valuation into Sharia-compliant financing. Focusing on the UK, it also extends to global markets, including ASEAN, GCC, and MENA regions. The paper identifies gaps in current practices, particularly in incorporating IP assets into Islamic financial products, highlighting untapped market potential. It emphasizes the need for regulatory compliance, Sharia board approvals, and robust audit mechanisms to ensure ethical integration. Key recommendations include developing a comprehensive IP framework, fostering international collaboration, and capacity building through education. The framework aims to align economic growth with ethical financing, enhancing transparency and the robustness of Islamic IP financing globally.

1 | Introduction

This paper is dedicated to advancing research on the intersection of Intellectual Property (IP) and Islamic finance, focusing on policy-making opportunities within the UK and exploring its international implications. It examines potential avenues for the UK Intellectual Property Office (UK IPO) to engage with global partners, particularly in Malaysia, Indonesia, other ASEAN countries, the Gulf Cooperation Council (GCC), and the broader MENA region. The overarching goal is to support the formulation and implementation of an international IP policy framework that fosters the development of IP policies in the UK and aligns with the Islamic finance investment sector (Bacha and Mirakhor 2019).

The findings in this paper are based on a comprehensive survey conducted among Islamic finance experts, highlighting the current challenges this sector faces in integrating IP rights and IP experts with finance knowledge. These insights have facilitated the development of innovative tools and products that ensure IP financing compliance with both Islamic finance principles and ethical/sustainable financing standards (Rognstad and Ørstavik 2021). Such advancements are expected to expand the market appeal of these IP tools, attracting interest from both UK and international investors.

Additionally, the paper provides examples of how Islamic finance and IP rights can be synergized to foster novel products in the IP economic market. This research holds significant international relevance, particularly as the Islamic finance industry continues to experience robust growth across the UK, Gulf, MENA, and ASEAN regions, as well as in pivotal markets like Malaysia and Indonesia.

The structure of the paper is designed to provide a comprehensive overview of the key areas of focus. The content is organized as follows: Part A sets the stage by outlining the importance of IP valuation and its integration with Islamic finance principles. This is followed by Part B which presents the Islamic finance and IP survey results. It dives deep into various aspects such as understanding and awareness, regulatory and Sharia compliance, challenges and barriers, market potential and innovation, and more. Finally, Part C details the proposed IP and Islamic finance framework, offering toolkits and solutions for IP development for the Islamic finance sector.

The lessons learnt from the Islamic finance survey will inform the overall framework for alternative IP financing options. The use of Islamic finance to promote better IP rights in terms of defining an alternative IP approach is novel. It is aimed at spearheading further research in this area and for the purpose of this framework, it will form a part of the overall alternative approach proposal to IP policy in the UK and for international agreements. Interest (*riba*) and uncertainty (*gharar*) are at the heart of the connection between IP and Islamic finance, as Islamic finance prohibits transactions that involve *riba* and *gharar* (Alam, Gupta, and Shanmugam 2017).

2 | Intellectual Property and Islamic Finance

IP as an asset class continues to experience substantial growth in value and accounts for a significant portion of a business's worth. For instance, the value of the top 5000 global brands surged from 11 trillion USD in 2020 to over 12 trillion USD in 2022, representing a remarkable 14% increase (Brown et al. 2023).

The World Intellectual Property Organization (WIPO)'s Global Innovation Index (GII) monitors global innovation trends and ranks the most innovative economies worldwide, assessing the innovation performance of approximately 132 economies while highlighting their innovation strengths and weaknesses (Global Innovation Index 2023). As of 2024, the UK ranks fifth on the GII, positioning the nation at the vanguard of IP knowledge and as a leader in IP policy and protection (Global Innovation 2024). From an international development perspective, this makes the UK an appealing country with which to enter into free trade agreements and establish Memoranda of Understanding (MoUs) for IP development, capacity building and enforcement.

Islamic finance is gaining prominence as an alternative financial system that promotes financial inclusion and supports economic development (The CityUK 2022). By adhering to Shariah principles that prohibit interest, excessive speculation, and investments in harmful activities, Islamic finance offers a more ethical and socially responsible approach to banking and investing (Clarke 2023). Islamic finance focuses on shared risk and real economic activities that align well with the goals of sustainable development and inclusive growth (Rehman 2024). Islamic finance has the potential to meet the needs of underserved communities and support small businesses worldwide and infrastructure projects in developing countries (Makhlouf 2013). Furthermore, the emphasis on transparency and risk-sharing in Islamic finance can help foster greater stability in the global financial system (Hussain, Shahmoradi, and Turk 2015). By expanding the range of financial products and services available, Islamic finance can contribute to innovation in the intellectual property sector as well as emerging technologies and artificial intelligence industries (Elmahjub 2023).

2.1 | Opportunities for the UK

Fundamental to the success of Islamic finance is that it has created Sharia-compliant alternatives to conventional financial products (Nethercott and Eisenberg 2020). The IP field has not done this, and as a result, IP rights have failed to shake off their foreigner rights image in developing countries (Price 2009). There is legislation and rules in Sharia compliant countries to prohibit *riba* (interest) and *gharar* (speculative risk) (Hvidt 2022). However, Islamic finance has gone one step further and developed an Islamic version of conventional financial products (Reda 2017). To succeed in developing an integrated approach to IP, the UK government and UK IPO can be the leaders to support Global South countries in developing alternative sharia-compliant structures to existing IP assets, given the UK is unique in that it is a global IP leader (Corporate report 2024), and has the most successful Islamic finance sector for a European country (Hauser 2020). This puts the UK government and UK IPO in the prime position to lead on IP financing that incorporates Islamic finance (Mohammed 2015).

2.2 | Greater Public Confidence in the IP Sector

Islamic finance has secured public confidence in its established products. IP has not had the same level of success as Islamic finance sector in the ASEAN and Gulf region. Public confidence is difficult to quantify as it is very subjective, however existing research does highlight that public confidence in IP in the Global South is seen to protect foreign interests over domestic (Brandl, Darendeli, and Mudambi 2019; Lin and Wu 2022). Lessons need to be learnt from the Islamic finance sector in the ASEAN and GCC states and made relevant to the IP ecosystem, such as how Islamic finance has been introduced, the indexes and financial institutions set up, and the use of regulatory frameworks as a level of ownership (Kok et al. 2021). The ASEAN and GCC states need to demonstrate ownership of the IP rights they seek to protect, to enhance competitiveness and support their economic growth (WIPO-ASEAN Study 2010).

There are systematic flaws in Global South countries adopting foreign laws from colonial occupation or laws taken from donor countries (Khor 2000). There is a strong dichotomy between the religious characteristics of countries such as Malaysia, Indonesia, and the Gulf Co-operation Council states and the IP laws that exist under Western legal principles (Naim 2023). Therefore, the adopted foreign laws, as they stand, are unsuitable and require modification (The Economics of Intellectual Property 2009). The framework is of equal relevance to the UK's IP and Islamic finance investment community as well as internationally.

In addition to its strengths in IP, the UK is the leading non-Muslim country in the field of Islamic finance (Domat 2024).

According to the most recent Islamic Financial Services Board (IFSB) Industry Stability Report, the global market size for Islamic finance is estimated at USD 3.9 trillion (Islamic Financial Services Board 2023). The UK boasts an established Islamic finance sector, and the UK Government issued the largest sovereign-backed *sukuk* (bond) of any non-Muslim country, amounting to £500 million (HM Treasury 2021). However, the expansion of IP into Islamic Law has been ad hoc at best (Ebrahim 2019). To address this, there will be an examination of both conventional IP valuation systems and Islamic finance products to inform the findings of the research.

3 | IP Valuation and Islamic Finance

3.1 | Current UK IP Valuation Methods

The current UK IP valuation methods align with WIPO and can be categorized into three main methods of: cost, income-based and market (UK IPO 2022). There are advantages and disadvantages to all three standard valuation methods and the research highlights that there is potential for a fourth valuation method. The purpose of the valuation methods is to allow businesses and entrepreneurs to leverage their intangible assets (Brassell and Maguire 2017). To make recommendations on a potential fourth Islamic finance compliant method, all three valuation methods will be assessed.

3.1.1 | Cost Method

The cost method is a value estimate and is cost-adjusted for depreciation and obsolescence (Anson, Suchy, and Ahya 2005). It is based on the aim of establishing the value of an IP asset by calculating the cost of developing an identical or similar asset either internally or externally (PricewaterhouseCoopers LLP, 2023). As the emphasis is on costs, rather than profit, it can skew the figures and can lead to the market potential not being fully appreciated (PricewaterhouseCoopers LLP, 2023). The cost method does not take account of future value although it can calculate present day equivalent costs (Bryer, Lebson, and Asbell 2014). It does however disadvantage itself to alternative methods that can estimate profitability of the lifespan of the IP right and loses out on a standard by which value is traditionally calculated. As a method, cost is very useful for specific IP rights that can be fairly easily reproduced.

3.1.2 | Income-Based Method

The income-based approach can be a preferred alternative method to the cost method. It values the revenue the IP assets can generate based on the amount of economic benefit that the intangible asset is predicted to make, adjusted to its current-day value (Sharma and Kumar 2021). It is a popular method that anticipates the costs and benefits over the expected lifespan reliably and incorporates externally verified market information (Ryan 2020). The net profit value underpins the income-based method. It examines the total value from the differences between the benefits, less costs, with an informed margin for the discount rate (Lu, Verheyen, and Perera 2009). The main advantage is that it is based on an assessment of likely future events and is used to consider investments based on the net profit value of the IP assets (Naim 2024).

3.1.3 | Market Method

The market method is centered on market comparison of the IP assets. The valuation is based on the market expectations, evidence of existing value for similar IP assets sold under comparable transactions, such as previous dealings (Dosso and Vezzani 2019). This is a challenging approach as intangible assets gain IP protection because they are distinctive and innovative, as opposed to tangible assets that can be identical. The accuracy of the valuation involves an analysis of the market, an exchange of IP assets, or a group of comparable assets and is useful for calculating royalty revenues, tax considerations, and income method inputs (Abou Naja 2024). Where the assets are not comparable, variables are essential to control for the differences. The key advantage of the market approach is that it quantifies the value of the IP assets from prior factual transactions, it shares the most characteristics with tangible asset financing. The IP holding business or company doesn't have to put its assets on sale to work out what other businesses will pay for the assets. The market approach examines whether comparable assets have been sold in the market, followed by analyzing data on how many businesses own comparable assets. Further analysis of investment data is carried out on the value of businesses that have been sold as well as how much businesses owning comparable assets are worth and what the IP asset licensing agreements values are (WIPO 2022).

There are significant merits and drawbacks to all three valuation methods for their relevance and influence on a potential fourth valuation method that can support an Islamic intellectual property model (Malkawi 2013). Islamic finance methodology can underpin the workings of a framework for an Islamic IP valuation method.

3.2 | Islamic Finance Methods

In Islamic finance methodology, money is a measure of value as opposed to a commodity (Alamad 2019). The money should be put to practical use, invested to create wealth and not be a commodity of itself (Al Natoor 2019). It is the earning of a passive return on capital, which is identified as the backbone of the definition of the prohibition of interest (*riba*) (Yesuf and Aassouli 2020). An IP valuation method must align with the Islamic finance prohibition on the making of money from money (Kammer et al. 2015). It involves the concept of creating real value for the participants of a transaction, the risk and responsibility is shared between all contractually obligated parties (Tayyebi 2008).

For IP valuation methods to be fully compliant with Islamic Law, and consequently boost the IP ecosystem, Islamic finance products need to be analyzed in relation to IP (Ebrahim 2024). The existing Islamic finance products can be the basis from which new frameworks and toolkits for IP valuation can be proposed to meet the needs of the Islamic finance community as well as support ethical and sustainable financing. There are key Islamic finance products that can be examined for their application to IP rights, to inform the overall research aims of a fourth IP valuation method.

3.2.1 | *Musharaka*

Musharaka requires the financing to operate on a profit-loss sharing agreement (Hussain, Shahmoradi, and Turk 2015). There are different definitions of musharaka, the main element is that the profit loss sharing relationship is agreed upon when the contract is drafted and signed. The defining feature is that the ratio of profit for each partner must be determined in proportion to the existent profit accrued to the business, and not to the proportion of the capital invested (Karbani 2015). Where there is a loss, musharaka requires a strict approach to the sharing of the loss in proportion to the capital invested by each partner (Kuforiji 2022). Consequently, this creates a more ethical and sustainable model for contractual agreements in Islamic finance as the profit is determined by the actual profit accumulated, however, the loss is calculated by the proportion of investment (Saleem et al. 2024). Risk-sharing partnerships based on musharaka has potential to support IP investment with returns flowing in from IP-backed assets, licensing, franchising, royalties, subscriptions and assignment. The intangible asset value of the IP can be comparable to intellectual capital invested and profit parameters can be established. This would align with the tenets of the cost method of IP valuation and an Islamic IP valuation model that can incorporate the basis of the cost method into its design, could leverage on musharaka.

3.2.2 | Mudaraba

Mudaraba is an exchange of trade and capital (Adam 2022). The trade providing partner is the "*mudarib*," and the capital provider is the "*rabb ul-mal*" as the investments come from the capital providers (Ismail and Zulkhibri 2024). The *mudarib* manages the business and the sharing of loss is determined by what each party has invested. Therefore, it is expected that the loss for the *rabb ul-mal* is capital, and for the *mudarib*, it is the loss of their labor provided that such losses are not due to contractual obligation breaches such as a breach of terms and conditions or negligence (Sapuan 2016).

From an IP stance, *mudaraba* contracts aim to make profit by sharing trade and capital. The capital can be intangible, more and more businesses are tangible asset light but have the potential to be IP rich. As a *mudaraba* agreement is a contract in to form a joint partnership, there is the potential to develop IP-based *mudaraba* agreements that can link into the market-based approach of IP valuation.

3.2.3 | Murabaha

Murabaha is a cost-plus financing contract (*Handbook of Islamic Banking* 2007). There are detail features of *murabaha* that include an increment on the original value, agreed by the parties from the start of the agreement. The settled increment on the original price, predetermine the expected rate of return. This gives Murabaha contracts Islamic finance compliance by avoiding speculative risk (*gharar*). The original price and profit are known to the buyer, and as a result, the risks of usury in the dealings are mitigated (Islamic finance in Europe, 2013). Along with the advanced knowledge of profit, the markup is then applied to the aggregate cost (Addleshaw Goddard 2017). For tangible assets, this accounts for freight costs or customs duty, for intangible assets the on costs are much lower which makes IP investments more attractive for a Murabaha set up.

Murabaha has a great deal of crossover potential for IP assets such as trademarks, patents, and copyrights, as they can act as the underlying assets of a *murabaha* contract. A *murabaha* using a trademark would require an Islamic bank (IB) or Islamic finance institution (IFI) to approve the license of a franchise where the trademark is the main asset and sell it with a markup price to be paid back over an agreed time (Shariah Advisory Council of Bank Negara Malaysia 2009).

3.2.4 | Sukuk

A *sukuk* is an Islamic bond that defines the proportionate beneficial ownership of the asset to the investor, for a defined time (Handbook of key global financial markets 2012). It is set up in such a way that, despite the *sukuk* investor having a common share in the ownership of the assets-based investment, it does not represent a debt owed to the issuer of the bond, as it depends on the underlying Shariah contract used. If it is murabahah/tawarruq, this would be a debt-based *sukuk*. Whereas in conventional bonds, capital protection is achieved through a loan agreement, *sukuks* can distinguish their structure from conventional bonds by offering an alternative to the traditional loan agreement. Instead, there is a binding agreement in the form of an undertaking/promise (wa'd) by the issuer to repurchase certain assets over a specified time limit.

Sukuks allow IFIs' to access short to long-term financing against government-backed bonds. For example, in Bahrain, the Central Bank of Bahrain will issue *sukuks* on behalf of the government. *Sukuks* are a growing product in the Islamic finance world and cover a range of underlying assets such as a partnership bond (*mudaraba sukuk*), a joint venture (*musharaka sukuk*), leasing (*ijara sukuk*), purchase orders (*murabaha sukuk*), project finance (*istisna sukuk*) or a combination of assets. *Sukuks* are based on a profit rate as opposed to an interest rate that would be found under a conventional bank. The profit rate is deemed Sharia-compliant as it reflects the productivity of the asset. *Sukuks* are growing at a fast pace, both within the GCC states and globally. The GCC and Malaysia have offered *sukuks*. Most notable is the UK's second *Sukuk*, which is the biggest *sukuk* by a non-member of the Organization of Islamic Co-operation (OIC). There is an opportunity for the UK IPO to partner with the UK Islamic finance sector and offer the first ever government-backed *sukuk* with UK IP assets and create the first-ever precedent in this area.

Sukuks are commonly offered under *ijara-based* structures. *Ijara* translates to a lease agreement, operating as a contractual hiring agreement where a contract is entered in to where the consideration is the benefit received from an asset or a service in return for compensation. The contracting parties are defined as the lessor, who is the owner of the asset, and the lessee, who is the beneficiary of the property. *Ijara* relates to the usufructs of assets and or services from the lesser to the lessee. *Ijara* is not a delayed sale as such as ownership remains with the lessor, and the lessee has a right to the use of the asset. I*jara-based* structure *sukuk* structure can be relevant using intangible property as its underlying asset.

The first ever *sukuk* with the underlying asset, a form of IP right, was introduced by the German-based finance company, FWU AG Group. FWU AG Group issued a US $55,000,000 *sukuk* in 2012, making it the first *sukuk* of its kind that has IP rights as the underlying asset in the form of a computer software programme, developed under an *ijara* structure with a profit rate of 7%, reflecting the productivity of the asset.

3.2.5 | Takaful

Takaful is a Sharia-compliant form of insurance. *Takaful*, at its core, is founded on specific principles concerning the separation of shareholder operations from the funds. The ownership of the *takaful* passes to the policyholder and is based on elements of shared responsibility, joint indemnity and common interest. *Takaful* offers insurance by setting up a contract between participants who each contribute money into a pooling system in order to guarantee each other against loss or damage. *Takaful*, thus, provides an alternative to conventional insurance, which involves *riba* and *gharar* while setting out the responsibilities of each participant to cooperate and protect each other. *Takaful* is sharia compliant as it sets from the onset how profits from the investment are to be shared.

In a *takaful* contract, each participant is expected to make a mutual contribution, known as *tabarru*, which aims to limit the risk of uncertainty that typically exists in conventional insurance agreements. *Takaful* can be combined with existing Islamic finance products such as *mudaraba* or a hybrid of different products. For IP assets, *takaful* can be vital leverage in the contractual agreement as it offers security and a contingency plan to investors (Table 1).

4 | Discussion and Analysis

4.1 | The Islamic Finance and Intellectual Property Survey

A comprehensive IP strategy involves more than just laws, remedies, and penalties (Gowers 2006). While a strong legal framework is certainly a critical component, it alone is insufficient (Hargreaves 2011). What is truly needed for effective IP protection is a transparent and well-managed system.

4.1.1 | Survey Methodology and Analysis

The purpose of the survey was to gather information on how IP as an asset class can be utilized for Islamic finance (Naim 2020). Currently, there are only a few Islamic finance-approved

TABLE 1 | Summary of Islamic financial structures.

Structure	Definition	Profit sharing	Loss sharing	Key features
Musharaka	Profit-loss sharing partnership where profit is shared according to agreement and loss is shared based on capital proportion	Proportionate to actual profit accrued	Shared according to investment ratio	Flexible for IP; focuses on SPVs-like structures
Mudaraba	Partnership where one party provides capital and the other provides expertise/labor; losses are borne by the capital	Variable; typically the *mudarib* receives a pre-agreed share of profits	Losses borne by the capital provider (*rabb-ul-mal*) provided that such losses are not due to the *mudarib*'s misconduct, negligence or breach of contract	Intangible capital can be included; management by *mudarib*
Murabaha	Cost-plus financing where a profit margin is agreed upon in advance; effective for tangible asset transactions	Fixed profit margin agreed beforehand	Not applicable	Avoids *gharar* with clear pricing; suitable for tangible assets
Sukuk	Islamic bond representing ownership in an asset with a profit rate instead of interest; varies by underlying assets	Profit rate based on asset productivity	Depends on the Shariah contracts used in the *sukuk* structure	Secures investment against assets; widely accepted in Islamic finance
Takaful	Sharia-compliant insurance based on pooled contributions from participants, focusing on mutual assistance and shared risk	Profits shared as per contractual agreement	Participants share losses proportionally to their contributions	Participants mutually contribute to risk; sharia-compliant alternative to traditional insurance

Source: (INCEIF 2023).

transactions involving IP as an asset (Routledge handbook of Islam in the West, 2022). Given the growing size of both the Islamic finance and IP industries (Damak 2024; Brown et al. 2024), this research aims to identify the current gaps in the market and demonstrate the need to develop new products and toolkits to support the increased uptake of IP assets in Islamic finance transactions and decision-making.

4.1.2 | Target Audience

The survey targeted professionals from a finance or IP background. The aim was not to find experts in both fields, as this would limit the reach of the survey and would not satisfy the main purpose. The reasoning behind targeting professional responses was to inform the development of an IP-Islamic finance framework. Professionals from a finance background could reflect on the potential feasibility of expanding the Islamic finance sector into the IP industry more consistently and, most importantly, at a legislative and policy level. Similarly, IP experts could also reflect on the impact of Islamic law and Islamic finance on IP rights. The survey was targeted at 100 participants and the period of the survey was from September 2023 to January 2024.

4.1.3 | Survey Themes and Objectives

The survey was constructed around several key themes and objectives:

1. Understanding and Awareness
2. Regulatory and Sharia Compliance
3. Challenges and Barriers
4. Market Potential, Innovation, and Ethics
5. Role of Audits and Valuation
6. Feasibility and Viability of IP in Islamic Finance
7. Mechanisms for Implementing IP Financing in Islamic Finance
8. Valuation and Market Dynamics of IP Assets

These themes were carefully selected to provide a comprehensive understanding of the current landscape, potential challenges, and opportunities for integrating IP assets into Islamic finance. The survey questions were designed to elicit insights from professionals in both the finance and IP sectors, allowing for a well-rounded analysis of the feasibility and viability of this emerging asset class within the Islamic finance framework.

Results at a Glance

- 95% of participants surveyed identified as having average or above knowledge.
- The strongest priorities for Islamic finance were avoiding interest (*riba*) (86%) and undertaking ethical based financing and investment (62%).
- 90% of participants were involved with at least one area of Islamic finance in the last 12 months.
- Over 80% agreed or strongly agreed that investment products in Islamic banking and financial institutions are structured in strict accordance with Shariah rulings/resolutions/standards.
- 92% believe Sharia board approval is essential before an Islamic finance investment product can be offered.
- 73% think the internal Sharia audit is independent of the executive management.
- 67% cited lack of knowledge on how IP assets can be sharia compliant as a reason for the lack of investment that allow businesses to monetize their IP.
- 63% identified lack of capacity building efforts, human capital investment in IP laws, officers, judiciary, education, regulation and enforcement, as key reasons.
- 39% selected the market method as the most compatible IP valuation method, followed by the income-based method (30%) and cost method (20%).
- Key challenges identified for Islamic finance innovation include lack of practical and technical training (42%), lack of public awareness (39%), and lack of market information on innovative products and services (37%) (Figure 1).

Theme 1. Understanding and Awareness.

95% of the participants surveyed, identified as having average or above knowledge of Islamic finance (Figure 2).

IP as an asset class for use in Islamic finance lacks legislative and policy frameworks and guidance (Naim 2020). As a result, the understanding of IP in Islamic finance is limited and requires legal procedures to create a benchmark that can be used nationally and internationally (Elmahjub 2019) (Figure 3).

Theme 2. Regulatory and Sharia Compliance.

The results highlight the strength of Shariah compliance and their value to IBs' and IFIs'. Only 4% disagreed with importance

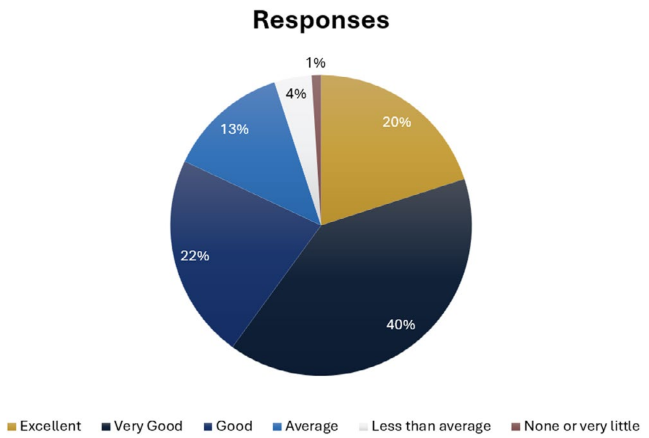

FIGURE 1 | Familiarity with Islamic Finance Products. [Colour figure can be viewed at wileyonlinelibrary.com]

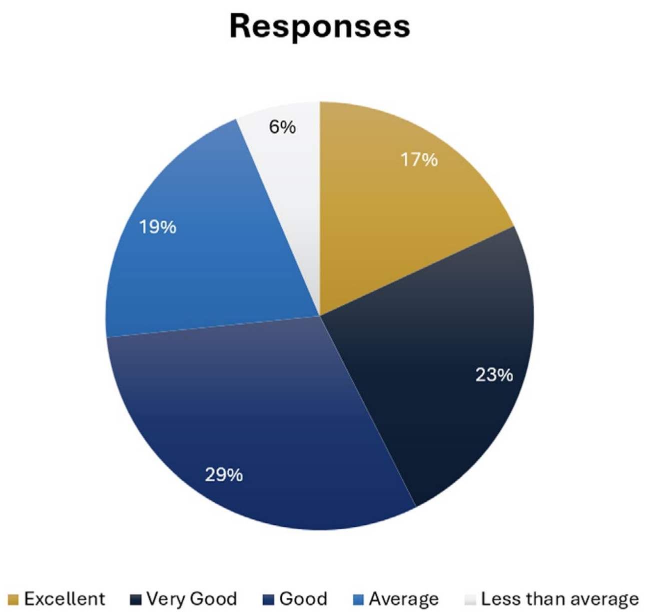

FIGURE 2 | Understanding of IP as an Asset Class in Islamic Finance. [Colour figure can be viewed at wileyonlinelibrary.com]

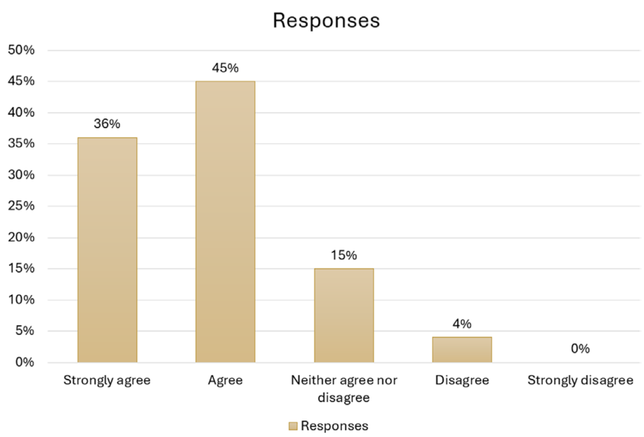

FIGURE 3 | Importance of Shariah Compliance in Islamic Finance Standards. [Colour figure can be viewed at wileyonlinelibrary.com]

of Shariah compliance, with over 80% agreeing or strongly agreeing. The relevance is significant; any IP and Islamic finance products created require both legal and Islamic Sharia ruling approval (Manto 2023) (Figure 4).

The results show 92% of participants found Sharia board approval is essential for an Islamic finance product to be offered to the market. The Sharia board approval must take place first as an initial level approval for IP and Islamic finance, once the approval is granted, the Islamic finance products can be offered to the market (Bank Negara Malaysia 2019). The approval is at two stages: the legal structure at a jurisdictional level and the Sharia approval from the Shariah standard-setting bodies.

Although the overall response on whether Sharia board approval is essential before an Islamic finance investment product can be offered was an overwhelming yes, there were relevant aspects

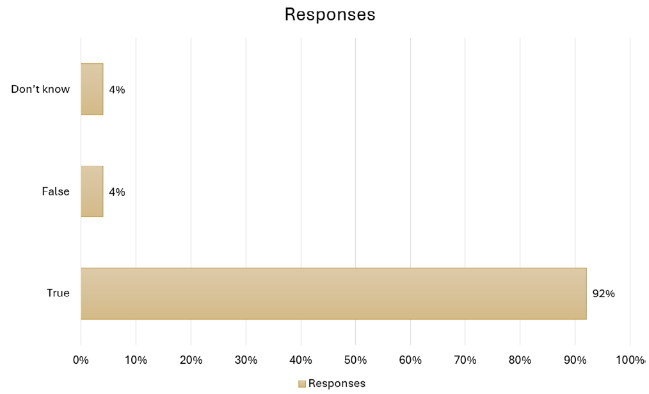

FIGURE 4 | Importance of Approval by Shariah Board. [Colour figure can be viewed at wileyonlinelibrary.com]

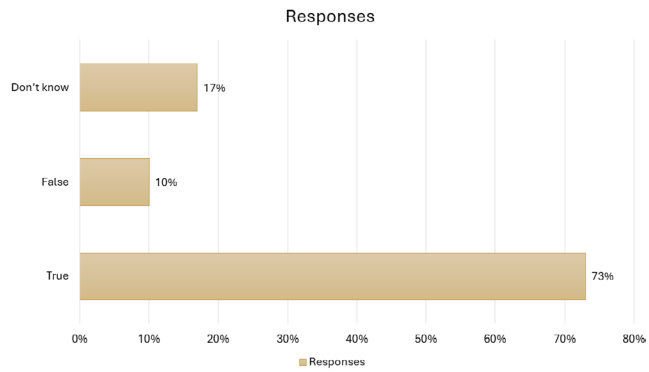

FIGURE 5 | Independence of Internal Sharia Audit and Executive Management. [Colour figure can be viewed at wileyonlinelibrary.com]

of the qualitative feedback that have been identified. There was a strong consensus regarding Sharia board approval as an absolute minimum for a product to be acceptable to Islamic investors who take their religion seriously. Sharia board improvements were raised as an area for development. For example, independent Sharia boards and flexibility were also raised as development issues. Uniform laws are lacking for Sharia boards at an international level (Bank Negara Malaysia 2019). The decision of one Sharia board is not binding on another and, therefore, can lead to different outcomes depending on which Sharia board a country follows (Figure 5).

Most participants found the internal Sharia audit to be independent of the executive management. The feedback highlighted that, at a theoretical level, yes, the Sharia board is independent of executive management (Bank Negara Malaysia 2019); however, in practice, executive management has a lot of influence on the Sharia board. Issues were identified, such as, executive management's influence over the Sharia advisory board remuneration, management and control of the auditing exercise, access to documents and decision-making (Khalid and Sarea 2021). Further issues were on lack of transparency and how political issues impact the Sharia boards despite Islamic jurisprudence supporting independent Sharia boards that are not influenced by executive management (Table 2).

TABLE 2 | Shariah resolutions on IP: Challenges in monetizing IP assets in Islamic finance.

1	Despite official resolutions, Islamic banks and IFIs do not consider IP assets to be compliant with Islamic finance	17%
2	IP assets cannot generate regular revenue	17%
3	IP assets are personal and cannot be sold to *sukuk* investors against subscription	14%
4	Lack of knowledge on how IP assets can be Sharia-compliant	67%
5	Lack of capacity-building efforts, such as human capital investment in IP laws, officers, judiciary, education, regulation and enforcement	63%
6	IP assets are too abstract, they lead to uncertainty and lack of clarity on the valuation of the assets	44%
7	The same entities who own IP assets can provide other Sharia-compliant tangible and acceptable assets for fundraising.	16%
8	The Quran and Sunnah are silent on IP rights, and as such, Islamic banks and institutions are hesitant to approve Islamic finance products with IP assets.	14%
9	Lack of awareness of IP as an asset class for the purpose of financing and investment	57%
10	Other	6%

TABLE 3 | Key challenges for Islamic finance innovation.

1	Lack of understanding on the proper ways to manage risk	33%
2	Lack of market information on innovative products and services	37%
3	Lack of practical and technical training	42%
4	Lack of case studies as a benchmark	26%
5	Lack of methodologies for certification	22%
6	Lack of public awareness	39%
7	Lack of government incentives	22%
8	All of the above	39%
9	None of the above	0%
10	Other (please state)	3%

Theme 3. Challenges and Barriers.

This theme raised several issues, there was support for Islamic finance standards and how the standards can include IP rights. The main issues identified were lack of agreement amongst Sharia scholars as to whether IP can be considered property, known as "*maal*." Fundamentally, this is one of the core challenges despite the Sharia fatwa deeming IP as *maal* (Malkawi 2013). Without unanimous agreement on this, the foundation for Sharia acceptance of IP rights have not been adequately set (Raslan 2007). Another key issue here is time for development of an IP and Islamic finance-compliant industry. IBs' and institutions are hesitant to work with IP assets. However, some participants commented on how this is not due to the Qur'an and Sunnah being silent on it. Rather, it is more likely since IP is very relative, and IFIs' are hesitant about delving into the wide pool of interpretations and logistically need support on how to work with IP.

There were concerns on capacity building and on how best to regulate an IP and Islamic finance industry and what measures would be in place to deal with ethics, conduct, market manipulation, and maintain asset stability. Unfamiliarity with Islamic finance-compliant IP products is a further issue. Within the potential marketplace, there is a lack of exemplars of successful applications of IP/Islamic finance products that can demonstrate beneficial results to all parties. The legal rights and remits of Sharia scholars in relation to IP rights are not clearly defined. There is a lack of understanding of the role of Sharia scholars in the development of an IP and Islamic finance industry. This issue can be addressed by developing a legal framework that can act as a model law for IP and Islamic finance law across jurisdictions, as different jurisdictions have national laws with Sharia law influence at varying degrees (Table 3).

The responses to key challenges highlight the lack of uniform rules in the Islamic finance industry, giving each region full autonomy over Sharia-based rules (López Mejía et al. 2014). There was criticism of a lack of motivation for innovation due to several hurdles (Kammer et al. 2015), such as internationally accepted frameworks. IP is internationally standardized by the WIPO; however, there is no equivalent World Islamic Finance Office. This essentially allows IBs' and IFIs' to have their own interpretation of IP in relation to Islamic finance. Also, there was criticism of a lack of understanding of the primary and secondary sources of Islamic law and adherence to the rulings. Expertise is an issue when Islamic legal opinions are being issued in relation to IP. Timing of Islamic Finance evolution and the disconnect between the speed at which conventional financial standards in IP development are being implemented compared to Islamic Finance was highlighted as a challenge. Feedback relates to Islamic Finance not responding quickly enough to the digitalisation of assets in areas such as cryptocurrency, blockchain and fintech (Elasrag 2019). In order for IP and Islamic Finance to be a priority for the Islamic Finance community, banks, and financial institutions, evidence-based research on the economic value of an IP framework is needed (Azmi 1995) (Figure 6).

Theme 4. Market Potential, Innovation and Ethics.

The strongest priorities were identified as avoiding interest and speculative risk. To ensure that pertinent priorities are covered, participants were further asked to list further priorities that are not included in the survey answer options. The participants stated other areas including: enabling risks to be shared equitably, profit and loss sharing, ethical consideration factored into dispute consideration and resolution, upholding the higher objectives of Islamic Law, *Maqasid al-Shariah* and practicing the "real" Islamic finance, promoting business

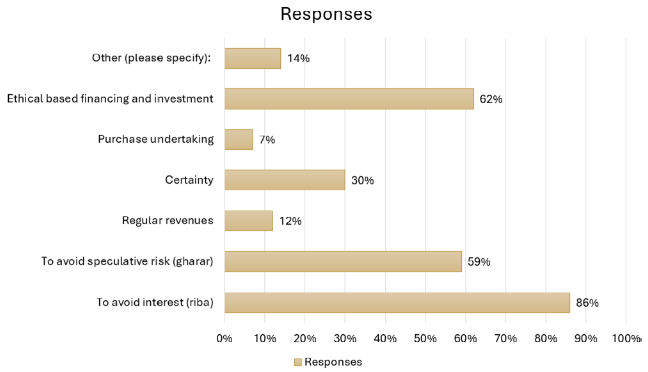

FIGURE 6 | Priorities in considering Islamic Finance as an Alternative Finance. [Colour figure can be viewed at wileyonlinelibrary.com]

innovation, avoiding non-compliance with Sharia, solutions for countries from crumbling sovereign debt by applying Islamic financing principles appropriately and for it to be in line with religious values (López Mejía et al. 2014). Comments critique Islamic finance as an industry as a whole and argue that Islamic finance, as practiced today, is not consistent with the true *Maqasid al-Shariah* as it does not alleviate poverty (Ishak and Nasir 2021).

Islamic finance treats debt burdens in a very similar way to conventional financing. Feedback highlighted the strong ethics and moral values of Islamic finance, which underpin the toolkits and products proposed by this research. While the research proposes Islamic finance innovation, it does so within the constraints of ethics and moral values in the primary sources of Islamic law. Criticism of conventional regulations and their impact on Islamic Finance included the uncertainty and reactive conventional financing frameworks as opposed to a proactive approach as predicated by Islamic Law (Figure 7).

The feedback is very relevant to the research and the study overall, as the responses demonstrate that the current Islamic finance products are not designed to complement IP assets. Instead, there needs to be Islamic finance frameworks and products that are designed with IP as the asset and create new regulatory provisions in this novel area. The example provided gave an Islamic finance product for franchising a brand. As such, the IFI or IB is not buying the IP; rather, it is lending on the value of the IP. This is an important element of Islamic finance innovation to create products and toolkits that allow for IP assets to be leveraged for Islamic finance. Many participants could see that the potential product could work using Islamic finance principles. The comments that form part of the issues are relevant as these help in creating products and toolkits that address market concerns. There is hesitancy to offering Islamic Finance products for IP assets. Several comments questioned the validity of Islamic finance financing methods for IP assets, with the main concern being around a lack of knowledge/understanding of how the products can be in line with Islamic law (Jamar 1992). This relates back to earlier findings that the primary sources of Islamic law are silent on IP rights, and secondary sources are relied on for acceptance of IP rights as permitted under Islamic law.

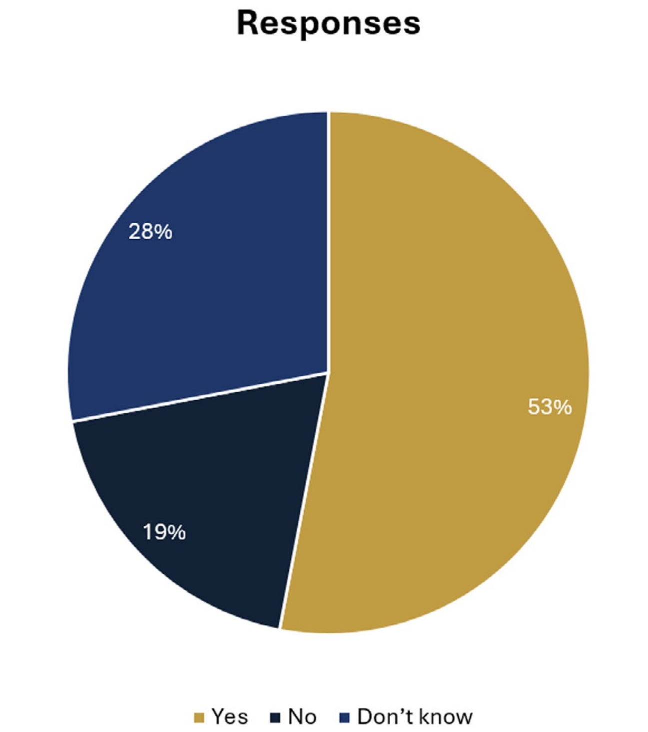

FIGURE 7 | Validity of *Murabaha* Financing for Trademark Franchising in Islamic Finance. [Colour figure can be viewed at wileyonlinelibrary.com]

The attention to detail is crucial to the successful launch of an Islamic finance and IP market. Creating products that meet Islamic finance standards is only one element of the bigger process. The issue can be resolved by adopting a regulation and auditing framework for Islamic finance and IP sharia boards, having a Sharia compliant structure in place for each type of IP right and develop IP based assets within an Islamic finance structure. Jurisdictional differences were highlighted as Malaysia for example is seen as more progressive and liberal with Islamic finance development whereas other jurisdictions are more conservative and reserved with their Islamic finance offering. Other Islamic finance products can be used for IP assets as stated by several participants and the survey had one example to share for the purposes of showing how and Islamic finance and IP financial arrangement could work. The full products and toolkits will consider a range of Islamic finance options that are applicable to IP (Table 4).

Theme 5. Role of Audits and Valuation.

The responses showed overall support for audits and due diligence requirements to be part of the regulations in Islamic finance and IP products. Several scenarios were posed and there was significant engagement with the role audit and due diligence requirements and assurances can play in the overall development of a novel Islamic and IP sector. Understanding the technicalities and practicalities of IP audits and due diligence requirements and how the requisite principles and assurances can be successfully applied to the Islamic finance and IP products and toolkits is a must (Kasim, Ibrahim, and Sulaiman 2009). By addressing *Riba* and *gharar* concerns with IP assets and the reliability of the valuation methods, a future IP/IF industry can

TABLE 4 | Utilizing IP assets in Islamic finance: Audits and due diligence requirements.

1	A company which has been granted a patent can offer the patent as security to raise money from the IB or IFI	63%
2	A company with licensing revenue streams can securitize the returns to raise financing through *sukuk*	48%
3	A company has its patent valued and then uses the patent as part of the paid-up capital	52%
4	Other (please specify)	6%

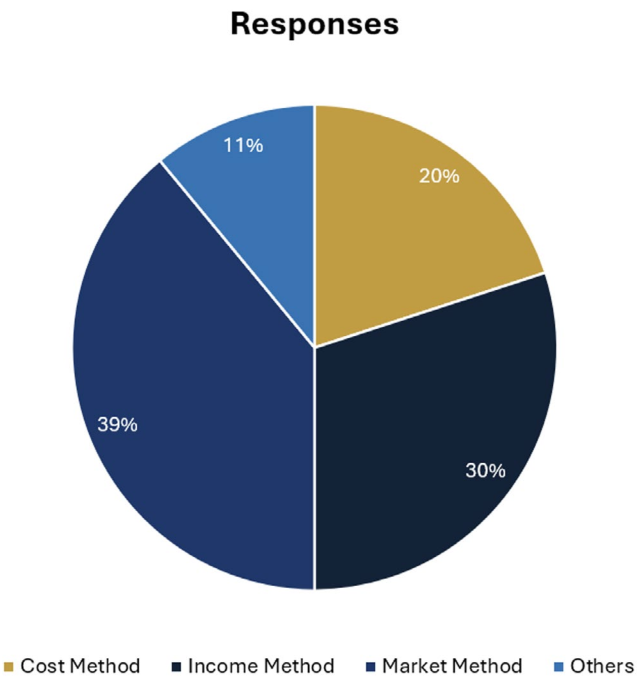

FIGURE 8 | Compatibility of Valuation Methods in IP. [Colour figure can be viewed at wileyonlinelibrary.com]

ensure it is compliant with Islamic Finance. The legal framework for the Islamic finance and IP sector will need to be robust and embed existing Sharia principles of property law, contract law, and public international law into IP law (Figure 8).

This theme introduced the survey audience to the three main current IP valuation methods. It was aimed at gathering feedback on the applicability of current and established financing methods to Islamic finance. The cost method was seen as the most risk-averse and favored for its alliance with Islamic law, although most comments did reflect that all three methods have crossover potential to an Islamic finance and IP model. Each of the three main valuation methods has its own advantages and disadvantages when considering an application to an Islamic finance and IP industry. For the cost method, the cost is not a mirror reflection of the intangible value the IP asset has created; it can often include irrelevant elements, as not all historical investment is productive and ignores the blocking effect of the IP itself. For the market comparison method, there are difficulties in finding comparable data, and often, there are no obvious equivalents (Sharma and Kumar 2021). The income-based method is the riskiest of the three and requires considerable evaluation and modification to comply with Islamic finance standards. The value from IP can be hard to isolate; this can lead to future projections potentially being uncertain, especially where market data is limited.

There is a gap in the existing valuation methods. A fourth valuation method would address this gap by creating metrics that ensure accuracy, equity and Islamic law compliance, which takes into account key features of all three existing valuation methods. The market method was the most preferred method of the three. Its key features made it the strongest method for an Islamic finance valuation tool: transparency, reliability, an open and competitive market, fairness, and certainty.

Theme 6. Feasibility and Viability of IP in Islamic Finance.

For feasibility and viability of IP in Islamic Finance, participants shared their knowledge and expertise to help best inform the IP and Islamic finance frameworks to meet the market demands and be fit for purpose. Viability and feasibility are the two most important criteria for an Islamic finance and IP sector. The comments addressed several issues, which have been grouped into key priority areas. The data collected is relevant to both IP owned by individuals seeking financing and IP owned by companies/businesses seeking financing.

Building on earlier themes of lack of human capital, legal policy-making, regulatory structures, guidelines and resource management frameworks in creating a new context in which IP-backed Islamic financing for IP assets could work. The Islamic finance innovation into the IP sector needs to create benchmarking tools to be able to measure and quantify the IP asset that circumvents *riba* and *gharar*. There was strong feedback on the need for Islamic finance innovation and utilization of existing products such as *sukuk*, *mudaraba*, *musharaka*, *tawarruq*, *ijarah*, to address underuse of IP and intangible assets to meet the needs of the Islamic finance community and ethical investors through principles of profit sharing/participatory form of financing. For specific industries, IP is often the strongest asset and companies are not necessarily cash-rich; however, they have valuable IP (Margono 2024a). For patents in IT/AI inventions and data-based business' products will have IP rich assets that, if valued accurately/correctly, could be leveraged as collateral for financing.

Societal and cultural perceptions of IP as an Islamic finance compliant product are a challenge and the influence of society and cultural attitudes on IP acceptance needs to be addressed (Malkawi 2013). IP assets are seen as foreign products and their infringement is not taken seriously by the public (Ebrahim 2024). The deal quality that IP and Islamic finance can offer as an economic growth tool is the economic value that it can add. The more quality deals that can be offered and given exposure to the market, the potential for a successful new industry is more achievable and sustainable. The deal equity in an IP and Islamic finance industry can utilize IP to raise venture capital for R&D-based start-ups, create unique IP and Islamic finance products, and support mergers, acquisitions and joint venture agreements.

An IP and Islamic finance industry proposal needs to take into account the digital economy as a whole and understand non-fungible tokens (NFTs), blockchain and fintech (Margono 2024b). Patents, licenses, software development in the fields of AI, blockchain and other transformational technological advances are the main structures of monetizing revenue streams. IP-backed Islamic financing provides a Shariah-compliant solution for individuals and businesses to utilize their IP assets in various fields, including technology startups, product development, franchising, brand expansion, content production, royalty financing, research and development projects, trademark licensing, IP monetization, and projects related to Islamic art and culture (Unal and Aysan 2022). Technology Startups with valuable IP, such as patents or copyrights, can use this financing to raise capital for growth and innovation.

In Industry-specific innovation for research institutions, there is a potential benefit to universities and research institutions that can leverage their IP portfolios to secure funding for research and development. For pharmaceutical and biotech companies, IP-backed Islamic finance can fund drug development and research, often a costly and lengthy process. For the entertainment industry, creative and media companies with valuable copyrights can explore Islamic finance options for production and distribution. Manufacturing and engineering firms with patented technologies or unique engineering design rights can utilize Islamic finance for expansion or project financing. For art and creative ventures, artists, designers, and creators can seek funding for their IP-backed projects, ensuring protection and profitability.

Theme 7. Mechanisms for Implementing IP Financing in Islamic Finance.

The qualitative feedback on this theme highlighted the importance for appropriate control/procedures to be in place to ensure efficient implementation and for IFIs to quantify IP assets within their balance sheet to ensure reliability of the valuation. The regulators would need to a standardized mechanism of valuation for IP credit security. Most of the feedback gave insight into how IBs and IFIs could use different mechanisms to finance against IP assets.

Mudaraba and *Musharaka* could be useful mechanisms. In a *Mudaraba*, the IB provides the capital, and the company manages the IP as the working partner. Profits are shared based on a pre-agreed ratio. In *Musharaka*, both parties contribute capital, and profits and losses are shared accordingly using equity based or profit-loss sharing funding arrangement. IB offers a wide spectrum of fee-based services using three types of contracts, *wakalah*, *kafalah*, or *ju'ala*. The aim would be to allow IBs to use intangibles as collateral in their corporate funding.

There is an opportunity to develop possible securitization of IP rights and use them as collateral (Azmi and Engku Ali 2007). The question raised is on who has control over the property used as security and to what degree, as this will impact the validity of the IP and Islamic finance product to be used as security under Islamic law. How different types of IP rights/assets can be in control of the financier requires assessment and measures to create a model that supports innovation and respects Islamic law.

Comprehensive risk management, performance monitoring and internal control are required. Given the lack of best practices as the benchmark, the workability may be highly uncertain. Equity-based, profit-loss sharing funding arrangements and accurate, moderate, flexible approaches, in developing regulations for Shariah governance structures and processes. Efficiency of an IP and Islamic finance model hinges on transparency, proper valuation of IP assets, and adherence to Sharia-compliant contracts. Companies and IFIs should work closely with Islamic finance experts and legal advisors to ensure that the chosen mechanism complies with Islamic finance principles and meets their financial objectives. Risk management, deal certainty, security, guarantees, and legal remedies would all need to be part of the IP and Islamic finance model. By developing an IP and Islamic finance commercialization strategy, a commercialization team with an IP Sharia counsel/advisory, a commercial audit team, IP valuation and auditor, due diligence and licensing agreement contract lawyers with legal expertise in contract law, IP law, regulatory controls and securities will all support an efficient IP commercialization system in Islamic finance. Islamic evaluation (compliance with Sharia) will be part of the overall evaluation of assets. Consider durations as IP protection length varies depending on the time of IP asset. Financing IP can be both short term and long-term depending on the growth of these products. If the IP is valued with a clear structure, is transparent in terms of details and the model does not involve interest and uncertainty, is backed by qualified professionals to value the IP, the IFI can trade it, raise money, and treat it as a tradeable commodity using any of the available products used by Islamic finance.

Embedding Sharia principles of contract law to develop IP and Islamic structures through incorporating sharia-compliant doctrines, principles of mutual consent and gainful exchange to the protection of knowledge-based assets and promulgate Islamic law-based ethics to IP rights protection (Mukhtar 2018). A Sharia-compliant authentication process for IP rights protection highlights the protection of economic and moral rights from an Islamic perspective. This can be through applying Islamic law-based protection for IP rights as an acknowledgement of the time, labor, and efforts of the inventor.

Theme 8. Valuation and Market Dynamics of IP Assets.

Under Sharia law, property law dictates on; the ownership of property, the right to possess and enjoy wealth through lawful means, and the doctrine of mutual consent (Ratnawati and Al Farizi 2023). For an IP and Islamic finance model to have an impact on economic growth, the quantification of the asset and the consequential loss necessitates compliance within set parameters similar to how Islamic finance has sought to limit speculative loss in property law. IP law can develop Sharia compliant remedies which can implement control measures that would allow IP rights protection to be more fit for purpose in Islamic finance. Market demand is key to the Islamic finance industry investing in an IP model. An IP that is in high demand would attract customers to the business, which in turn would increase its financial performance.

The most direct way to think about what IP is worth is in terms of their valuation on balance sheets, which can be formulated based on standardized regulation. IP has several avenues, which will each require their own parameters, such as royalties and revenue streams. Islamic finance may involve the issuance of *Sukuk* backed by IP assets. The value of the IP is crucial in determining the *Sukuk's* attractiveness to investors. Securitisation structures must comply with Sharia principles.

A strong recommendation in the feedback was to delve deeper into the legal maxims of Islamic finance rather than mirror the actions of commercial finance, and "*halal-ize*" them in an attempt to create something "new." This is a good recommendation as the aim of the research is not to create a weakly aligned alternative to conventional financing for IP but a robust legal framework that has considered the requirements of the relevant Islamic law and IP law. The aim to create a new IP and Islamic finance industry that has real impact for IBs, IFIs and the customers globally. It will need proper guidelines and indices to be able to measure the IP, standard on pricing, and value of amortization in the market imposed by the regulators instead of depreciation for tangible assets.

The concerns on the uncertainty of the value of IP as opposed to tangible assets and the impact to the business can be reduced by benchmarking the IP asset against market value and industry performance. The more structures we have in place to measure the performance of the IP-owning entities, the more certainty on the value of the IP. Aligning IP and Islamic finance to core Islamic values and principles will be part of the overall commercialisation strategy for this new sector. Through Islamic finance, IP-rich businesses can help grow humanitarian missions and efforts, alleviate poverty, and support a fair, peaceful, and a sustainable planet that aligns to SDG goals and climate action (Alawode and Abidin 2019).

There is potential to have a tiered approach to IP and Islamic finance systems. For example, IP and Islamic finance can be a part of special purpose, bankruptcy-remote investment companies that would decrease the customers' risk profile and attract financiers. IP finance recapitalization can boost liquidity for initiatives with returns greater than financing costs. International commitments will be considered in the IP and Islamic finance legal framework, considering international standards, rules, agreements, treaties and conventions. Valuing IP and IP-rich businesses from an Islamic finance perspective involves considering both tangible and intangible assets and aligning the valuation with Sharia-compliant principles. The value of IP and IP-rich businesses can vary significantly depending on factors like financial performance, development stage, and industry. The valuation of IP and IP-rich businesses is not one-size-fits-all and should be tailored to the specific circumstances of the business and the transaction at hand. Additionally, it is essential to consider the ethical and social impact of the IP assets, as these factors can also play a key role in Islamic finance decisions. Consulting with experts in both IP valuation and Islamic finance can help ensure a thorough and compliant valuation process.

A key recommendation is to devise IP investment portfolios to guide business direction and strategy by appointing board members and maintaining regular consultations with management and directors. IP investments can leverage the knowledge of IP advisors and a network of experts in enterprise and entrepreneurship management and operations. Strive to maximize the value of its investments through a vast network of capital markets contacts, including venture investors, investment banks, and hedge funds to achieve timely realizations of its investments, which may come from strategic sales, successful licensing or litigation, initial public offerings, or royalty streams. Board appointments and ongoing consultations with directors and management influence their business direction and strategy (García Martín and Herrero 2018). IP portfolio investments can benefit from the expertise of IP advisors and a network of experts in enterprise and entrepreneurial company management and operations (Business Innovation Management, n.d.).

For a successful framework, it is important to consider both country-specific and global IP and Islamic finance products, as each of the Islamic financial IP products have different markets and audiences. Islamic finance is substantially stable and is based on strong moral and ethical foundations, which were recognized by different factors, especially the performance of Islamic banking/financing during global financial crises and recessions, which requires the equivalent level of evaluation to financing solutions. Valuing IP and IP-rich businesses in Islamic finance requires a holistic approach, considering factors like financial performance, development stage, and adherence to Shariah principles. Key considerations include transparent asset valuation, profitability, risk management, market demand, legal protections, ethical considerations, Shariah compliance, long-term sustainability, market comparable, and the choice of Shariah-compliant financing structures. A tiered tailored approach can determine value, considering the specific circumstances and principles of Islamic finance.

5 | Moving Forward

5.1 | Intellectual Property and Islamic Finance Framework

5.1.1 | Issues and Challenges for a Framework

There are several issues and challenges for an IP and Islamic finance framework, which will be explained and followed by the framework proposal.

5.1.1.1 | Lack of Understanding of IP as an Asset and the Valuation Process. A major issue for the IBIs and IFIs is the lack of understanding of IP as an asset and the valuation process. Many do not have the experience, expertise or capability to assess the viability of IP as well as its valuation as collateral. IP differs from real property in that the value of IP is very context-specific (Avon River Ventures, n.d.). By definition, a patent, for example, protects a unique invention. Moreover, the value of the same IP may be different for different companies. One IP portfolio may be very valuable for a company in a certain technology or market position, while, for another firm, the same IP portfolio may be worthless.

Financial institutions are still seen to be more comfortable in giving out financing based on business plans on tangible assets or proven business rather than looking at IP as collateral (Heller, Leitzinger, and Walz 2024). It is not that they do not want to value the IP, the problem is that they do not know how to value IP rights. Therefore, the readiness to accept IP as collateral is not there yet. Therefore, IFIs' must start developing the capability to value intangible assets as more and more companies will have fewer and fewer tangible assets. The Islamic finance sector needs to know how to value intangible assets and put a defensible value that can mitigate the perceived risk attached to IP assets.

5.1.2 | Framework Structure

The diagram illustrates an innovative approach to integrating IP financing with Islamic finance principles. The model centers around a Company Fund, which comprises IP Assets, Investors, and an IPR and Islamic Finance Commercialisation Team. Key stakeholders, including Investors, Administrators, Custodians, Registrars, Distributors, and a Shariah Board, contribute to the fund's operation. The structure facilitates investment, IP commercialisation, and Shariah compliance through a unified framework (Figure 9).

5.1.2.1 | *Musharaka* Financing and Licensing. The *Musharaka* Financing and Licensing model blends Islamic finance principles with IP financing through a partnership structure that is Shariah-compliant and leverages IP assets (Bank Negara Malaysia 2015). Profits and losses are shared based on agreed ratios and investment contributions, adhering to Islamic finance's risk-sharing principles. IP assets undergo Shariah-compliant valuation to establish their worth in the partnership, which includes joint management, ensuring all partners influence the venture's direction. The model capitalizes on IP licensing for revenue generation, covering copyrights, patents,

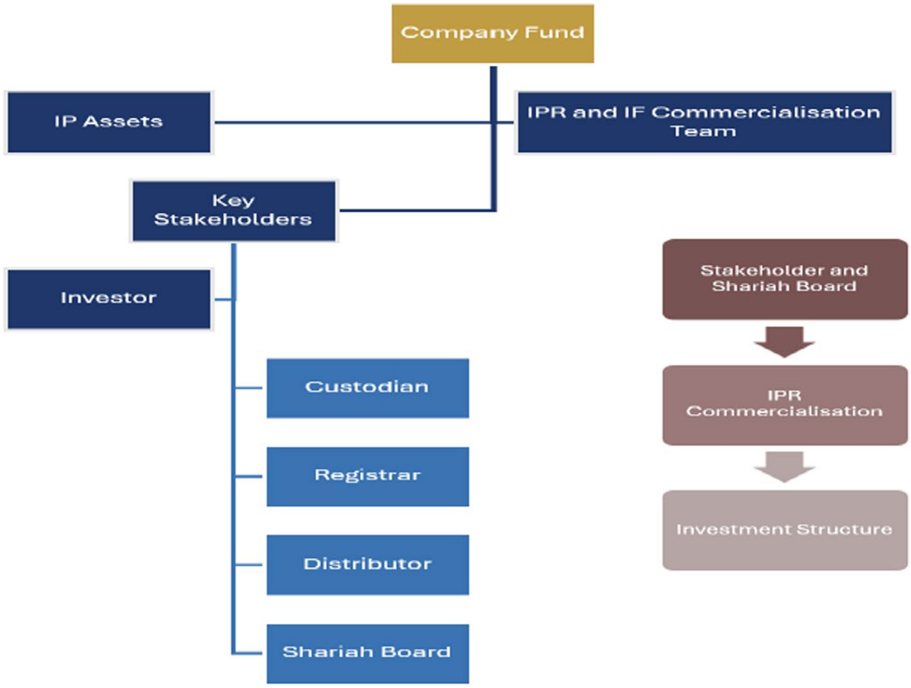

FIGURE 9 | Proposed Framework Structure. [Colour figure can be viewed at wileyonlinelibrary.com]

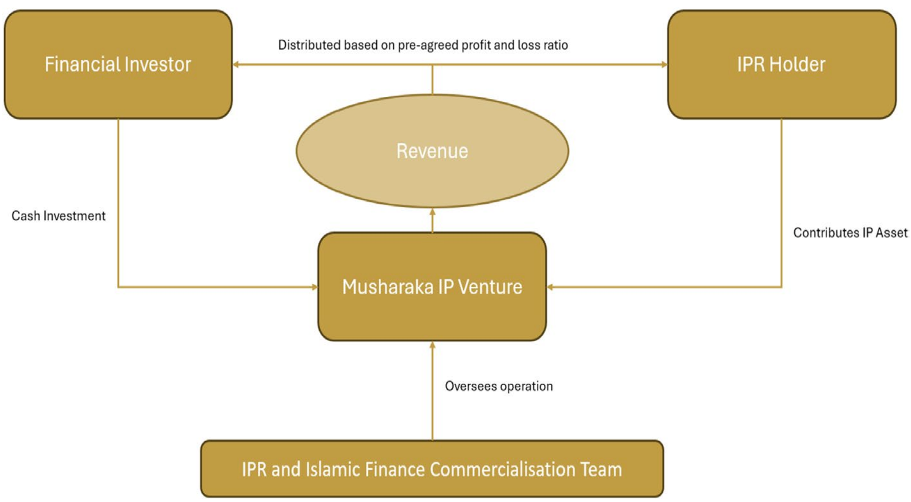

FIGURE 10 | *Musharaka* Financing and Licensing. [Colour figure can be viewed at wileyonlinelibrary.com]

and trademarks. At its core is the '*Musharaka* IP Venture,' a partnership entity designed to manage and commercialize IP assets. Key stakeholders include an 'IPR and Islamic Finance Commercialisation Team' and financial investors, integral to the venture's success (Figure 10).

5.1.2.2 | *Murabaha* and Trademark Financing. The proposed *Murabaha* and trademark financing model in Islamic finance is tailored to handle IP assets through a debt-based financing structure (Bank Negara Malaysia 2013). This model facilitates the sale of an IP commodity at a deferred price, incorporating a profit rate reflective of the IP asset's productivity. Clients commit to purchasing the IP commodity under a specified markup, acknowledging the unique challenges posed by the intangible nature of IP, where legal possession becomes complex due to licensing or franchising rather than outright sale. This setup integrates elements of franchising agreements, such as specified Mark Up, to manage returns and distribute risks. The core of this model adapts the traditional *Murabaha* contract for IP assets (Figure 11).

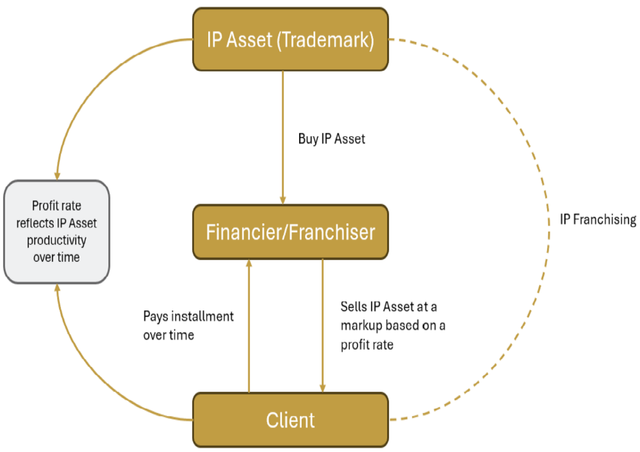

FIGURE 11 | *Murabaha* and Trademark Financing. [Colour figure can be viewed at wileyonlinelibrary.com]

5.1.2.3 | *Sukuk* and Intellectual Property Financing. The sale and leaseback (*Ijara*) financing model presents a novel approach in Islamic finance by utilizing IP as the underlying assets for a *Sukuk* structure (Securities Commission 2007). This method aligns with Islamic finance principles by replacing interest-based lending with asset-based transactions, specifically through a proportionate beneficial ownership arrangement to investors for a specific time. The concept capitalizes on the sale and leaseback financing, where the issuer enters a binding agreement to repurchase the assets, engaging financial distribution partners and takaful providers. The model highlights that the IP asset must demonstrate valuable use and utility to qualify for this structure, ensuring its monetization through IP licensing, which generates returns from the lease. Key components include an Islamic finance lease-based contract with usufruct (usage rights) transfer to the lessee, maintaining the ownership of the IP asset with the lessor. This structure also emphasizes rigorous risk assessment and asset liability management, underlining the critical role of risk management in both IP valuation and Islamic finance frameworks. Ultimately, the proposed structure allows IP assets to serve as a basis for *Sukuk* issuance, with returns generated through licensing, while the original IP holder retains ownership (Figure 12).

5.1.3 | Risk Management

Investors, as well as Islamic finance banks and institutions, require risk mitigation (Al Rahahleh, Bhatti, and Misman 2019). Risk factors include the lack of expertise in establishing market stability for IP assets and avoiding market failure, where the R &D outputs to be commercialized fail to meet market demands. As a result, no sale or license fees can be extracted from the commercialisation of R&D outputs.

Valuing IP by determining the cost of capital, aligns well with Islamic finance. The IP assets must be carefully screened in the pre-commercialisation and commercialisation stages. The IP

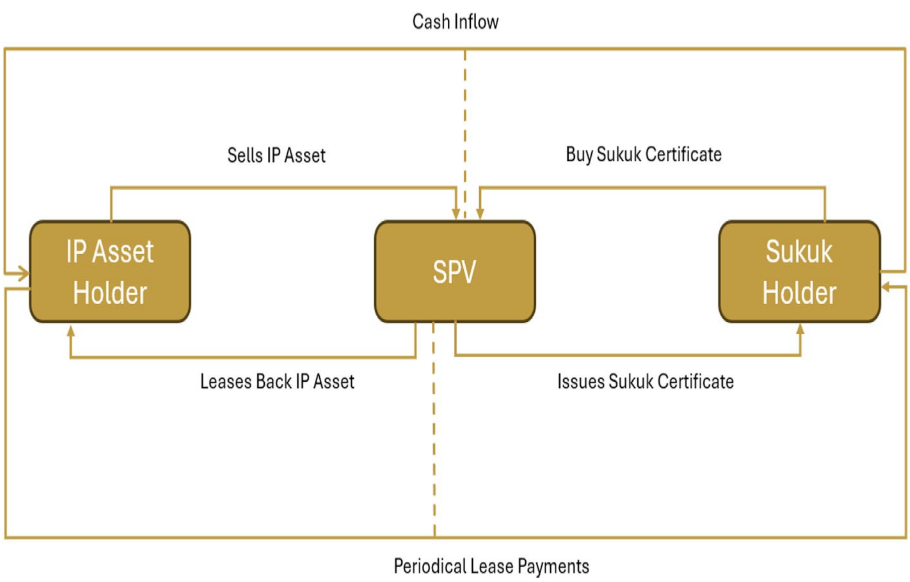

FIGURE 12 | *Sukuk* and Intellectual Property Financing. [Colour figure can be viewed at wileyonlinelibrary.com]

audit can help with risk management and offer benchmarks for the IP value data. The management of the IP portfolio includes the structure for licensing of core assets, arrangements for dealing with renewals, maintenance and record keeping. The IP Audit can be tailored to businesses and investors that follow Islamic finance methods.

Ownership and subsistence are important, and contractual entitlement and other arrangements for the ownership of IP need to be reviewed, particularly in relation to third-party contractors (Margono 2024b). Mitigation planning for infringement and disputes can be planned with an enforcement policy, highlighting the most efficient method of protecting assets, as well as weaknesses. The audit must address issues of licensing and commercialisation by utilizing IP for strategic and financial gain. This can reduce financing risk, increase market value, and help attract investment from IFIs. Focussing on intellectual capital value extraction leveraging on licensing can be the primary model.

6 | Future Direction

There is a clear divide in the Global Innovation Index between developed and developing countries, and unless issues of IP inclusivity are incorporated, more laws and sanctions will not address the widening gap (WIPO 2023). IP and finance have been discussed, and further development is needed to create the know-how for the practicalities of how these frameworks will work in industry. There is the impact of IP and AI use, data and technology, as well as ethics and sustainability, that all need to be incorporated into a fully working, industry-ready model in this area.

7 | Conclusion

The findings of this research signify a pivotal step toward integrating IP into the realm of Islamic finance. The UK landscape for IP valuation and Islamic finance underpins the findings. The research has systematically identified the multifaceted challenges and vast potential of merging these two fields, providing insightful analyzes and practical recommendations aimed at forging a robust policy framework. The strategic future direction proposed herein aims not only to enhance the valuation and management of IP assets within Sharia-compliant financial structures but also to foster a conducive environment for innovation and ethical financing.

Key insights from the research underline the necessity of rigorous regulatory frameworks and Sharia compliance to ensure that IP assets are seamlessly integrated into Islamic finance products. By emphasizing the alignment of market potential with Islamic ethical standards, the research advocates for innovation that adheres to the principles of risk-sharing and avoidance of uncertainty (*gharar*), which are foundational to Islamic finance. Furthermore, the establishment of robust audit and valuation mechanisms has been deemed essential for the accurate assessment and utilization of IP assets, ensuring transparency and adherence to Islamic ethical standards. The proposed framework not only aims to bridge the knowledge gap within the sectors but also to boost market confidence and enhance the global competitiveness of the UK and other regions in this niche sector.

Moving forward, the research calls for international cooperation and capacity building to develop a comprehensive understanding of both IP laws and Islamic finance principles. These efforts are expected to catalyze the creation of innovative financing models that could revolutionize financial practices by embedding ethical and sustainable growth at their core. Ultimately, this research can serve as a blueprint that could potentially act as a catalyst for significant economic and ethical advancements in global finance. By harnessing the power of innovation and aligning it with the principles of Islamic finance, this groundbreaking approach has the potential to create a more inclusive, sustainable, and equitable financial ecosystem.

Acknowledgments

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Disclosure

For managers in the Islamic finance sector, integrating Intellectual Property (IP) into Sharia-compliant financial products opens possibilities for innovation and growth. This paper encourages leaders to focus on building the skills and systems needed to accurately value and audit IP assets while staying true to Islamic principles. By embracing the proposed framework, IFIs' can introduce new, competitive products that tap into underexplored markets, particularly in ASEAN, GCC, and MENA regions. Moreover, fostering partnerships and investing in training on IP laws and Islamic finance for their teams will help managers ensure compliance and build confidence with Sharia boards. Ultimately, this approach will not only enhance an organization's offerings but also drive sustainable growth, positioning them to lead in a rapidly evolving sector.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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