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Tabrez Y. Ebrahim

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INTELLECTUAL PROPERTY THROUGH A NON-WESTERN LENS: PATENTS IN ISLAMIC LAW

Tabrez Y. Ebrahim*

ABSTRACT

The intersection of secular, Western intellectual property law and Islamic law is undertheorized in legal scholarship. Yet the nascent and developing non-Western law of one form of intellectual property—patents—in Islamic legal systems is profoundly important for transformational innovation and economic development

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initiatives of Muslim-majority countries that comprise nearly one-fifth of the world's population.

Recent scholarship highlights the tensions of intellectual property in Islamic law because religious considerations in an Islamic society do not fully align with Western notions of patents. As Islamic legal systems have begun to embrace patents in recent decades, theories of patents have presented conceptual and theological debates under classical Islamic law, creating an undefined scope of patent protection under international agreements. On the one hand, patents are not mentioned in sources of Islamic law, which, unlike Western systems, gives a religious guide to Muslim societies, and which some Muslim scholars argue create impermissible monopolistic effects. On the other hand, patents should be implicitly derived based on human reasoning of a divine law with theoretically and theologically sound commercial justifications.

This Article's thesis is that patents are permissible in an Islamic legal system. It develops a positive, normative framework and justifications for the construct of a theory of patents within Islamic law, provides normative implications within a commercial lens, and provides prescriptions for patentable subject matter and public interest considerations in a modern Islamic legal system. Recognizing the role and need of patents in Islamic legal systems is a pressing issue for innovation policy and requires articulation of conceptual, theological, and theoretical principles.

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INTRODUCTION

Intellectual property in Islamic law is controversial and unsettled.¹ Scholars, jurists, and Muslim theologians disagree about whether intellectual property can be justified under Islamic sources of law.² The unsettled questions concern the permissibility and scope of intangibles in Islamic law.³ Extreme within Islamic legal scholarship is the view that intellectual property is contrary to Islamic teachings and is a product of a Western normative environment and Western countries' dominance over international law.⁴ Another view is that

1. See DAVID PRICE, *THE DEVELOPMENT OF INTELLECTUAL PROPERTY REGIMES IN THE ARABIAN GULF STATES* 26–27 (2009) (explaining that the concept of intellectual property and its recognition and acceptability in Islamic law is a subject of an ongoing discussion among scholars and that Muslim scholars and jurists differ on the concept of intellectual property); DAVID PRICE & ALHANOOF ALDEBASI, *PROTECTING INTELLECTUAL PROPERTY IN THE ARABIAN PENINSULA* 31–35 (2018) (introducing debates between scholars, including proponents and critics, concerning the lack of precedent of intellectual property in Islamic sources of law and the challenges of exclusivity in Islamic law, while recognizing its permissibility without an explicit prohibition and with philosophical justifications); Bashar H. Malkawi, *Intellectual Property from a Sharia Perspective*, 16 S. CROSS U. L. REV. 87, 92–109 (2013) [hereinafter Malkawi, *Sharia Perspective*] (providing arguments and counter-arguments for intellectual property protection within Islamic law); Bashar H. Malkawi, *The Alliance Between Islamic Law and Intellectual Property: Structure and Practice*, 10 U. ST. THOMAS L.J. 618, 619, 623 (2013) [hereinafter Malkawi, *Structure and Practice*] (stating that Islamic law does not regulate intellectual property, which does not have explicit legal protection and presents challenges for its incorporation within Islam as a religious body of law).

2. See generally Samia Maqbool Niazi, *The Justification of Intellectual Property Rights in Islamic Law*, GLOB. J. ARTS HUMANS. & SOC. SCIS., Dec. 2016, at 62, 62–75 (presenting arguments from scholars, justices, and courts that have declared intellectual property to be valid within Islamic law, along with highlighting arguments to the contrary or ones that are weak); Alireza Milani, *The Legitimacy of Intellectual Property Rights the Light of Islamic Law (Sunni and Shia Fiqh)*, 7 WORLD J. ISLAMIC HIST. & CIVILIZATION 37, 39 (2017) (providing reasoning that the concept of intellectual property within Islamic law is integral to and can be extracted from property law principles, while summarizing objections to intellectual property within Islamic law based on literature).

3. See Steven D. Jamar, *The Protection of Intellectual Property Under Islamic Law*, 21 CAP. U. L. REV. 1079, 1086 (1992) (suggesting that “intangible intellectual property existed in some rudimentary form in ancient Islamic law,” but recognizing that such “could be a significant problem for some Islamic jurists” and the fact that Islamic sources of law are silent on the permissibility of intellectual property “ought not to be too easily ignored or dismissed”).

4. See EZIEDDIN MUSTAFA ELMAHJUB, *AN ISLAMIC VISION OF INTELLECTUAL PROPERTY* 1 (2018) [hereinafter ELMAHJUB, *ISLAMIC VISION*] (stating that intellectual property “is a product of the Western normative environment”); John Carroll, *Intellectual Property Rights in the Middle East: A Cultural Perspective*, 11 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 555, 555–57 (2001) (suggesting that Western countries have dominated international law, including with intellectual property protection and innovation incentives in the Middle East, where Western scholars and governments have ignored cultural and religious issues); BERNARD LEWIS, *ISLAM AND THE WEST*, at viii (1993) (explaining that

Islamic norms, legal concepts, and analytical arguments can implicitly derive and permit intellectual property.⁵ Though the Islamic Fiqh Academy of the Organisation of Islamic Cooperation (IFA-OIC), an international Islamic institution for the advanced study of Islamic jurisprudence, has recognized intellectual property, it has not shared reasoning for its conclusions that “patent rights are protected by *Shari’a*.”⁶ Modern jurists, courts, and the IFA-OIC have

relations between the Western countries and Islamic civilizations were based on encounters, perceptions, and responses); Said Bouheraoua et al., *Shariah Issues in Intangible Assets*, 23 SHARIAH J. 287, 291–92 (2015) (summarizing the Hanafi view that requires physical features and physical possession to be classified as permissible property so as to exclude intangible intellectual property from being protected by Islamic law); EZIEDDIN MUSTAFA ELMAHJUB, AN ISLAMIC PERSPECTIVE ON THE THEORIES OF INTELLECTUAL PROPERTY 56 (2015) [hereinafter ELMAHJUB, ISLAMIC PERSPECTIVE] (suggesting that “Islamic Shari’a’s prohibition of the concealment of knowledge and encouragement of its dissemination may raise certain challenges for the current regulation of [intellectual property] as laid down in its international framework”). I define “Western” throughout this Article as encompassing Anglo-American, such as the United States, which is a traditional capitalistic system. In other words, Western is used to distinguish from the Islamic perspective, which is non-Western, for the purposes of this Article. For a discussion on the distinction between the Western and Islamic perspectives, see generally Azhar Ibrahim, *Islam and the West: Clashes and Cooperation*, in 7 INTERNATIONAL HANDBOOKS OF RELIGION AND EDUCATION 209 (Holger Daun & Reza Arjmand eds., 2018); Richard E. Vaughan, *Defining Terms in the Intellectual Property Protection Debate: Are the North and South Arguing Past Each Other When We Say “Property”?* A Lockean, Confucian, and Islamic Comparison, 2 ILSA J. INT’L & COMPAR. L. 307, 309–10 (1996) (distinguishing the Anglo-American concept and definition of property with others such as the Islamic perspective and suggesting that Western perspectives represent a small portion of the collective perspectives because the West is comprised of “a mere 700 million out of a global population that may swell to 9 or 15 billion souls [such that] [i]gnorance of the beliefs of such a vast number of people can only be a disadvantage to the Western intellectual property rights holder” (footnote omitted)).

5. See Rehana Anjum, An Introduction to Intellectual Property Rights in Islamic Law 8–13 (Apr. 18, 2019) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3397868 [<https://perma.cc/RL8D-KWCF>] (refuting arguments that intellectual property and Islamic law are incompatible by addressing any inconsistencies between sources of Islamic law and notions of intellectual property); Javaid Iqbal Khan et al., *Intellectual Property Rights in Islam: A Perspective*, 3 INT’L J. RSCH. SOC. SCIS. 153, 159–60 (2013) (presenting arguments that reveal Islamic law is flexible and adaptable to support intellectual property rights); Gizem Orbey, *IP in Islamic Law? Deriving Similar Patent Regimes from John Locke and the Quran*, ISLAMIC L. BLOG (Aug. 25, 2016), <https://islamiclaw.blog/tag/gizem-orbey/> [<https://perma.cc/D4T3-3CC9>] (proposing that Islamic contract and property law principles may allow for deriving a viable Islamic patent framework).

6. ISLAMIC FIQH ACAD., *Resolution No. 43 (5/5): Concerning Incorporeal Rights*, in RESOLUTIONS AND RECOMMENDATIONS OF THE COUNCIL OF THE ISLAMIC FIQH ACADEMY 1985–2000, at 89, 89 (2000) [hereinafter *Resolution No. 43 (5/5)*] (“The Council of the Islamic Fiqh Academy, holding its Fifth session, in Kuwait-City (State of Kuwait), from 1st to 6th Jumada al-Oula 1409 H (10 to 15 December 1988); *Having reviewed* the papers presented by the Members and experts concerning ‘Incorporeal rights’ and *after having listened* to the discussions on the subject; RESOLVES First: Business name, corporate name, trade mark, literary production, invention or discovery, are rights belonging to their holders and have, in contemporary times, financial value which can be traded. These

attempted to expand the concept of property to include intellectual property, but they have not theorized the tensions concerning intellectual property that have prompted scholarly debate, nor have they explained the specific issues concerning patents.⁷

The tension of intellectual property fitting within Islamic sources of law arose as Western conceptions of intellectual property permeated legal systems based on *Shariah*, which considers divine and infallible law to encompass and guide all aspects of human life and society.⁸ The debate as to whether Islamic law recognizes intellectual property, however, may be reasoned through human understanding of the *Shariah*, or an exercise of *fiqh*, which elucidates *Shariah* through interpretation.⁹ The resulting quandary stems from a lack of explicit mention of intellectual property in *Shariah*,¹⁰ and whether implicit reasoning can provide derivations, specifically of patents. The enterprise of finding support of one type of intellectual property right, patents, in Islamic law is important toward understanding whether the Islamic religious principles can accommodate the values and traditions of largely Western concepts and provide support for modern innovation and economic development initiatives in non-Western legal systems.

rights are recognized by Shari'a and should not be infringed. Second: It is permitted to sell a business name, corporate name, trade mark for a price in the absence of any fraud, swindling or forgery since it has a financial right. Third: Copyrights and patent rights are protected by *Shari'a*. Their holders are entitled to freely dispose of them. These rights should not be violated. Verily, Allah is All-Knowing.”)

7. IMRAN AHSAN KHAN NYAZEE, *OUTLINES OF ISLAMIC JURISPRUDENCE* 242 (2016).

8. See MOHAMMAD HASHIM KAMALI, *SHARI'AH LAW: AN INTRODUCTION* 2 (2008) (explaining that *Shariah* means “a way to the watering-place or a path apparently to seek felicity and salvation,” and has been translated to mean “the right way of religion,” and is “concerned with a set of values that are essential to Islam and the best manner of their protection”).

9. See Faisal Kutty, *Islamic “Adoptions”: Kafalah, Raadah, Istilhaq, and the Best Interests of the Child*, in *THE INTERCOUNTRY ADOPTION DEBATE: DIALOGUES ACROSS DISCIPLINES* 526, 528 n.11 (Robert L. Ballard et al. eds., 2015) (explaining that “*Shari'ah* encompasses the broad and overarching values, objectives, principles and methodologies while *fiqh* is used to refer to the body of derivative rules formulated by jurists,” and while *Shariah* and Islamic law have distinct meanings, the use of “Islamic law” encompasses *fiqh* and state-sanctioned derivatives).

10. See Abdulrahman Alabdulkarim, *Intellectual Property Rights in the Kingdom of Saudi Arabia in Light of Sharia and the TRIPS Agreement* 82 (Apr. 6, 2017) (S.J.D. dissertation, Pennsylvania State University) (on file with the Georgia State University Law Review) (stating that “Sharia does not speak explicitly about protecting and enforcing intellectual property rights”).

The question of whether a construct of a theory of patents fits within Islamic law raises new and profound theoretical issues regarding the foundational underpinning of Islamic law.¹¹ Although there are differences in the overarching legal framework and terminology in Western patent systems and Islamic legal systems, the arguments within this unexplored question have some intriguing parallels with secular patent law and similar debates in other religious traditions. The examination of intellectual property through a non-Western and religious lens has only recently been explored broadly in law and religion scholarship generally,¹² and among Jewish and Catholic perspectives specifically.¹³ A more conceptual,

11. It should be noted at the outset that the framing of this inquiry—whether the construct of a theory of patents—using English language terminology does not map precisely onto Arabic terms used by Islamic law jurists and scholars or analogous concepts in Islamic law jurisprudence. Indeed, that incongruence impacts the legal terms appearing in this endeavor and in this Article. The term “Islamic law,” as used in this Article, incorporates legal rules, moral norms, and ritual obligations present in an Islamic legal system. More specifically, *Shariah* refers to the religious law of Islam, and it is contained in the revealed laws of the Quran and the Sunnah in Islam; these revealed laws are in contradistinction with *fiqh*, which is a juristic edifice. See *infra* text accompanying note 88. The term “patent” (or “patents”) broadly means the legal regime that accords inventors certain exclusive rights in inventions. However, as is shown in this Article, the underlying premises of that regime in Islamic law differ in some fundamental respects from those of secular patent law, alongside many areas of convergence.

12. See generally Thomas C. Berg, *Foreword: Intellectual Property and Religious Thought*, 10 U. ST. THOMAS L.J. 579 (2013) (summarizing a symposium on a conversation between scholars of law and religions concerning religious themes, practices, and communities to inform intellectual property law and policy); Margo A. Bagley, *Exploring Intellectual Property Through the Lens of Religious Thought*, in HANDBOOK ON INTELLECTUAL PROPERTY RESEARCH (forthcoming 2020) (suggesting that religious scriptures are a rich source of inspiration on informing approaches to challenging intellectual property questions even though sacred texts rarely explicitly deal with intellectual property rights); Richard Chused, *Dream Vignettes*, 59 N.Y. L. SCH. L. REV. 111, 112–13 (2014–15) (providing a connection between religion and socially conscious law reform to suggest that legal change in society has been influenced by moral force of religion).

13. For examples of scholarship examining intellectual property through a Jewish perspective, see generally Neil W. Netanel & David Nimmer, *Is Copyright Property?—The Debate in Jewish Law*, 12 THEORETICAL INQUIRIES L. 241, 243–44 (2011) (assessing the doctrinal consequences in Jewish law for determining whether authors have property interests in their creations and explicating related arguments by rabbinic jurists); NEIL W. NETANEL, FROM MAIMONIDES TO MICROSOFT: THE JEWISH LAW OF COPYRIGHT SINCE THE BIRTH OF PRINT 4 (2016) (providing a historical and socio-legal contextualization of development of rabbinic moral, human, religious, and economic foundations of a Jewish law of copyright); Jeremy Stern, “*Spiritual Property, ‘Intellectual’ Property, and a Solution to the Mystery of IP Rights in Jewish Law*,” 10 U. ST. THOMAS L.J. 603, 604 (2013) (asserting that various theories of property in Jewish law present an intellectual barrier to the creation of a concept of intellectual property due to the intellect being connected with the divine and with spiritual considerations); Roberta Rosenthal Kwall, *Intellectual Property Law and Jewish Law: A Comparative Perspective on Absolutism*, 22 YALE J.L. & HUMANS. 143, 147 (2010) (assessing the benefits and

comparative, and theoretical assessment of patents in Islamic law, along with normative implications and prescriptions for Islamic legal systems, provides a new Islamic perspective to the West.¹⁴

This Article's thesis is that patents are permissible in an Islamic legal system, for which religious law presents unique considerations in their justification, scope, and grants relative to Western patent systems. This Article develops a positive, normative framework for the construct of theory of patents within Islamic law, concludes that Islamic law justifies patents, and provides prescriptions for patentable subject matter and public interest considerations for patent enforcement in an Islamic legal system. In so doing, this Article analyzes whether a theoretically and theologically sound justification of patents in an Islamic legal system has characteristics consistent with (or inconsistent with) Western systems' notions of patents.

By connecting doctrines of Western conceptions of patents with Islamic law theories and principles, one purpose of the Article is to foster a new connection between Western patent law scholarship and Islamic law scholarship, while enriching the discussions between the West and Muslim-majority countries.¹⁵ Another purpose is to provide

limitations of an absolutist theory of law with an application to the comparative context of copyright law and Jewish law). For examples of scholarship examining intellectual property through a Catholic perspective, see generally Jay Mukherjee & Walter E. Block, *Libertarians and the Catholic Church on Intellectual Property Laws*, 1 LAS TORRES DE LUCCA 83 (2012) (suggesting that there is a surprising congruence between the social justice philosophy of the Catholic Church and intellectual property proponents' views based on natural rights and utilitarianism, while acknowledging criticisms associated with maximization of resources and wealth); Gabriel J. Michael, *Catholic Thought and Intellectual Property: Learning from the Ethics of Obligation*, 25 J.L. & RELIGION 415 (2009) (arguing that modern institutions of intellectual property fail to recognize Catholic ethical obligations with regards to medicines and other essential products).

14. See generally LEWIS, *supra* note 4 (exploring the common heritage shared between Islam and the West, investigating each side's perspective of the other, analyzing the impact of the West on the Middle East in modern times and Islamic responses to Western dominance, and examining the effect of democratic institutions that have begun to permeate in the Middle East).

15. This Article uses "Muslim-majority countries" to define as countries for which *Shariah* serves as a source of law. The term, as used in this Article, does not indicate the degree of primacy of *Shariah* but suggests that the corpus of rules and principles derived from the Quran and the Sunnah serves as divine-sourced body of law in that particular country. Any reference to the term is meant to refer to member states of the OIC, which considers itself to be "the collective voice of the Muslim world" and works "to safeguard and protect the interests of the Muslim world in the spirit of promoting international peace and harmony." HISTORY, ORG. OF ISLAMIC COOP., https://www.oic-oci.org/page/?p_id=52&p_ref=26&lan=en [https://perma.cc/K8ZZ-YD2E]. It should be noted that

a blueprint for modern Muslim-majority countries to advance rudimentary and developing patent laws based on classical Islamic law principles to demonstrate an Islamic character and a commitment to Islamic principles to Western-driven introductions and permeation of patent law. Although the modern Islamic legal systems have simple patent laws, they have not adequately interpreted the classical corpus of Islamic law as an important part of their patent infrastructure, nor have they sought to resolve unsettled, conceptual issues in their nascent patent systems. Islamic patent law has yet to establish itself as a scholarly legal field that is capable of functioning effectively but will soon become a burgeoning field within Islamic law. This Article provides a new Islamic lens to Western patent law and a Western patent lens to Islamic law, a theoretical starting point for advancing Islamic patent systems, and a strategy for practical application of patent laws based on Islamic law in modern Muslim-majority countries.

Unlike the Western philosophical justifications of intellectual property, which are devoid of religious considerations,¹⁶ Islamic law is a purely religious law.¹⁷ Muslims consider Islamic law as representing an all-encompassing, rightful guide to life and societal

though the OIC member states have large Muslim populations, they do not necessarily have a majority population comprising Muslims; nonetheless, the combined population of the OIC member states is estimated to be approximately two billion people or approximately one-quarter of the world's population, and the term "Muslim-majority country" has been referred to as a society where Islam is widespread in a geopolitical sense. See Arwa Ibrahim, *All You Need to Know About the OIC*, ALJAZEERA (May 31, 2019), <https://www.aljazeera.com/news/2019/5/31/all-you-need-to-know-about-the-oic> [https://perma.cc/8RRJ-N853]. Additionally, it should be noted that because one audience for this Article is Western legal scholars, then some Islamic honorifics (*durood*) are not provided for simplicity. For Western legal scholars who are unfamiliar with Islam (and Islamic law), it should be noted that Allah refers to God (or The Almighty or The Divine), s.w.t (*Subhanahu wa-ta'ala*) refers to praise of Allah, and *pbuh* (peace upon him) is a phrase attached to references of Prophet Muhammad. The English terms used throughout this Article are meant for a Western audience, even though Muslims and Islamic law scholars may be more familiar with other Arabic terms with the same meaning.

16. See generally Justin Hughes, *The Philosophy of Intellectual Property*, 77 GEO. L.J. 287 (1998) (providing a commentary on the Lockean justification of intellectual property versus one lacking religious justification and emphasizing that a labor theory of intellectual property is incomplete).

17. See Samiul Hasan, *Islamic Jurisprudence: Sources and Traditions Creating Diversity in Human Relationships*, in THE MUSLIM WORLD IN THE 21ST CENTURY: SPACE, POWER, AND HUMAN DEVELOPMENT 23, 23 (Samiul Hasan ed., 2012) ("Islam, a holistic religion, stipulates regulatory frameworks encompassing all aspects of human life: spiritual, social, economic, and political.").

relations, and not just a framework of rules and regulations.¹⁸ Although Islamic law and the Western lens share some common views regarding intellectual property,¹⁹ as this Article demonstrates, there are some considerations in Islamic law that present tensions with Western perspectives and present opportunities for construing Islamic law's scope and limitations. The distinctions between Western and Islamic visions of intellectual property are material for interpretation of the *ordre public* exception in international treaties, economic development and innovation for several Muslim-majority countries, and advancement of Muslim society with new legal interpretation and analysis of the principles of *Shariah*. Additionally, the normative and theoretical debates about intellectual property through an Islamic lens are important for introducing new and non-Western perspectives for discussion to Western scholars and policymakers.

An Islamic vision of intellectual property is relatively new and an ongoing debate—it has had shortcomings, and it has conflated the distinctions among different types of intellectual property and ignored patents. The main concern of Islamic jurists, scholars, and theologians of patents is the potential for monopolistic effects that may be against Islamic law principles.²⁰ This Article supplements

18. See Asifa Quraishi-Landes, *The Sharia Problem with Sharia Legislation*, 41 OHIO N.U. L. REV. 545, 548 (2013) (noting that Islamic law represents an absolute truth for Muslims and that attempts by human to understand and elaborate such a truth through *fiqh*, or an understanding that is the epistemological premise of Islamic jurisprudence, is necessarily imperfect and flawed). See generally HAIDER ALA HAMOUDI, *ISLAMIC LAW IN A NUTSHELL* (2019) (explaining the sources of Islamic law).

19. PRICE, *supra* note 1, at 27 (describing that Islamic legal systems, where intellectual property law exists and where they operate similarly to Western systems, consider that laws are binding and valid because they do not violate the Quran or the Sunnah).

20. There are distinctions between various types of intellectual property, and in particular, patents and copyrights have different market impacts. Patents grant true monopolies in some types of technological developments, whereas copyrights do not. For example, one novel competes with other novels for attention, but the idea itself of the novel cannot attain copyright protection (only the expression of the particular novel can attain copyright protection). Nonetheless, the large commercial entities that control many copyrights may be able to create monopolistic effects, which would be an artifact of Western economic cultures, but not copyright law in and of itself (however, a distinction would be computer-related technology). Thus, though there may be different market impacts of patents and copyrights according to Islamic law, this Article focuses on patents in Islamic law, and in so doing, it fills a void in scholarship concerning intersections of intellectual property law and Islamic law with its focus on patents in Islamic law. For a discussion regarding copyrights in Islamic law, see MOHAMED

and adds to the Islamic view of intellectual property with a focus on patents. It is the first Article to develop the *fiqh* of patents, or the human jurisprudential interpretation of patents within the religious body of Islamic law. Much like scholarship that analyzed the historical genesis of Western patent systems based on the Venetian patent system,²¹ this Article analyzes whether patents are a positive privilege that can be implicitly derived, framed, and justified based on first principles of classical Islamic law. The question of how patents should fit into Islamic law is an important one, for patents possess enormous innovative potential for Muslim society. Numerous Muslim-majority countries in the Middle East region (including Oman, Qatar, and Saudi Arabia) have embarked on transformational innovation initiatives where patents have been recognized as paramount for economic development.²² Other Muslim-majority countries in the Middle East region (including Jordan and Kuwait) and in the Southeast Asia region (including Indonesia and Malaysia) have recognized that patent law will be key toward innovation advancement.²³ Though impressive and increasingly pervasive, patenting statistics or forecasted patenting activity also raise concerns

ALI AHDASH, COPYRIGHT IN ISLAMIC LAW (2016); and Mufti Taqi Usmani, *Copyright According to Shariah*, ALBALAGH, <https://www.albalagh.net/qa/copyright.shtml> [<https://perma.cc/6Q48-2YN3>]. For a discussion regarding trademarks in Islamic law, see generally Sohaib Mukhtar et al., *Islamic Law and Trademark Protection*, 7 MALAY. J. SYARIAH & L. 1 (2018); Amir H. Khoury, *Ancient and Islamic Sources of Intellectual Property Protection in the Middle East: A Focus on Trademarks*, 43 IDEA: J.L. & TECH. 151 (2003); and Yahya A. Muhammad et al., *Basis of Intellectual Property Protection in Islam and Its Legal Effects*, 6 INT'L J. HUMANS. & SOC. SCI. 90 (2016). For a discussion regarding trade secrets in Islamic law, see Mahmoud Bagheri & Maryam Goudarzi, *A Comparison Between Patent and Trade Secret Regimes in Protection of Industrial Property Rights*, 39 PRIV. L. STUD. 41 (2009).

21. See Ted Sichelman & Sean O'Connor, *Patents As Promoters of Competition: The Guild Origins of Patent Law in the Venetian Republic*, 49 SAN DIEGO L. REV. 1267, 1268–69 (2012) (presenting the historical genesis of the Western patent system based on the first regularized patent system that appeared in the Venetian Republic to provide positive privileges to practice methods that were within the sole province of guilds); Stefania Fusco, *Lessons from the Past: The Venetian Republic's Tailoring of Patent Protection to the Characteristics of the Invention*, 17 NW. J. TECH. & INTELL. PROP. 301, 301–02, 311–12, 322 (2020) (summarizing the historical background of the Venetian patent system and describing original documents to suggest customary patent protection to tailor protection of unique characteristics of inventions); Craig Allen Nard & Andrew P. Morriss, *Constitutionalizing Patents: From Venice to Philadelphia*, 2 REV. L. & ECON. 223, 225 (2006) (examining through public choice theory constitutionalizing events, such as the Venetian Statute of 1474).

22. See *infra* Section I.D.

23. See *infra* Section I.C.3.

over tensions with Islamic law doctrines. The tensions between Western notions of patents and interpretation within Islamic law include issues concerning monopolization and distributive principles, exclusivity and societal relations, private property rights, and morality-based objections to patentability.²⁴

Indeed, the unique norms and principles of Islamic law suggest that intangibles fit uncomfortably in an Islamic law vision of property law that has traditionally been predicated on physical possession and tangibility.²⁵ Such considerations give rise to significant normative questions regarding how Islamic law should conceptualize, justify, and rationalize patents and prescriptions for patent policy in an Islamic legal system. A growing trend in legal scholarship has been to oppose the protection and enforcement of patents based on Islamic law principles.²⁶ As might be obvious, and as is explored throughout this Article, the fit of patents in Islamic law is somewhat awkward and presents quandaries. The issue of whether patents are justified in Islamic law is therefore immediate and obvious.

First, to address this question, this Article examines the evolution of property law in Islamic law to conclude that patents are a permissible form of intangibles. By integrating historical developments with analysis of doctrinal and theological gaps with recent, nascent statutes of national patent laws in Muslim-majority countries, this Article advances a novel descriptive theory of property exceptionalism in Islamic law and motivates a need for reforms.²⁷ Property exceptionalism stands for the proposition that Islamic law should exclude intangibles or treat intangibles differently from other forms of real property and chattels.

24. See *infra* Section I.B.2.

25. Malkawi, *Sharia Perspective*, *supra* note 1, at 93 (providing as an example that the Hanafi School has traditionally required physical possession and tangible possession to be considered permissible property in Islamic law); Jamar, *supra* note 3, at 1085 (noting that Islamic law has recognized physical property to be conceptually separable from nonphysical property, such as ideas).

26. Alabdulkarim, *supra* note 10 (pointing out that “there is a trend [among scholars] that opposes the idea of protecting and enforcing intellectual property rights”).

27. See *infra* Section I.C.2.

Second and relatedly, this Article argues that property exceptionalism has evolved considerably in Islamic law. Throughout most of history, Islamic law did not encounter intangibles or rejected intangibles in part from perceived normative distinctions between Islamic law and Western notions of patents. More recently, however, courts and modern-day Muslim scholars have begun to reject property exceptionalism because the scope of property law has been elaborated to include intangibles, such that physical possession of property is no longer a requirement.²⁸ Turning from doctrine to statute, property exceptionalism has evolved again with the internalization of Western justifications for patents within Islamic legal principles as Muslim-majority countries began to embrace patents in the late twentieth century.

Third, turning from the descriptive to the normative, this Article assesses the rejection of property exceptionalism in Islamic law and advances a positive, normative framework for the construct of patents in Islamic law. Offering several justifications, this Article uses analogical reasoning in Islamic law to draw upon usufructs, trusteeship, and human intellect principles to argue that patents—with some modification from Western contexts—are justified in Islamic law.²⁹ It builds upon, significantly elaborates on, and reconceptualizes prevailing interpretations of intangibles within Islamic law to argue that unique features of patents—particularly promotion of the knowledge, incentives, and teaching function—justify departure from physical possession of property and general exclusivity concerns.³⁰ In so doing, it integrates justifications from Islamic law—such as public interest, regulatory, and commercial assuredness³¹—within the positive, normative framework of patents in Islamic law.³² It asserts that such justifications, which draw from and are permissible within Islamic commercial law principles and

28. *See infra* Section I.D.

29. *See infra* Section II.A.

30. *See infra* Section II.B.2.

31. *See infra* Section II.C.3.

32. *See infra* Section II.D.

which are linked within this Article's normative framework, would facilitate industry regulation to encourage innovation and economic development in Muslim-majority countries.³³

Fourth, this Article offers prescriptions for enhancing Islamic law's scope of patent eligibility and for guiding public interest considerations in patent litigation remedies. This inquiry is a complicated one compared to Western contexts, for Islamic law considers ethical, moral, and religious views on the patentability of inventions and public interest considerations.³⁴ Offering several prescriptions for doctrine and for institutional design, this Article argues for a narrower patentable subject matter in Islamic law compared to Western systems and in favor of a flagging check of inventions that should not be patentable for reasons of *ordre public* and morality.³⁵ Moving beyond the realm of public interest considerations for patentability in Islamic law (specifically patentable subject matter), additional related analysis suggests that public interest considerations in deciding patent litigation remedies will impact *ex ante* incentives to innovate in Islamic legal systems if public interest becomes a stronger *ex post* consideration.³⁶

Before proceeding, acknowledging this Article's intended audience and contributions to legal scholarship is important. In developing the *fiqh* of patents in Islamic law, this Article provides legal and policy makers, jurists, scholars, and theologians with a more robust understanding of how patents can be theoretically justified within Islamic law. In doing so, it serves as a foundational blueprint to help Muslim-majority countries facilitate certainty and predictability of patent laws for businesses, inventors, ministries, and university technology transfer offices while embarking on transformational innovation and economic development initiatives.

33. See *infra* Section III.A.

34. See A. Kevin Reinhart, *Islamic Law As Islamic Ethics*, 11 J. RELIGIOUS ETHICS 186, 186–87 (1983) (arguing that Islamic law and Islamic ethics are intertwined, such that Islamic legal sciences are critical to the understanding of Islamic ethics and the human moral life and vice versa).

35. See *infra* Section II.B.

36. See *infra* Section III.C.

Also, this Article provides a fresh perspective and a new lens to Western patent systems and to Western patent scholars who may draw on its findings to improve patent law in Western societies and engage in new scholarly discussions.

This Article proceeds in four parts, with Part I being mostly descriptive yet providing doctrinal and historical insights, Part II being normative, Part III being prescriptive, and finally, concluding thoughts. Part I introduces the context and motivation for why patents in Islamic law matter, conceptual Islamic law foundations, and the controversy of intellectual property in Islamic law.³⁷ Part II provides a conceptual, positive, normative framework for a theory of patents in Islamic law. This Part addresses distributive value concerns and sheds light on justifications of patents in Islamic law that it integrates within the normative framework to support innovation and economic development in Muslim-majority countries. Part III explores normative implications that inform its prescriptions for patentable subject matter and public interest considerations for patent infringement assessment.³⁸ This Article concludes with a brief discussion of innovation policy in Islamic legal systems.

37. Section I.A provides context with the recent interest in patents and their potential impact on economic development in innovative Muslim-majority countries, lack of clarity of the *ordre public* and morality exception based on international agreements for national Islamic legal systems, and lessons from an Islamic vision of patents for the Western patent law scholar's community. Section I.B introduces Islamic conceptual foundations to the non-expert of Islamic law (such as many U.S. patent law scholars)—including sources of law and schools of jurisprudence that an expert of Islamic law may skip—and Section I.C clarifies the sources and origins of intellectual property debates through an introduction of property doctrine in Islamic law. Section I.D explores the historical shift and re-conceptualism of property exceptionalism culminating in the present-day internalization and integration of patents in Muslim-majority countries; in so doing, it recognizes the tensions that arise between the twin trends of property exceptionalism and internalization of Western justification of patents.

38. Furthermore, Part III outlines areas for future exploration of theories in scholarship concerning patents in Islamic law and contextualizing effects within the broader economic and business forces that will shape economic development in Muslim-majority countries.

I. THE RISE OF INTELLECTUAL PROPERTY IN ISLAMIC LEGAL SYSTEMS

A substantial amount of innovation and economic development commentary in Muslim-majority countries has heralded the importance of patents. Drawing on technological and innovative industries in Western contexts, Muslim-majority countries have considered patents as critical to economic and social welfare. Muslim-majority countries have recognized the importance of patents in shaping such industries as important subjects of legal, policy, and economic development examination. Relatedly, Muslim jurists, scholars, and theologians have fruitfully begun to explore the emergence of intellectual property in influential academic accounts of Islamic law.

Muslim societies have borrowed and adopted concepts from Western legal systems through international treaties and intercultural exchanges without analysis of their legitimacy or illegitimacy on Islamic law.³⁹ The question of how one form of intellectual property—patents—fits into an Islamic legal system is an important one, for patent policy within the confines of a religious body of law in developing economies raises unique concerns and potential. Indeed, the unique norms, principles, and religious values give rise to significant policy questions regarding how Western theories of a patent system should interact with non-Western theories (specifically Islamic law) to advance technological and economic objectives.

To address this question, this Part examines the coevolution of intellectual property and Islamic law and why it matters both to Muslim-majority countries and to the West. By integrating the context and motivation for why patents in Islamic law matter, conceptual foundations, and the controversy of intellectual property in Islamic law, this Part hopes to set a connection and dialogue

39. See Allah Ditta & Hafiz Muhammad Hassan Mahmood, *The Tradition of Innovation in Islamic Civilization: An Exclusive Study of Early Ages of Islam*, 2 AL-MILAL: J. RELIGION & THOUGHT 297, 297 (2020).

between Muslim scholars and Western patent law scholars. The insights, attitudes, temperaments, and epistemic frameworks of the Islamic doctrinal perspective are meant to set the stage for a better functioning Islamic patent legal system. The traditional understanding of patents in Muslim-majority countries is theoretically inadequate and fails to articulate with sufficient clarity how a theory of patents fits within Islamic law. The foundational principles suggested in Part I provide normative interpretations for patents in Islamic law discussed in Part II and serve as a foundation for operationalizing the prescriptions in Part III.

A. Context and Motivation: Why Look at Patents in Islamic Law?

Is a patent a permissible legal right in Islamic law? Patents exist in Muslim-majority countries, but in keeping with the undertheorized nature of intellectual property in Islamic law generally, scholars and jurists have not explained why characteristics of patents necessarily attach to permissible principles in Islamic law. Patents apparently fit in Islamic law, but why they do so has not been analyzed in a theoretical sense.

Even if indeed patents are permissible and justified in Islamic law in a theoretical sense, then there may be theological limitations, which some Muslim jurists posit narrow their scope or reach in Islamic legal systems.⁴⁰ Such limitations are of particular importance in Muslim-majority countries where patents are in their infancy (but growing in importance) and where reliance on patents is critical to inventors and innovators as a basis of legal protection. Moreover, religious principles are increasingly important to patent law scholarly conversation and debate because extension of patent protection over natural processes and living organisms has raised bioethical considerations that have long been part of religious ethics.⁴¹ Additionally, because Muslims comprise one in five individuals in

40. *See infra* Section I.C.2.

41. *See Berg, supra* note 12, at 580–81.

the world and there are more than fifty Muslim-majority countries,⁴² insights gathered from the role of religion in other legal systems can aid in international trade and yield a deeper understanding of Western frameworks of patents from a different Islamic law perspective. A deeper evaluation of patents in Islamic law yields an understanding of their limitations of scope and reach in an Islamic legal system, which can help Western scholars reassess underlying principles that make up their legal systems.

1. *Ordre Public, Morality, and Tensions with Western Notions*

The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) is an international agreement that sets minimum standards for intellectual property protection in its signatory countries.⁴³ TRIPS harmonized global intellectual property rights by strengthening their protection in countries with weak rights and by making it easier to obtain and manage intellectual property globally.⁴⁴ Many Muslim-majority countries adopted TRIPS based on their membership in the World Trade Organization (WTO) and, in so doing, accepted public policy objectives of ensuring effective intellectual property protections.⁴⁵ Although TRIPS required positive action from member countries to incorporate the agreement through the issuance of national legislation, the national legislation could not conflict with TRIPS's provisions.⁴⁶ Furthermore, Islamic law requires that Muslim-majority countries fulfill their obligations of treaties and contracts, and keeping such duties is both a requirement

42. See ELMAHJUB, *ISLAMIC VISION*, *supra* note 4, at 8.

43. J.H. Reichman, *Universal Minimum Standards of Intellectual Property Protection Under the TRIPS Component of the WTO Agreement*, 29 *INT'L LAW* 345, 351 (1995) (specifying that member states are subject to minimum standards of intellectual property protection).

44. Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 319 [hereinafter TRIPS Agreement].

45. PRICE, *supra* note 1, at 66–67 (explaining that the goals of TRIPS include “the reduction of distortions and impediments to international trade, the promotion of effective and adequate protection of intellectual property rights, and ensuring that measures and procedures to enforce intellectual property rights do not themselves become barriers to legitimate trade”).

46. Alabdulkarim, *supra* note 10, at 46.

of Islamic law and a verification of compatibility with Islamic principles.⁴⁷

The implementation of TRIPS in Muslim-majority countries has represented the first significant step of establishing an intellectual property regime—a step that requires proper statutory language and establishment of governmental infrastructure to protect and enforce intellectual property rights. Yet, there are dilemmas, ethical conundrums, and obligations for Muslim-majority countries under TRIPS. A lack of clarity of the scope of intellectual property rights and conceptual disconnects with Islamic law may cause multinational companies to avoid investment in economies with Islamic legal systems and may cause local innovators to decline to comply, resulting in losses of potential sources of revenue and dampen desired economic development. To spur innovation in Muslim-majority countries, an assessment of the scope of the applicable patent provision in TRIPS is critical.

Muslim-majority countries' enactment of national legislation concerning patents may still require reconciling interpretation of patentable subject matter.⁴⁸ The TRIPS *ordre public* exception, which excludes from patentability certain inventions, represents a classic conflict of laws case.⁴⁹ In simple terms, the theoretical issue for patents in Muslim-majority countries is whether Islamic law is adaptable and can accommodate the requirements of an international treaty. In terms of patentable subject matter, which is a threshold criterion of what can enter or be excluded from a patent system,⁵⁰

47. Chad M. Cullen, *Can TRIPS Live in Harmony with Islamic Law? An Investigation of the Relationship Between Intellectual Property and Islamic Law*, 14 SMU SCI. & TECH. L. REV. 45, 58–59 (2010) (describing the importance of fulfilling treaties and contractual duties in Islamic law and suggesting that compliance with TRIPS suggests that signatory Muslim-majority countries consider that there is agreement with Islamic law principles).

48. This Article uses the term “patentable subject matter,” which can be used interchangeably with “patent eligibility,” when concerning inventions that are eligible for patent protection under a patent system.

49. TRIPS Agreement, *supra* note 44, at art. 27.2.

50. Erika Ellyne, *Patent Eligibility – The ‘Sick-Man’ of Patent Law*, in ACCESS TO INFORMATION AND KNOWLEDGE 139, 139, 144–45 (Dana Beldiman ed., 2013) (specifying that patent eligibility, or patentable subject matter, serves as a gatekeeper and threshold to demarcate the boundary of what constitutes an invention).

Muslim-majority countries that have acceded to TRIPS as signatory states can exclude from patentability inventions that may not comply with Islamic law. However, the interpretation of patentable subject matter may differ in different jurisdictions.⁵¹ The interpretative challenge of patentable subject matter in Islamic law presents vagueness and legal uncertainty, particularly if inventors and businesses seek patent protection of inventions across multiple Muslim-majority countries.

A tailoring of patentable subject matter and institutional design for its implementation, which is provided by this Article, provides guidance to Islamic legal systems of the type of inventions that should be excluded from patentability and, in so doing, provides legal certainty to inventors and innovators.⁵² Under Article 27.2 of the TRIPS Agreement, certain inventions may be excluded from patentability, according to the following provision:

Members may exclude from patentability inventions, the prevention within their territory of the commercial exploitation of which is necessary to protect *ordre public* or morality, including to protect human, animal or plant life or health or to avoid serious prejudice to the environment, provided that such exclusion is not made merely because the exploitation is prohibited by their law.⁵³

This TRIPS provision creates flexibility with interpretation and rights among signatory countries; however, the TRIPS agreement presents obligations to promote development and protection of intellectual property.⁵⁴ Article 27.2 of the TRIPS Agreement

51. Viola Prifti, *The Limits of "Ordre Public" and "Morality" for the Patentability of Human Embryonic Stem Cell Inventions*, 22 J. WORLD INTELL. PROP. 2, 3 (2019) (describing biotechnological inventions that may be controversial from the viewpoint of ethics, morality, and public acceptance in various jurisdictions and necessitate public policy considerations).

52. See *infra* Section III.B.

53. TRIPS Agreement, *supra* note 44, at art. 27.2.

54. M. Monirul Azam, *Globalizing Standard of Patent Protection in WTO Law and Policy Options for the LDCs: The Context of Bangladesh*, 13 CHI.-KENT J. INTELL. PROP. 402, 404–05 (2014) (noting

recognizes differences among jurisdictions and gives an option to WTO signatory countries to exempt from patentability inventions for reasons of “*ordre public*” and “morality.”⁵⁵ However, it gives poor guidance on the types of inventions that should be excluded from patentability and reflects a perceived encroachment by the West on Muslim-majority countries.⁵⁶

The interpretation of *ordre public* and morality in TRIPS Article 27.2 should result in different types of permissible patentable subject matter in Islamic legal systems than in Western patent systems, such as that of the United States. Additionally, there are jurisprudential differences among Muslim-majority countries that require interpretation based on varying schools of jurisprudence and degrees of primacy of religious law in a particular country.⁵⁷ This lack of uniformity and unexplored interpretation of exceptions to patentable subject matter on a national level creates legal uncertainty as Muslim-majority countries embark on transformational innovation and economic development initiatives. Also, the Unified Gulf Cooperation Council (GCC)⁵⁸ Patent Office does not provide clarity on what patentable subject matter may conflict with Islamic law principles and leaves significant flexibility in interpretation.⁵⁹ The vagueness of the *ordre public* and morality in TRIPS Article 27.2 may hinder businesses that operate internationally in

that TRIPS presents a balance of rights and obligations for signatory countries).

55. TRIPS Agreement, *supra* note 44, at art. 27.2.

56. Cullen, *supra* note 47, at 59 (providing vital medicines and various agricultural products as examples that may or may not be excluded from patenting in Islamic legal systems and suggesting that intellectual property compliance with TRIPS is perceived as “a Western concept” adding to “Western business practices [that] are immoral and corrupt” and represent “Western oppression”).

57. *See infra* Section I.B.1.

58. *See infra* Section I.D.

59. *See* Mohammed El Said, *Intellectual Property, Islamic Values, and the Patenting of Genes*, in PATENTS ON LIFE: RELIGIOUS, MORAL, AND SOCIAL JUSTICE ASPECTS OF BIOTECHNOLOGY AND INTELLECTUAL PROPERTY 133, 150–51 (Thomas C. Berg et al. eds., 2020) [hereinafter PATENTS ON LIFE] (suggesting that an exclusion to patentable subject matter is left to interpretation by Muslim-majority countries in the Arabian Peninsula, due to the flexibility in the GCC’s Article 2); PATENT OFFICE OF THE COOPERATION COUNCIL FOR THE ARAB STATES OF THE GULF, PATENT REGULATION OF THE COOPERATION COUNCIL FOR THE ARAB STATES OF THE GULF art. 2 (2006) (“An invention shall be patentable . . . if it . . . is not contrary to the laws of Islamic Shariya, or public order or to morality observed in the Cooperation Council States . . .”).

Muslim-majority countries and, as a result, be counter to the objectives of the TRIPS Agreement. Thus, clarifying the limits and elucidating the meaning of the terms *ordre public* and morality in TRIPS Article 27.2 through an understanding of Islamic law, this Article provides essential guidance for patenting activity in Muslim-majority countries.

Finding a parallel or equivalent concept of the term *ordre public* has not been thoroughly analyzed by Islamic law scholars. This analysis requires inferring a general rule on the interpretation of *ordre public* based on the TRIPS Agreement, and its interpretation requires an Islamic public policy choice and conversation among jurists, scholars, and theologians and a localized, national decision.⁶⁰ Muslim-majority countries have not clarified the term *ordre public*, nor have they exhaustively assessed the limitation of patent law based on morality in their nations. The exclusion of patentable subject matter from Islamic law generally, or certain Muslim-majority countries specifically, necessitates unique considerations that need further exploration and requires different countries to clarify their meaning by national legislation.⁶¹ It represents a public policy choice that could restrict patent rights *ex ante* and set limits on the exclusion of patent rights that violate Islamic law.⁶²

There could be countervailing policy considerations for interpretation of TRIPS Article 27.2 under an Islamic legal system.⁶³

60. Paul Champ & Amir Attaran, *Patent Rights and Local Working Under the WTO TRIPS Agreement: An Analysis of the U.S.-Brazil Patent Dispute*, 27 YALE J. INT'L L. 365, 367 (2002) (suggesting that legal arguments for Article 27 of the TRIPS Agreement apply to local working requirements).

61. Jean-Frédéric Morin & Jenny Surbeck, *Mapping the New Frontier of International IP Law: Introducing a TRIPS-Plus Dataset*, 19 WORLD TRADE REV. 109, 110 (2019) (pointing out that TRIPS signatory countries have different interests when it comes to knowledge protection, the result of which can impact the innovation rate and trade and investment flows).

62. Ana Nordberg, *Patents, Morality, and Biomedical Innovation in Europe: Historical Overview, Current Debates on Stem Cells, Gene Editing and AI, and de lege ferenda Reflections*, in FAIRNESS, MORALITY, AND *ORDRE PUBLIC* 1, 17–18 (Daniel Gervais ed., 2020) (noting that patent systems' denial of inventions that do not fit a social or moral reality impact incentives).

63. Kevin W. McCabe, *The January 1999 Review of Article 27 of the TRIPS Agreement: Diverging Views of Developed and Developing Countries Toward the Patentability of Biotechnology*, 6 J. INTELL.

Such considerations include exclusion of suggested categories of inventions and undesirable patentable subject matter from patent protection under Islamic law,⁶⁴ as well as signaling the kind of desirable patent activity under a patent system that fits within Islamic law. The reach and scope of the *ordre public* and morality terms in TRIPS Article 27.2 is a question that has been unexplored in Islamic law and must be answered for a Muslim-majority country to have a reliable and predictable patent system. Thus, exploring the exception of patentable subject matter under an Islamic legal system's interpretation of TRIPS Article 27.2 is imperative to offer legal certainty and facilitate trust in a Muslim-majority country's patent system.

2. *Lessons from an Islamic Vision of Patents for Western Scholars*

In our increasingly globally linked world, an Islamic vision for patents provides a new and fresh perspective to Western patent law scholars. In contrast to a conventional and well-developed view of patents in Western scholarship that has gone through a long and rigorous process of development for centuries, Islamic patent law is still in a preliminary stage of development, for which this Article serves as a foundational work. What is an Islamic vision of patents, and how does it differ from conventional Western views?

In contrast to a secular worldwide view that is embedded in Western patent systems, a religious worldview, such as from the Islamic perspective, gives attention to both the material world and the spiritual aspects of society's well-being.⁶⁵ This view does not

PROP. L. 41, 44, 52 (1998) (suggesting that although industry may want an expansion of patentable subject matter, developing countries have sought to narrow its definition due to concerns with their views on their liberties).

64. TRIPS Agreement, *supra* note 44, at art. 27.3(a)–(b) (providing that member countries may exclude from patentability inventions prohibited by their laws and suggesting as examples “(a) diagnostic, therapeutic and surgical methods for the treatment of humans or animals; (b) plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes”).

65. See Al-Hasan al-Aidaros et al., *Ethics and Ethical Theories from an Islamic Perspective*, 4 INT'L

necessarily reject the role of reason but recognizes its limitations and desires to complement it with divine revelation to serve social interests.⁶⁶ Patents in Islamic law have compatibility with Islamic principles that align with modernity of Western notions of innovation and economic development, but with some limitations. Whereas Western patent systems are secular and value-neutral, an Islamic patent system, in line with an Islamic view on economics and society, recognizes ethical values and moral filters that ensure societal harmony.⁶⁷ Even though Western patent systems are not totally materialistic, they fail to recognize value judgments and good governance in the efficient allocation and distribution of resources.⁶⁸ As a result, Western patent systems have no moral restraints and no moral filter.

In addition, though this Article introduces the perspective of patents in Islamic law scholarship and observes that patents are justified in Islamic law,⁶⁹ future research can pursue how Western patent systems can benefit from an understanding of the Islamic law perspective.⁷⁰ Indeed much of Western civilization (as well as human civilization broadly) is indebted to the rich heritage of the golden age

J. ISLAMIC THOUGHT 1, 2, 8–9, 10–12 (2013) (suggesting that the Western perspective and Western ethical theories of relativism, utilitarianism, egoism, deontology, the divine command theory, and the virtue ethics are all incomplete, whereas an Islamic perspective is comprehensive, realistic, and in moderation and balance).

66. Michele Mangini, *Rationality and Ethics Between Western and Islamic Tradition*, 9 RELIGIONS 1, 1, 17, 19 (2018) (recognizing that an Islamic tradition of reason and rationality, which while sharing in common with secular Western cultures, also considers divine power that influence Islamic social interests).

67. Reinhart, *supra* note 34 (suggesting that Islamic law falls into the domain of Islamic ethics because although it is practical and concerned with human action in the world, it is strictly speaking a religious and an epistemological system).

68. Thomas C. Berg, *Life Patents, Religion, and Justice: A Summary of Themes*, in PATENTS ON LIFE, *supra* note 59, at 291, 291 (noting that religion is absent in intellectual property discourse, which is highly secular).

69. *See infra* Section II.A.

70. Whereas the focus of this Article is on intellectual property (specifically, and more narrowly, patents) within Islamic law, future research can address what a non-Islamic legal system can learn from Islamic law. Thus, although this Article argues that patents can operate within Islamic society and accordingly supports a framework for its conceptualization, a future research project could address why and how Western patent systems can benefit from Islamic theories, norms, and principles.

of Islamic contributions that advanced society.⁷¹ Western patent law scholars may ask: Is a new vision or a new discipline in patent law needed? If so, what contributions can it or should it make to Western patent law scholarship?

An Islamic vision of patents offers a fresh perspective and a new lens to Western patent systems in need of critical reassessment to fix inefficiencies. A sound methodological framework to better understand an Islamic vision of patents could serve as a way of promoting insight and knowledge into Western patent legal systems. In so doing, the insights gathered from a new and different perspective can help to illuminate a deeper understanding and greater measure of a Western patent system's own philosophical underpinnings. The basis for comparison of patent doctrines juxtaposed against the measure of the U.S. patent laws is broader than simply written words, and the similarities and differences can reveal the essence of what patent law really is and how it functions in a society.

To excavate the underlying structure of U.S. patent law, an exploration of the substructural forces that influence it (or possibly could influence it), such as religion or a different philosophical or ideological view, is in order because it could remove underlying biases and cognitive lock-in. A different legal system, and one based on a religious lens, may help to rid U.S. patent law of its own cultural and historical biases. For example, scholars have noted that the U.S. patent system discriminates among gender and race.⁷² An Islamic

71. The attributes of an Islamic theory, a normative framework, and justifications of patents, moreover, can shed new perspectives on Western scholarship as well, thus revealing important lessons to improve U.S. patent law. Islamic history is rich with examples of contributions to Western societies. *See, e.g.*, THE ATLAS OF ISLAMIC WORLD SCIENCE AND INNOVATION 11 (2014) [hereinafter ATLAS] (“As a student of history, I also know civilization’s debt to Islam. It was Islam—at places like Al-Azhar—that carried the light of learning through so many centuries, paving the way for Europe’s Renaissance and Enlightenment. It was innovation in Muslim communities that developed the order of algebra; our magnetic compass and tools of navigation; our mastery of pens and printing; our understanding of how disease spreads and how it can be healed.” (quoting Barack Obama, President, U.S., Remarks by the President on a New Beginning at Cairo University (June 4, 2009))).

72. For examples of scholarship discussing discrimination on the basis of gender in the U.S. patent system, see Yukai Wang et al., *Gender Bias in Patenting Process*, 14 J. INFORMETRICS 1, 1 (2020) (suggesting that gender bias exists and persists in the U.S. patent system and arguing for the need to

vision of patents could entail a search for universal principles of patent law that transcend culture and national borders, help to reexamine core principles, and help to solve patent policy questions. In particular, drawing from an older cultural and religious viewpoint such as that of Islamic law, which arose before the U.S. patent system's creation, can yield suggestions about basic elements, structure, and operation of a patent system apart from any historical or political events. Looking at the U.S. patent system through such a lens can reveal important ideas, norms, and principles that challenge conventional ways of thinking and force a reevaluation to improve tenets of U.S. patent law.

B. Foundations and Controversy of Intellectual Property in Islamic Law

The thesis of this Article, which concerns permissibility of patents in Islamic law, requires analysis of the scope of *ordre public* and assessment of the scholarly debate of intellectual property in Islamic law.⁷³ Before delving into the tensions between intellectual property and Islamic law, including the particularly pronounced one with property in Islamic law, it is important to clarify terms and address issues through an introductory discussion.

To augment the prevailing interpretations of property,⁷⁴ the gradual shift of property exceptionalism,⁷⁵ and the assimilation of

intensify efforts to combat gender bias rather than focusing only on attempts to equalize gender representation); and Kye Jensen et al., *Gender Differences in Obtaining and Maintaining Patent Rights*, 36 NATURE BIOTECHNOLOGY 307, 307 (2018) (examining the prosecution and maintenance histories of approximately 2.7 million U.S. patent applications to conclude that women have less favorable outcomes than men in the U.S. patent system). For examples of scholarship discussing discrimination on the basis of race in the U.S. patent system, see W. Keith Robinson, *Artificial Intelligence and Access to the Patent System*, NEV. L.J. (forthcoming 2021) (arguing that the U.S. patent system is not accessible to underrepresented inventors); and W. Keith Robinson, Co-Director, Tsai Ctr. for L., Artificial Intelligence and Access to the Patent System, University of Iowa: The Iowa Innovation Business & Law Center Fall Speaker Series (Sept. 10, 2020) (assessing biases in the U.S. patent system and arguing that artificial intelligence technology can assist in remedying the accessibility problem in the U.S. patent system).

73. See *infra* Sections II.B.2, III.B.1.

74. See *infra* Section I.B.2.

75. See *infra* Section I.C.2.

patent doctrine to general legal principles in Islamic law,⁷⁶ some preliminary considerations are in order. First, it is important to understand the conceptual foundations of Islamic law, including sources of law and schools of jurisprudence, to identify legal concepts and origin in Islam. Second, one must be familiar with terms and implications of Islam's view on property law,⁷⁷ which this Article extends, thus providing a positive, normative framework in theory and in practice of patents through *fiqh*.⁷⁸ Accordingly, Section I.B.1 serves as an introduction for readers new to Islamic law, such as Western patent law scholars. Those with knowledge of Islamic law may read ahead to Section I.B.2.

1. Sources of Law and Schools of Jurisprudence

This Subsection describes the foundations of Islamic law. At a general level, Islam, as a holistic religion, stipulates regulatory frameworks encompassing all aspects of human life, including social systems, economic ideologies, and rules of human conduct.⁷⁹ In this context, an exploration of the foundations of Islamic law can help identify how to implicitly reason a construct of a theory of patents and a positive, normative framework for patents in Islamic law.⁸⁰

Shariah, *fiqh*, and Islamic law are terms that have been conflated and inaccurately used interchangeably to describe law within Islam.⁸¹ Each provides a different lens into legal concepts within Islam. *Shariah* refers to the religious values and principles that guide Muslims, whereas *fiqh* refers to the human understanding of *Shariah*.⁸² *Fiqh* lawmaking accepts the impossibility of knowing

76. See *infra* Section I.C.3.

77. See generally JOHN MAKDISI, ISLAMIC PROPERTY LAW (2005) (providing an understanding of property law in classical Islam, an enhanced understanding of property law in the United States, and a comparative case-method analysis between Islamic–U.S. legal systems on property law).

78. See *infra* Sections II.A.4, II.D.

79. Hasan, *supra* note 17, at 23–24.

80. See *infra* Section II.A.

81. See KUTTY, *supra* note 9.

82. MUSAWAH, SHARI'AH, FIQH, AND STATE LAWS: CLARIFYING THE TERMS 1 (2016) (distinguishing between *Shari'ah* [*Shariah*] and *fiqh* by explaining that “*Shari'ah* comprises moral and ethical values that embody the spirit and trajectory of Islam’s sacred texts,” and *fiqh* refers to legal

God's law with certainty but not the futility of trying to understand God's law.⁸³ The transcendental concept of law in *Shariah* provides a higher rule of law with a divine connection in Islam.⁸⁴ Thus, while *Shariah* is God-given and immutable,⁸⁵ *fiqh* can change based on new information, conditions, and time.⁸⁶ Thus, *fiqh* applies human reason as an attempt to interpret divine revelation, and as such, *fiqh* is flexible and can incorporate societal developments in a particular time.⁸⁷ Islamic law is a distinct term that may encompass a combination of *fiqh* and state-sanctioned derivatives to yield laws resulting from colonization and secularization.⁸⁸ Some scholars have considered the term "Islamic law" to be a colonial-era invention that has resulted from *fiqh* being enacted into modern state legislation of Muslim-majority countries.⁸⁹ As such, the modern nation-state

rulings, juristic scholarship, and jurisprudential texts produced by Muslim jurists and noting that human-made laws and policies are not the same as *Shariah*); *see also id.* at 3 ("*Shari'a* is the eternal, immutable, and unchanging law as it exists in the mind of God. *Shari'a* is the Way of truth and justice as it exists in God's mind. In essence, *Shari'a* is the ideal law as it ought to be in the Divine realm, and as such it is by definition unknown to human beings on this earth. Thus human beings must strive and struggle to realize *Shari'a* law to the best of their abilities. In contrast, *fiqh* is the human law—it is the human attempt to reach and fulfill the eternal law as it exists in God's mind. As such, *fiqh* is not itself Divine, because it is the product of human efforts. *Fiqh*, unlike *Shari'a*, is not eternal, immutable, or unchanging. By definition, *fiqh* is human and therefore subject to error, alterable, and contingent." (quoting Professor Khaled Abou El Fadl)).

83. Asifa Quraishi-Landes, *Islamic Constitutionalism: Not Secular. Not Theocratic. Not Impossible*, 16 RUTGERS J.L. & RELIGION 553, 554–55 (2015).

84. *See id.*

85. Maliha Masood, *Untangling the Complex Web of Islamic Law: Revolutionizing the Sharia*, AL NAKHLAH, Fall 2003, at 1, 1–2 (explaining that the aim of *fiqh* is to reach an understanding of God's articulations in *Sharia*).

86. Prawitra Thalib, *Distinction of Characteristics Sharia and Fiqh on Islamic Law*, 33 YURIDIKA 439, 439–41 (2018) (describing *fiqh* as being dynamic, flexible, and fickle to follow the development of the times; characterizing *fiqh* as being flexible; and noting that *fiqh* is a result of reasoning and deduction based on constantly evolving knowledge).

87. *See Masood, supra* note 85, at 1, 3 (explaining that though *Shariah* is a sort of Platonic ideal, *fiqh* is a type of science that is flexible with prevailing sociopolitical situations).

88. KUTTY, *supra* note 9.

89. *See Ebrahim Moosa, Colonialism and Islamic Law*, in ISLAM AND MODERNITY: KEY ISSUES AND DEBATES 158, 168 (Muhammad Khalid Masud et al. eds., 2009) (suggesting that the domain of Islamic law can be viewed in prisms of colonialism, globalization, and transnationalism that resulted in a representation of an Islamic world view through abstracting of Islamic legal concepts from its canonical contexts); Anver M. Emon, *Conceiving Islamic Law in a Pluralistic Society: History, Politics and Multicultural Jurisprudence*, 2006 SING. J. LEGAL STUD. 331, 338–39 (stating that "[h]istorically, Islamic law was immersed not only within a cultural context, but also within an institutional context that transformed what might have been moral norms into enforceable legal rules" to suggest that changing

interpretation of Islamic law is a phenomena with unsettled questions and one for which this Article explains the gradual reconceptualization of property and discusses how *fiqh* should embrace and justify patents.⁹⁰

The basis of law in Islam, or *Shariah*, are primary sources, which are revealed parts, and secondary sources, which are non-revealed parts.⁹¹ Primary sources of law include the Quran and the Sunnah, and they are thought to contain God's infallible and immutable will.⁹² The Sunnah, which is defined as the recorded statements and actions of the Prophet Muhammad,⁹³ is an application of the Quran to hypothetical questions that arose during the Prophet Muhammad's lifetime.⁹⁴ The hierarchy of legal sources in Islam considers first the Quran in terms of prestige and sanctity, followed by the Sunnah as the second material source of law.⁹⁵ The Sunnah elaborates upon and interprets the principles laid down in the Quran.⁹⁶ For example, matters pertaining to property are treated in the Quran in detail and are represented in concrete Sunnah.⁹⁷

However, there are numerous matters and issues where the Quran and the Sunnah are silent.⁹⁸ It is therefore challenging to assess the scope of a particular legal concept when it does not fit neatly within one of these sources, and such is the notion of the construct of patents

cultural contexts have eroded the extent to which *Shariah* was applied in forming what we speak of as "Islamic law" today).

90. See *infra* Section II.B.

91. Malkawi, *Structure and Practice*, *supra* note 1, at 620.

92. Hasan, *supra* note 17, at 24–25 (explaining that the Quran and the Sunnah are the fundamental sources of Islamic principles, with the Quran serving as a "guidance for mankind," such as economic relationships and laws, and with the Sunnah compiled as Hadith, offering guidance defining human beings' purpose, objectives, and relationships to one another, to God, and nature (quoting *Quran* 2:2)).

93. Mohsen Dashti, A Brief Examination of the Sources of Shariah Law 2 (May 2016) (unpublished manuscript), https://www.researchgate.net/publication/306225258_A_brief_examination_of_the_source_s_of_Shariah_LawUnpublished_Work.

94. Malkawi, *Structure and Practice*, *supra* note 1, at 621.

95. See WAEL B. HALLAQ, *THE ORIGINS AND EVOLUTION OF ISLAMIC LAW* 119 (2005).

96. See KUTTY, *supra* note 9, at 534–35.

97. See *infra* Section I.B.2; HALLAQ, *supra* note 95, at 49.

98. Malkawi, *Structure and Practice*, *supra* note 1, at 622–23 (explaining that Islamic law attempts to describe all possible human acts as obligatory, recommended, neutral, objectionable, or forbidden; but that there are some actions that are not described by the Quran and the Sunnah, and these actions are permitted so long as there are not explicit prohibitions elsewhere in Islamic law).

within the principles of Islamic law. Matters not covered in the Quran and the Sunnah are dealt with through secondary sources of law in Islam.⁹⁹ These include *ijma* (consensus), *qiyas* (analogical reasoning among Sunni Muslims), and *aql* (human reasoning among Shia Muslims).¹⁰⁰ *Ijma* is considered an agreement among jurisconsults on a particular ruling.¹⁰¹ *Qiyas*, or logical inferences, is an inductive/deductive tool, which can bring out a meaning or intention of revelation regarding a particular eventuality.¹⁰² Moreover, additional jurisprudential tools or principles can assist in making sense of the Quran and the Sunnah,¹⁰³ including *istihsan* (juristic preference), *istishab* (presumption of continuity), *istislah* or *maslaha* (public interest), *darura* (necessity), and *urf* (custom).¹⁰⁴ Individual interpretation, or *ijtihad*, is the intellectual process that utilizes all of these other tools.¹⁰⁵ *Ijtihad*, which involves the mental effort in the pursuit of knowledge, is the necessary process in the development of legal consensus.¹⁰⁶

In addition, the choice to apply a certain source of law and the methodology of analyzing legal issues in Islam depends on the interpretation mechanism. An evaluation of a legal principle within

99. KUTTY, *supra* note 9, at 535–36, 539.

100. Hasan, *supra* note 17, at 26 (specifying that *ijtihisan*, or juristic preference, is a method of exercising *ra'y*, or personal opinion of legal experts, to avoid rigidity and unfairness from the literal application of the law).

101. David MacGregor, *Islamic Law and Its Sources*, PLATYPUS MAG., Dec. 2006, at 31, 32.

102. HALLAQ, *supra* note 95, at 118 (providing as an example of analogical reasoning, that because grape-wine is textually prohibited because of its intoxicating quality, then so is date-wine because it is an inebriating substance).

103. KUTTY, *supra* note 9, at 535–37.

104. Malkawi, *Structure and Practice*, *supra* note 1, at 621.

105. Nazeen M.I. Goolam, *Ijtihad and its Significance for Islamic Legal Interpretation*, 2006 MICH. ST. L. REV. 1443, 1444–45 (quoting scholars that have defined *ijtihad* as either “total expenditure of effort in the search for an opinion as to any legal rule in such a manner that the individual senses (within himself) an inability to expend further effort” or “[i]n the language of the jurists, . . . the exertion to the utmost and the full exercise of one’s capacity in arriving at a legal value” (first quoting Bernard Weiss, *Interpretation in Islamic Law: The Theory of Ijtihad*, 26 AM. J. COMP. L. 199, 207 (1978); and then quoting Mogamed Faaik Gamielien, *Ijtihad in the Time of the Khulafa Al-Rashidun: A Review of Selected Case Studies* (1993) (M.C.L. thesis, International Islamic University of Malaysia)); U.S. INST. OF PEACE, SPECIAL REPORT NO. 125, *IJTIHAD: REINTERPRETING ISLAMIC PRINCIPLES FOR THE TWENTY-FIRST CENTURY* 1 (2004) (defining the practice of *ijtihad* as “interpretation and reasoning based on the sacred texts”).

106. MacGregor, *supra* note 101.

the guidelines of Islam differs based on the lens of observation. Islamic schools of jurisprudence provide differing interpretative mechanisms, which differ based on the Sunni view or the Shi'a view.¹⁰⁷ Sunni Islam schools of jurisprudence, or *madhabs*, assist in describing varying juristic interpretations.¹⁰⁸ One meaning of the term *madhab* is a group of jurists who are strictly loyal to a distinct *ijtihad* interpretive methodology attributed to a master jurist and its accompanying legal doctrine.¹⁰⁹ In effect, the *madhabs* are an interpretive framework of coherent legal tradition based on the *madhab* founders.¹¹⁰ There are known to be four *madhabs* in Sunni Islam: Hanafi, Maliki, Shafii, and Hanbali.¹¹¹ Shi'a Islam jurisprudence is split among Ithna'ashariyyah (or Twelvers), which follow the Jafari school of thought, and Isma'ili (or Seveners), which follow their own jurisprudence based on the particular branch and Imam.¹¹² In addition, another school of thought that is distinct from Sunni Islam and Shi'a Islam is Ibadism, which has its form of Ibadi jurisprudence.¹¹³ Moreover, Zaydis, who comprise a sizeable portion of Muslims in Yemen, are considered to be a Shi'a sect with *fiqh* similar to the Hanafi school of Islamic jurisprudence.¹¹⁴

These foundational principles of Islamic law set the stage for the ensuing analysis of the scope of reach of property and intellectual

107. KUTTY, *supra* note 9, at 538 n.57. This Article recognizes that there would be differential treatment of patents within Islamic law based on Sunni-Shi'a distinction (as well as the Ibadi distinction). A future research study could compare the theological differences between such views concerning patents. *Id.*

108. KAMALI, *supra* note 8, at 43, 68-69 (explaining that although the Sunni schools of Islamic law agree on general principles concerning worship, they differ on matters pertaining to interpretation, which are based on themes).

109. HALLAQ, *supra* note 95, at 152.

110. Ihsan Yilmaz, Muslims and Sacred Texts and Laws 6 (July 25, 2019) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3425623 [<https://perma.cc/XB29-NKJ7>].

111. Diana Zacharias, *Fundamentals of the Sunni Schools of Law*, 66 HEIDELBERG J. INT'L L. 491, 492 (2006).

112. See HAMOUDI, *supra* note 18, at 24 (explaining the theological distinctions between Sunni Islam and Shi'a Islam).

113. See generally VALERIE J. HOFFMAN, THE ESSENTIALS OF IBADI ISLAM (2012) (explaining the distinction of Ibadi Islam in comparison to Sunni and Shi'a Islam).

114. STEPHEN W. DAY, REGIONALISM AND REBELLION IN YEMEN: A TROUBLED NATIONAL UNION 31 (2012).

property in Islamic law. To understand the place of intellectual property under Islamic law, first understanding the Islamic law's view of the nature of property, which is explicitly mentioned in the Quran and the Sunnah, is necessary. This inquiry involves and assesses three different areas under Islamic law—those explicitly mentioned in the Quran and the Sunnah, those where the Quran and the Sunnah have mentioned general principles, and those where the Quran and the Sunnah are silent.¹¹⁵ Whereas property principles are explicitly mentioned in Islamic law, the Quran and the Sunnah are silent about intellectual property in general (and patents specifically). Nonetheless, general principles can be used to assess the debates concerning gaps and ambiguities.

2. *Debate and Tensions Based on Property in Islamic Law*

The central tensions of intellectual property in Islamic law viewed from a property lens are (1) whether the meaning of property in Islamic law includes intangibles and (2) the conflict between public interests and private property rights in Islamic law.¹¹⁶ The unsettled question is whether property, which is considered a sacred concept that is explicitly and readily mentioned in the Quran and the Sunnah,¹¹⁷ permits human beings to use their mental capital to protect intangibles when such sources only refer to real property and chattels.¹¹⁸ The conceptual *fiqh* discussion of potential property rights in intangibles relates to whether an object should always be a material and tangible thing.¹¹⁹ The classification of whether

115. Cullen, *supra* note 47, at 51 (stating that there are three distinguishable methods of analysis of a topic under Islamic law including situations where the Quran and the Sunnah provide a full description, have gaps and ambiguities, and are completely silent).

116. Alabdulkarim, *supra* note 10, at 70, 77–78, 80 (introducing the principles of property in Islamic law to suggest that some scholars consider intangible property to be incompatible with these notions and also describing that there is a conflict between communal property rights and personal property rights in reasoning a theory of intellectual property in Islamic law).

117. See SIRAJ SAIT & HILARY LIM, LAND, LAW, AND ISLAM: PROPERTY AND HUMAN RIGHTS IN THE MUSLIM WORLD 33 (2006).

118. Alabdulkarim, *supra* note 10, at 42, 70–72.

119. Engku Rabiah Adawiah Engku Ali, *Re-Defining Property and Property Rights in Islamic Law of Contract*, 11 JURNAL SYARIAH 47, 54 (2003).

intangibles are a permissible interest in Islamic property law is important for Muslim-majority countries because it has far-reaching implications for sociopolitical goals.¹²⁰

Even if property in the Quran and the Sunnah can be construed to include intellectual property, another tension concerns whether potential monopolization from patents creates excessive wealth to patentees and, in so doing, violates Islamic law principles.¹²¹ Although Islamic law allows for individuals to own property and even generate and accumulate wealth, such as through the exclusive power from the possession and use of property, there are limitations.¹²²

Muslims consider *Shariah* to be God's infallible and immutable guidance, which guides human conduct and enlightens Muslims toward an ideal path.¹²³ Thus, Muslims consider Islam to be a holistic religion, for which *Shariah* provides regulatory frameworks encompassing many aspects of human life, including economic ideologies.¹²⁴ Some economic aspects of life are handled by *siyasa*, or laws created by temporal rulers.¹²⁵ *Shariah* provides clear guidance on rules of human conduct, social institutions, and legal frameworks.¹²⁶ But some pragmatic, governance-related laws, or

120. See Abraham Bell & Gideon Parchomovsky, *A Theory of Property*, 90 CORNELL L. REV. 531, 533 (2005); see also Adam Mossoff, *What Is Property? Putting the Pieces Back Together*, 45 ARIZ. L. REV. 371, 373 (2003).

121. ELMAHJUB, ISLAMIC VISION, *supra* note 4, at 5–7.

122. Alabdulkarim, *supra* note 10, at 62.

123. Quraishi-Landes, *supra* note 18, at 547–50.

124. Hasan, *supra* note 17.

125. Quraishi-Landes, *supra* note 18, at 546, 550 (describing that *siyasa* is part of *Shariah* but does not involve direct scriptural interpretation because “*siyasa* laws were not extrapolated from scripture by religious legal scholars, but rather crafted by Muslim rulers according to their own philosophies of government and ideas about how best to maintain public order”).

126. At an abstract level, *Shariah* should address whether the Islamic legal framework allows for intellectual property. On a more practical level, even if there are not enough scriptural directives about intellectual property, then another consideration is whether it has been handled via *fiqh* or via *siyasa* in a particular Muslim-majority country. In other words, *fiqh* lawmaking and *siyasa* lawmaking operate in different realms, and determining which has been utilized in a particular Muslim-majority country is a matter of understanding relevant sources and would require a more in-depth analysis with a separate study. Additionally, such a future study could entail analysis aimed at understanding resistance in Muslim-majority countries to the adoption of Western ideologies and, in so doing, could separate out the *fiqh* literature on the topic of intellectual property before colonial age, the national-state age, and

siyasa, that were necessary for public order but for which scripture says little were left for the ruler to decide on the basis of *maslaha* (public interest).¹²⁷ In theory, *Shariah* should address whether intellectual property is part of the Islamic legal framework. However, because *Shariah* does not have precise and per se rules to help in justifying and regulating of intellectual property,¹²⁸ *fiqh* principles can be construed to justify it through human interpretation of *Shariah*.

The *fiqh* of intellectual property broadly, and of patents specifically, is unsettled and in need of development.¹²⁹ Many issues stem from misunderstandings about what property is, and especially what generally constitutes the “property” part of intellectual property.¹³⁰ Scholarship is polarized between those who contend that intellectual property rights are not directly protected by *Shariah* and others who say that *Shariah* principles can be construed to provide support for such protection.¹³¹ This debate is between those who view property under *Shariah* as purely tangible property and those who view it as also including intangible property.¹³² The latter hold that *Shariah* is adaptive and flexible, and via *fiqh*, can allow and

afterwards. Such a study would entail analysis of modern iterations of the nation-state with merging of *fiqh* and *siyasa*, which could probably be relevant for only that Muslim-majority country.

127. Quraishi-Landes, *supra* note 18, at 550.

128. Anjum, *supra* note 5, at 7.

129. Ezziedin Mustafa Elmahjub, Protection of Intellectual Property in Islamic Shari’a and the Development of the Libyan Intellectual Property System 49–50 (Jan. 2014) (Ph.D. dissertation, Queensland University of Technology) (on file with the Georgia State University Law Review) (stating that there is no clear relationship between intellectual property and Islamic law).

130. Muhammad Wohidul Islam, *Al-Mal: The Concept of Property in Islamic Legal Thought*, 14 ARAB L.Q. 361, 361 (1999) (defining “mal” as property, which is characterized as whatever a human being can acquire and possess, and further noting that anything not capable of possession cannot be linguistically regarded as mal); Malkawi, *Sharia Perspective*, *supra* note 1, at 93 (specifying that whether intellectual property is recognized as an issue of property has caused debate among Islamic schools of jurisprudence).

131. Anjum, *supra* note 5, at 7–8, 12 (stating that the subject of intellectual property has been a subject of debate among contemporary commentators with two distinct views—one view noting that Islamic law opposes intellectual property because they cannot be implied and presents inconsistencies, and the other view arguing support for intellectual property based on recognizing trade and commerce).

132. Malkawi, *Structure and Practice*, *supra* note 1, at 648 (mentioning that there still remains a debate among Muslim scholars on whether intellectual property can be interpreted as part of property).

protect intangible property through modern, equivalent norms and concepts.¹³³

Fiqh considers property as held in sacred trust where rights are ordered in absolute terms within a vertical relationship where property is considered God's bounty that holds humans accountable for its use.¹³⁴ The basic difference between Western systems' property laws, which are secular in character, and Islamic law involves divine revelation.¹³⁵ Owing to its heavenly origin and great weight to primacy of law, property in Islamic law has sanctity and a special character.¹³⁶ There are numerous references in the Quran that provide for and respect property rights.¹³⁷ As such, does the Islamic law concept of property recognize intangible property, and can the principle of property in Islamic law be construed to include intellectual property broadly, and patents narrowly?

Modern Muslim jurists and scholars have logically analyzed the permissibility of intellectual property in Islam using property law as a starting point.¹³⁸ There is no other clear-cut starting point because major sources of law in Islam are silent as to protecting intellectual property.¹³⁹ Given that there is not an explicit mention of intellectual property in sources of law in Islam, a natural inquiry that arises is whether intellectual property can be implicitly derived and justified

133. Malkawi, *Sharia Perspective*, *supra* note 1, at 88 (explaining that intellectual property in Islamic law can be rationalized through modern-day norms and concepts); Anjum, *supra* note 5, at 1, 18 (specifying that intellectual property rights are protected by norms and ideas in today's laws and rights).

134. See SAIT & LIM, *supra* note 117, at 9–10.

135. See generally Maszlee Malik, A Special Case Study on Religion & Property Rights: Property Rights from an Islamic Perspective (Sept. 2016) (unpublished manuscript), https://www.researchgate.net/publication/307608079_A_Special_Case_Study_on_Religion_Property_Rights_Property_Rights_from_an_Islamic_Perspective [https://perma.cc/ZS8X-9GKU] (distinguishing the Islamic view of property from those of Western systems based on Islamic epistemological sources related to private property within *Shariah*); MAKDISI, *supra* note 77.

136. Hayatullah Laluddin et al., *Property and Ownership Rights from an Islamic Perspective*, 6 ADVANCES NAT. & APPLIED SCIS. 1125, 1125–26 (2012) (describing that Islamic law, which is based on a divinely ordained system, recognizes property as with a high degree of freedom and entails a special relationship between humans as trustees of the divine).

137. See SAIT & LIM, *supra* note 117, at 10 (citing *Quran* 2:205, 2:220, 4:2, 4:5–6, 4:10, 4:29, 16:71, 38:24, 59:8).

138. Malkawi, *Sharia Perspective*, *supra* note 1, at 93. By contrast, Western scholarship has triggered much controversy and debate in assuming “property” as an appropriate analogy for intellectual property.

139. See Malkawi, *Sharia Perspective*, *supra* note 1, at 91.

to be permissible. The notion of intellectual property may not be left out of the sources of law in Islam, but instead, the loci of its justifications can be identified to reason its permissibility. Because property is extensively mentioned in the Quran and the Sunnah, it is a natural starting point for analysis of intellectual property.¹⁴⁰

Characteristics of property that are reasonably analogous to intellectual property provide motivation for a starting point of analysis.¹⁴¹ Whereas Western scholarship has triggered much controversy and debate in assuming “property” as an appropriate analogy for intellectual property,¹⁴² Muslim jurists and scholars have recognized that discussion of intangible property can be initiated by a deliberation of the concept of property.¹⁴³ Intellectual property principles concerning obligations, ownership, possession, rights, transfers, types, and value may parallel the nature and system of rights associated with property in Islam.¹⁴⁴ In this regard, the Islamic view that a property system and private ownership principles are supported by *Shariah* can similarly be applied to determine whether intellectual property is supported under *Shariah*.¹⁴⁵ In sum, Muslim jurists and scholars have recognized that intangible property can be

140. SAIT & LIM, *supra* note 117, at 10 (citing *Quran* 2:205, 2:220, 4:2, 4:5–6, 4:10, 4:29, 16:71, 38:24, 59:8).

141. An example of similar characteristics of property and intellectual property is the Islamic view that a property system and private ownership principles cannot be asserted as valid unless proved by *Shariah*, which similarly may be applied to determine whether intellectual property principles qualify under *Shariah*. See Qaiser Iqbal, *Intellectual Property Rights and Islam* 46–48 (Jan. 1, 2004) (Ph.D. dissertation, International Islamic University, Islamabad) (on file with the Georgia State University Law Review) (suggesting that under an Islamic system, realms of ownership, disposal and distribution, possession, utilization, and other property concepts provide motivation for intellectual property based on needs, instincts, and economic principles).

142. See Deepa Varadarajan, *Of Fences and Definite Patent Boundaries*, 18 VAND. J. ENT. & TECH. L. 563, 574–575 (2015) (describing scholars who critique “property-talk” in intellectual property as being “property skeptics” and “property romantics”).

143. Bouheraoua et al., *supra* note 4, at 290; Khan et al., *supra* note 5, at 160.

144. Samia Maqbool Niazi, *Superficial Approach of Muslim Scholars to Intellectual Property Rights*, 13 PAKISTAN J. ISLAMIC RSCH. 51, 54–55 (2014) (describing the Islamic view of obligations, ownership, possession, rights, transfers, types, and value associated with property in Islam).

145. Iqbal, *supra* note 141, at 50–51 (specifying that under a Muslim system, the right to own a thing does not arise from the thing itself or from the fact that it is beneficial but instead by divine permission and rules).

construed through Islamic principles relating to the concept of property.¹⁴⁶

Another reason for considering property references in Islamic law toward the assessment of intellectual property is that, similar to conceptions of property theory and its impact on society, they provide a way of interpreting social relations in a society.¹⁴⁷ This perspective seeks to use explicit references to property in Islamic law to consider changing times and conditions in society to construe and rationalize a notion of intellectual property through *fiqh*.

The word in Islamic legal thought that signifies whatever humans may acquire and possess, and typically associated with property, is *mal*.¹⁴⁸ Though passages in the Quran describe property,¹⁴⁹ there are differing juristic interpretations on the literal meaning and breadth of the word *mal*.¹⁵⁰ The term *mal* and its derivatives have mentions in the Quran and the Sunnah in many places, but the term was used to denote different technical meanings according to jurists, whose definitions have varied and encompassed different aspects of what

146. Bouheraoua et al., *supra* note 4, at 290; Khan et al., *supra* note 5, at 160.

147. See Joseph William Singer, *Property and Social Relations: From Title to Entitlement*, in *PROPERTY ON THE THRESHOLD OF THE 21ST CENTURY* 69, 78–80 (G.E. Van Maanen & A.J. Van der Walt eds., 1995) (proposing a social relations model for property where entitlements shape the contours of social relationships, while suggesting that property rights are contextual and embody changing conditions and values).

148. See Islam, *supra* note 130 (“*Mal* . . . signifies whatever in effect a man may acquire and possess On the other hand, whatever a man cannot possess, cannot linguistically be regarded as *mal*.”); Samia Maqbool Niazi, *The Nature of Property, Its Valuation and Intellectual Property Rights in Islamic Law*, 4 J. ISLAMIC STUD. & CULTURE 69, 70 (2016) (describing that *mal* is anything that can be stored for the time of need and for which commercial and financial value is established by human beings); Malkawi, *Structure and Practice*, *supra* note 1, at 624 (extending real property to include intellectual property and translating *mal* to be money).

149. *Quran* 2:188 (“And do not eat up your property among yourselves for vanities, nor use it as bait for the judges, with intent that ye may eat up wrongfully and knowingly a little of (other) people’s property.”); *id.* at 4:21 (“Eat not up your property among yourselves in vanities: But let there be amongst you traffic and trade by mutual goodwill.”).

150. See Niazi, *supra* note 148, at 69 (suggesting that *mal* is applied to mean “‘all those things that a human being can own’ . . . ‘*mal* is anything towards which the nature of man is inclined, and that can be stored for the time of need’ . . . ‘something that can be the subject-matter of ownership and over which the owner has absolute control to the exclusion of others’ . . . something ‘to which human desire extends, and it is suitable in practice and in law to be utilised’ . . . anything . . . that is utilised, that is, it is in a form that is ready for utilisation” (cleaned up) (internal quotations omitted)); Bouheraoua et al., *supra* note 4, at 291 (defining *mal* as anything owned); Muhammad et al., *supra* note 20, at 90.

could be considered property.¹⁵¹ Although Islamic jurists, scholars, and theologians have made distinctions between what Westerners may consider various aspects of “property,”¹⁵² *mal* has a centrality in Islamic law that concerns rights and obligations of subject matter of ownership and civil transactions involving sale and purchase in society.¹⁵³

Despite differing interpretations, *Shariah* requires that all property belongs to Allah (s.w.t.),¹⁵⁴ the ultimate owner,¹⁵⁵ but the private owner is allowed to serve as a trustee for Allah (s.w.t.).¹⁵⁶ Muslims believe that Allah (s.w.t.) is the Creator-Owner of all that is in the Heavens and on earth, but humankind is given the power and authority to exploit and use provided resources.¹⁵⁷ In other words, property ownership in an Islamic legal concept is simply the right to use property—unless prevented by Islamic impediment.¹⁵⁸ Thus, drawing upon a core principle in *fiqh* that whatever is not prohibited is allowed, humankind has a right to use property unless there is a specific prohibition. *Shariah* indicates humankind’s trusteeship

151. Islam, *supra* note 130, at 361–68 (specifying that the technical meaning of *mal* varies based on interpretations of jurists from different Islamic schools).

152. Islamic law makes distinctions between the underlying substrate of what Westerners may call “property” versus the conventions for mandating control over “property,” as well as distinctions between real property and personal property. The distinction between the substrate and control of property is seen in Arabic terms that have differing meanings. Terms that connote the substrate aspect of property include terms such as *ard*, *sawafi*, *mawat*, and *mal*. Terms that connote the control aspect of property include terms such as *sawafi*, *haq*, *raqaba*, and *mulk* or *milk*. There are also further distinctions among the control aspect of property, including more significant control, such as full control with *raqaba*, *milk*, or *tamm*, or limited control, such as *manaf’a* or *milk al-manafa’a*. In sum, Islamic law has distinctions among the substrate and the juridical means of controlling the substrate.

153. Islam, *supra* note 130 (associating *mal* with “property” in describing people’s wealth and the subject matter that is capable of ownership and the subject matter of transactions, such as a sale, a purchase, rent and lease, partnership, bequest, gift, and succession, among others).

154. Malkawi, *Structure and Practice*, *supra* note 1, at 623. When writing the name of God (Allah), Muslims often follow it with the abbreviation “s.w.t.,” which stands for the Arabic words “subhanahu wa ta’ala” (or “May He be Praised and Exalted”). Muslims use these words to glorify God, and it serves as a sign of respect for God.

155. *Quran* 3:129 (“To Allah belongs what is in the heavens and what is in the earth.”).

156. *Id.* at 57:7 (“Believe in Allah and His Messenger, and spend of that whereof He hath made you trustees . . .”).

157. See Siti Mariam Malinumbay S. Salasal, *The Concept of Land Ownership: Islamic Perspective*, 2 BULETIN GEOINFORMASI 285, 285–87 (1998).

158. See Laluddin et al., *supra* note 136, at 1126.

relationship with Allah (s.w.t.) for property, which is given to humankind for their common use and for society's welfare.¹⁵⁹ However, human beings only have the right to access and possess property through implementing divine law and will.¹⁶⁰ Thus, though humans have the individual right to possess, Islam regards humans as trustees of Allah (s.w.t.) in a sacred trust for private property.¹⁶¹ As a result, humans are not owners of property in the absolute sense in an Islamic view but can possess property for their temporary lives on earth. Nonetheless, an Islamic state can create and recognize private property rights, where humans can be owners of property (from the Islamic state's perspective) during their temporary lives on earth.

Islam recognizes private ownership rights and provides individuals with a high degree of freedom in dealing with property,¹⁶² but the implication of ownership is that it is limited and subservient to God's law and will.¹⁶³ There are constraints to property ownership that safeguard societal rights and preserve socioeconomic equity.¹⁶⁴ For example, property cannot be used wastefully or exploitatively, like accumulating property based on greed or oppression.¹⁶⁵ If so used,

159. Salasal, *supra* note 157, at 286–87 (providing as support ayat from the Quran reflecting property ownership: “‘All that is in the heavens and on the earth belong to Allah s.w.t.’ . . . ‘To him belongs whatever is in the heavens and on earth.’ . . . ‘His is the Kingdom of the heavens and the earth and all that lies between them.’ . . . ‘It is He who has made the earth manageable for you so traverse you through its tracts and enjoy of the sustenance which he furnishes, but unto Him is the resurrection.’” (first quoting *Quran* 4:126, 134; then quoting *id.* at 16:52; then quoting *id.* at 43:85; and then quoting *id.* at 67:15)).

160. *Id.* at 287–88 (specifying that the Muslim view differs from capitalist systems because Islam considers that property ownership by humans is limited, qualified, and subservient to God's law and will, whereas capitalists view property ownership as vested in individuals alone).

161. SAIT & LIM, *supra* note 117, at 1, 8, 10 (explaining that Islam considers property and land to vest in God but is temporally enjoyed by humans through a trust where humans are allowed to use the property resources but never own it).

162. Islam, *supra* note 130, at 365 (describing attributes and characteristics of *mal* as being naturally desired by humans, capable of being owned and possessed, capable of being stored, beneficial in the eyes of Islamic law, and being a thing that can be assignable and transferrable).

163. Salasal, *supra* note 157, at 288.

164. Laluddin et al., *supra* note 136 (suggesting that the Islamic system combines the best of the socialist and capitalist systems while evading their worst traits by addressing both individual and social ownership rights, and stating that the right to ownership of property is limited and qualified because humans are vicegerents and trustees of Allah (s.w.t.), and that property as a divine gift of Allah (s.w.t.) should not be concentrated in a few and should not generate poverty).

165. SAIT & LIM, *supra* note 117, at 11 (stating that the Islamic property rights are conditional on the

the state has the right to intervene, confiscate, and return illegally acquired properties; to limit or eliminate legally acquired private ownership rights; and to confiscate legally acquired private property with just compensation under equity and public interest principles.¹⁶⁶ The Islamic state can take possession of public or state-owned land to convert to private ownership,¹⁶⁷ and it can also take possession of privately owned property to meet a public benefit or need and eliminate injustice.¹⁶⁸ One justification for the state's ability to seize property is based on the Islamic principle that unworked land cannot be owned and that unproductive land should not create wealth.¹⁶⁹ Thus, property rights exist in Islamic law but are limited, and to the extent that intellectual property (and specifically patents) are recognized, they should be similarly limited. As such, intellectual property (and specifically patents) has more legitimacy in Islamic law if structured more like property generally. Limitations on private property ownership and state rights with respect to property impact the reach and scope of patents within *Shariah*.¹⁷⁰

To reiterate and summarize, many Muslim jurists and scholars have concluded that Islam recognizes intellectual property as a species of property,¹⁷¹ a determination that begins with the fundamental property principles of Islam. However, the narrow concept of property based on traditional Islamic legal views has been inadequately analyzed by modern scholars and jurists, courts, and the IFA-OIC in determining what constitutes intellectual property.¹⁷² Moreover, no study or court ruling has attempted to distinguish

requirement that property not be used wastefully or exploitatively, or in a way that will deprive others of their justly acquired property).

166. Laluddin et al., *supra* note 136, at 1127 (noting further that the state can also confiscate legally acquired property).

167. Salasal, *supra* note 157, at 301.

168. See Laluddin et al., *supra* note 136, at 1127–28.

169. See Salasal, *supra* note 157, at 301.

170. See *infra* Section III.B.

171. See, e.g., Malkawi, *Structure and Practice*, *supra* note 1, at 642.

172. Niazi, *supra* note 148, at 70, 72 (suggesting that initial scholarship on justifying intellectual property in Islam has been inadequate and superficial, such that there is an opportunity and a moral duty of Muslims to assess intellectual property through *ijtihad*, or interpretation of the Quran and the Sunnah to derive new rules for dealing with this legal problem); *Resolution No. 43 (5/5)*, *supra* note 6.

among the different intellectual property rights, particularly patent law, in detail. To arrive at the construct of a normative framework for patents in Islamic law, the starting point is a closer inspection of Islamic juristic interpretation of property, which is based on different sources of law in Islam and on the interpretation of intellectual property as a permissible type of property.¹⁷³ In some ways, this exploration demonstrates that, similar to Western contexts, there are many layers to property in Islamic law,¹⁷⁴ and there are also metaphorical principles embodying each parallel structure.¹⁷⁵

In sum, this Subsection outlines whether property in Islamic law encompasses intellectual property, defines property under Islamic law, and explores how *fiqh* can be utilized to elucidate the explicit definition of property to cover intellectual property. The ensuing analysis of perspectives of intellectual property in Islamic law embodies a historical analysis that reflects changes in Islamic interpretations of the scope of property rights, which can be interpreted to include intellectual property in general and patents as a more specific case.¹⁷⁶

C. Reconceptualizing Intellectual Property in Islamic Law: Origins, Motivations, and Innovation Initiatives

The theoretical debate on the permissibility of intangible property requires a theological and historical examination of property concepts within Islamic law, including property exceptionalism. This Article highlights the evolution of “property exceptionalism,” which stands for the proposition that property law in Islamic law should exclude intangible property or treat intellectual property differently than other forms of property. This viewpoint in Islamic law arises in part from

173. See *infra* Section I.C.

174. See generally Sean M. O’Connor, *Distinguishing Different Kinds of Property in Patents and Copyrights*, 27 GEO. MASON L. REV. 205 (2019) (arguing that there are different kinds of natural and regulatory property in intellectual property, including de jure or de facto rights, ad hoc exclusive grants, and formalized grants).

175. See Brian L. Frye, *IP As Metaphor*, 18 CHAP. L. REV. 735, 736 (2015) (explaining that metaphors in a parallel structure in intellectual property exist in another context).

176. See *infra* Sections I.C, I.D.

the perceived normative distinction from Western, utilitarian reasoning and jurisprudential distinctions among different doctrinal schools within Islam.

1. Prevailing Accounts of Intellectual Property in Islamic Law

Prevailing theories of intellectual property in Islamic law exhibit significant tension concerning the social relations in an Islamic society.¹⁷⁷ On the one hand, a wide Islamic literature argues that intellectual property is not directly addressed in the positivist and normative sources of Islamic doctrine, nor justified under Islamic textual sources.¹⁷⁸ One extreme view within Islamic legal scholarship contends that intellectual property is unaligned with Islamic teachings and is a concept that has been imposed by Western countries to dominate and control Muslim countries.¹⁷⁹ The opposite view, which is held by contemporary Muslim jurists and a growing number of Islamic law scholars, is that intangibles are a proper object of property rights.¹⁸⁰ This debate hinges on whether intangibles are considered property in Islamic sources of law.

This Subsection adds granularity to this debate in several dimensions. First, it distinguishes between historical contexts and the evolution of property exceptionalism, which most likely tips the debate toward permitting intangible property in the modern context.¹⁸¹ Second, this Article reveals that using economics-based reasoning within Islamic guidelines supports the view that property

177. Anjum, *supra* note 5, at 7–8, 12 (stating that the subject of intellectual property has been a subject of debate among contemporary commentators with two distinct views—one view noting that Islamic law opposes intellectual property because it cannot be implied and also presents inconsistencies, and another view arguing support for intellectual property based on recognizing trade and commerce).

178. See, e.g., Elmahjub, *supra* note 129, at 50–51.

179. See Cullen, *supra* note 47, at 59 (suggesting that intellectual property has not been well received in Muslim-majority countries that consider intellectual property rights as a means of Western oppression).

180. Malkawi, *Sharia Perspective*, *supra* note 1, at 88, 94, 105–06; Malkawi, *Structure and Practice*, *supra* note 1; see also Khan et al., *supra* note 5, at 154; Jamar, *supra* note 3; Niazi, *supra* note 2; Anjum, *supra* note 5, at 12.

181. See *infra* Section I.C.3.

in Islamic law includes intangible property.¹⁸² To explore these dynamics, this Article identifies, examines, and criticizes what it dubs property exceptionalism as a mechanism to recognize intellectual property as a form of property consistent with Islamic law.¹⁸³

2. *Property Exceptionalism*

Islamic law's interactions with intellectual property have largely been characterized by mutual exclusion. After Prophet Muhammad's (pbuh)¹⁸⁴ death in 632 CE, Muslim jurists and Islamic law scholars faced situations that required responses from Islamic texts—but textual sources were silent. Immediate successors of the Prophet (pbuh) initiated a process of legal reasoning (*ijtihad*)¹⁸⁵ to provide textually inspired solutions for issues where textual sources were silent.¹⁸⁶ In this era of postscriptural normativity, where no textual authority addressed a situation, secondary sources of law were used to extend textual authorities to new cases, and *usul al-fiqh* (principle of Islamic jurisprudence, or *fiqh* as stated throughout this Article) flourished by developing significant guiding principles.¹⁸⁷

When Muslim jurists and Islamic law scholars first encountered intellectual property, they viewed intellectual property as falling outside of the scope of permissible property because it was intangible, affording intellectual property a rather objectionable status outside property law and thus reflecting property

182. *See infra* Section I.C.3.

183. *See infra* Sections I.C.2, I.C.3.

184. Elmahjub, *supra* note 129, at 21. When writing the name of the Prophet Muhammad, Muslims follow it with the abbreviation “pbuh,” meaning “Peace Be Upon Him,” to show respect when mentioning his name.

185. *Id.* at 22–23.

186. *Id.* at 89. By analogy to Western concepts, the legal reasoning in the Islamic context parallels statutory construction where the original document does not anticipate later conditions to analyze what may have been the original intention. *See id.*

187. KAMALI, *supra* note 8, at 41, 49, 56–59 (describing a gradual approach to legislation and reform that occurred in situations where new circumstances were encountered, for which no explicit textual reference was mentioned and thus required deduction of rules based on rational reasoning, and from which different schools of Islamic jurisprudence arose).

exceptionalism.¹⁸⁸ In discussing Islamic norms and policy, many Muslim jurists and Islamic law scholars sought to distance intellectual property from Islamic property law based on doctrinal and theological grounds.¹⁸⁹ In several ways, these Muslim jurists and Islamic law scholars created doctrinal hedges that tended to separate intellectual property from property law because of monopolization prohibitions from Islamic sources of law.¹⁹⁰ Arguments against intellectual property centered on the legal right being excluded and having an intangible nature as being against Islamic law.¹⁹¹ In some contexts, views on Islamic property doctrine further engaged in property exceptionalism by introducing distinct principles of *madhabs* (Islamic schools of Jurisprudence) to the debate.¹⁹²

Such doctrinal separation and exceptionalism arose from multiple factors, including a prudential desire to strictly apply explicit references to primary sources of Islamic law, a resistance to adopting Western ideologies into Islamic societies, a lack of understanding of intellectual property principles that seemed foreign, and a conflation of the types of intellectual property rights.¹⁹³ Notably, these views arose in part from the perceived inconsistencies of exclusivity with

188. Anjum, *supra* note 5, at 5 (specifying that early Islamic culture did not have legally protected intellectual property rights); Jamar, *supra* note 3, at 1085 (mentioning the separability of intellectual property from property); Elmahjub, *supra* note 129, at 59 (specifying that early Islamic civilization did not support intellectual property as we know today).

189. Milani, *supra* note 2; Elmahjub, *supra* note 129, at 58–59 (stating that historical institutions did not provide comprehensive intellectual property protection).

190. Anjum, *supra* note 5, at 8 (noting early objections to inconsistencies between various injunctions within the Quran and the Sunnah and the notions of intellectual property).

191. Iqbal, *supra* note 141, at 75.

192. See Niazi, *supra* note 144, at 51–52; Emad Hamdeh, *What Is a Madhab? Exploring the Role of Islamic Schools of Law*, YAQEEN INST. FOR ISLAMIC RSCH. (Dec. 31, 2020), <https://yaqeeninstitute.org/emadhamdeh/what-is-a-madhab-exploring-the-role-of-islamic-schools-of-law?fbclid=IwAR1jmdIecpQUMb5W-4laEaWf1cOMgi0FTGQT4c31sdLUJ5riWrYA2gxIqVw> [<http://perma.cc/ZR76-NPZB>] (stating that a *madhab* is a school of law and linguistically means “a way” or “a method of interpreting scripture that binds a group or school of scholars together,” and explaining further that a *madhab* is a continuation of scholarly discourse over many centuries, which in turn formed a scholarly tradition).

193. See Hamdeh, *supra* note 192. In sum, when Muslim jurists and Islamic law scholars first encountered intellectual property, they initially did not recognize intellectual property because it was not expressly recognized by Islamic law, and specifically, property law (within Islamic law) could not be extended because intellectual property did not support norms or promote societal policies. *Id.*

fundamental Islamic law principles.¹⁹⁴ The rights and obligations of property in Islamic law helped inform a rhetorical vision of intellectual property that helped justify—or at least rationalize—concerns that intellectual property is incommensurate with the intrinsic values of *mal* in Islamic law.

The doctrinal separation of intellectual property from property—or property exceptionalism—is best illustrated from a case of first impression.¹⁹⁵ The Federal Shariat Court of Pakistan in 1983 addressed the issue concerning whether intellectual property is property that is assignable and transferable, by stating:

The Court then turns to the meaning of property in Islamic law. . . . [T]he Court observes that property or *māl* in Islamic law is “a thing which one desires and which can be stored to meet future requirements.” The Court then notes the crucial point that property is something that is assigned a value by the people. “The criteria for determining whether a thing is property is that it be treated by mankind as property (*māl*) and a thing of value.”¹⁹⁶

Muslim jurists and Islamic law scholars further corroborated the segregation of intellectual property from property in Islamic law by suggesting that there are inconsistencies of intellectual property (pertaining to the intangible property) within primary sources of Islamic law (the Quran and the Sunnah).¹⁹⁷ The doctrine of prohibition of concealment of knowledge drove a wedge between

194. Milani, *supra* note 2, at 39–41 (specifying objections based on intellectual property rights based on concealment of knowledge, indefiniteness, and profit without labor and effort).

195. This case of first impression provides a specific engagement with the conceptual principles concerning whether intellectual property is property in Islamic sources of law. The quoted language from the court is meant to shed some voice on this topic. A future study could entail a deeper analysis into the classical *fiqh* on the topic and find subsequent instances of other courts' engagement with such conceptual topics.

196. Niazi, *supra* note 2, at 67 (quoting *In re Trade Marks Act (V of 1940) and 22 Other Acts*, (1983) 35 PLD (FSC) 125 (Pak.)).

197. Milani, *supra* note 2, at 39–40 (stating objections to intellectual property based on the Quran and the Sunnah).

property law and intellectual property in the Islamic law discourse. This sentiment is reflected in broad readings of the Quran, likening concealment of knowledge to negatively affecting the heritage of society and resulting in repercussions on the Day of Resurrection.¹⁹⁸ Furthermore, Muslim jurists and Islamic law scholars erected boundaries between property and intellectual property not only in doctrines governing dissemination of knowledge but also from the view that intellectual property could allow for obtaining market leverage incommensurate with the intrinsic value of labor.¹⁹⁹

The clearest example of this exceptionalism is a passage from the Quran that prohibits profit without effort and labor, and suggests that extraordinary profits cannot be attained with minimal effort: “Woe to every slanderer, defamer, who amasses wealth and counts it repeatedly; He thinks that this wealth will make him immortal.”²⁰⁰ This example is meant to demonstrate some scholars’ connection between the prohibition of hoarding and the prohibition of profit without effort in the sense that the exclusive right of intellectual property can result in hoarding with the effect of creating wealth without much effort.²⁰¹ The result can have a profound effect on social justice, including limiting access to life-saving technologies and lack of distribution of wealth.²⁰²

Finally, though it has not overly restricted the development of commercial Islamic law, the concept of indefiniteness or speculative risk (*gharar*), which commands the full knowledge of the characteristics and value of subject matter that is being contracted,

198. *Quran* 2:42, :140, :174.

199. Milani, *supra* note 2, at 41 (specifying Islamic law’s prohibition against extraordinary profits with minimal effort, and Islamic law’s requirement that commercial gains should be in proportion of efforts); *Quran* 3:194.

200. *Quran* 104:1–3.

201. I provide counterarguments to this perspective *infra* Sections II.B.2, II.C. In Section II.B.2, I explain that patents as one form of intellectual property promote incentives, knowledge, and teaching. In Section II.C, I describe the various commercial justifications of patents, and in so doing, I point out benefits and justifications for public interest, regulation, and commercial assuredness.

202. Peter S. Menell, *Mapping Intellectual Property/Social Justice Frontier*, in HANDBOOK OF INTELLECTUAL PROPERTY AND SOCIAL JUSTICE: ACCESS, INCLUSION, EMPOWERMENT (Steven D. Jamar & Lateef Mtima eds., forthcoming 2021) (manuscript at 3) (on file with the Georgia State University Law Review).

has been invoked to suggest that intellectual property is impermissible because the value of its subject matter does not exist at the time of its creation and entails uncertainty, speculation, and lack of a clear cut notion of value for licensing or contracting.²⁰³ The traditional exclusion of intellectual property from property in Islamic law arises from evoking principles consistent with passages from the Quran concerning indefiniteness such as: “It is forbidden to sell the fruit on the trees before it is ripe, because the buyer does not know if all the fruit will ripen or what its weight will be.”²⁰⁴ In sum, the rationale for property exceptionalism is at odds with the prevailing interpretation of Islamic commercial practices that has particular traction in the context of *fiqh*.

As shall be shown, this segregation of intellectual property from property on noncommercial norms could not last, and a very different perspective took its place as new considerations entered the discourse on property exceptionalism.

3. *Evolution of Permissible Intangible Property*

Islamic law’s aspirations for consistent adoption and coherent assimilation of intellectual property have limited but growing roots. Several forces led some Islamic scholars and jurists to recognize intellectual property—including permissible commercial reasons, labor theory, and characteristics of usufructs.

An important foundation of incorporation of intellectual property in Islamic law is the movement of recognizing intangible property among Islamic scholars and jurists. Such recognition is often associated with stronger arguments that support the validity of intellectual property, as well as associated rights within Islamic law. There are many dimensions toward the incorporation of intellectual property within Islamic law, but most relevant for the present purposes has been the belief that intangible property with commercial

203. Milani, *supra* note 2, at 40–41 (quoting *Quran* 5:90).

204. *Quran* 5:90.

value should be considered *mal*.²⁰⁵ Incorporation was part of an expansive conception of property law, where a court held that “[t]he criteria for determining whether a thing is property is that it be treated by mankind as property (*māl*) and a thing of value.”²⁰⁶ This spirit of incorporation of intellectual property has lent itself to logical and doctrinal consistency in Islamic law based on the principle that the benefit derived from—and not the corporeality of—an object that could yield commercial value was within the meaning of property within Islamic law.²⁰⁷ The group of scholars, who contend that concepts within Islamic law provide for the basis of intellectual property, suggest that commercial value of intellectual property, which can be used in trade, provides a justification.²⁰⁸

Although skeptics of the permissibility of intellectual property in Islamic law have argued that the commercial benefit of intellectual property is disproportionate to the intrinsic value of labor, this group of scholars has also contended that fair exercise of private control of intangible wealth can justify intellectual property in Islamic law.²⁰⁹ Writing in *An Islamic Vision of Intellectual Property*, Professor Ezeddin Elmahjub, who has expressed concern for the effect of intellectual property on social justice, argues that intellectual property can be accepted for the purpose of governing knowledge, for the advancement of a well-ordered and flourishing society, and for humans being entrusted by God toward autonomy while on earth.²¹⁰ Professor Bashar Malkawi, a chief proponent of the justification of intellectual property in Islamic law, reasoned that intellectual property can be inferred by not being prohibited and can be recognized as a species of property by the labor theory of

205. Niazi, *supra* note 2, at 63.

206. *Id.* at 67 (quoting *In re Trade Marks Act (V of 1940) and 22 Other Acts, (1983) 35 PLD (FSC) 125 (Pak.)*).

207. *Id.* at 62–75.

208. Milani, *supra* note 2, at 42 (providing the argument that “intellectual property can also be justified on the basis of trade and making profits” and that “[m]aking profits appl[ies] to all sorts of trade and appl[ies] to intellectual property as well”); Malkawi, *Sharia Perspective, supra* note 1, at 95.

209. ELMAHJUB, *ISLAMIC VISION, supra* note 4, at 45, 136–37.

210. *Id.* at 133.

appropriation.²¹¹ Professor Malkawi and other scholars have argued, in part, that analogizing to background principles that impliedly allow anything not explicitly prohibited allows for recognizing intellectual property as permissible property in Islamic law. Though less obvious, the incorporation of intellectual property in Islamic law is evident in the Hanafi *madhab* (school of jurisprudence) as well. The Hanafi *madhab* has prioritized a physical possession requirement for property and emphasized that only tangibles “that can be experienced by one of the five senses” qualify as property.²¹² Particularly relevant to this Article, the majority view in the Hanafi *madhab* concerning property is beginning to change from *mal*, which has physical features, can be kept for a long period, and can bring benefit to that which includes the corporeal and the usufruct.²¹³

The acceptance of usufructs as recognized property among a majority of jurists provides justification for intangible property and leads to the positive, normative framework for patents in Islamic law.²¹⁴ Themes of abstract rights in property were generally not present during the classical era of Islamic jurisprudence, which focused on the corporeal right. Traditional Hanafis did not consider benefits arising from the chattel, such as the usufruct, to have value independent of the corpus of the property.²¹⁵ Modern Islamic law scholars and jurists have emphasized the value and derived benefit, the treatment by mankind based on usage and custom, and the capability to meet future requirements as new and expansive views of property.²¹⁶ Contemporary scholars, the majority of present day jurists (of the Hanbali, Maliki, and Shafi’i *madhabs*), some of the present day Hanafi jurists, and internationally recognized *Shariah* advisory institutions, such as the IFA-OIC and the Auditing and Accounting Organization for Islamic Financial Institutions

211. Malkawi, *Sharia Perspective*, *supra* note 1, 93–94.

212. Anjum, *supra* note 5, at 12.

213. Bouheraoua et al., *supra* note 4.

214. *See infra* Section II.A.1.

215. Niazi, *supra* note 144, at 54.

216. *Id.* at 61–62.

(AAOIFI), have adopted the view that intangible assets are property based on being a source of wealth, being inherently beneficial from a *Shariah* viewpoint, being compensable, and thus having value.²¹⁷

The modern view of property in Islamic law tends to emphasize the usufructs of corporeal property and intellectual property—this perspective focuses on the uses, consequences, and benefits of knowledge.²¹⁸ The discussion of the usufructary paradigm in modern Islamic law scholarship challenges the traditional notion of property in classical Islamic law scholarship, which focused on the object of the property.²¹⁹ This modern view accepts the proprietary value of the property right and also accepts the negotiation and transfer of that right.²²⁰ Although the modern drive toward usufructs is an important foundation of assimilation of intellectual property in Islamic law, there are some conceptual errors in this movement of recognizing intangible property through usufructs that are clarified in this Article's positive, normative framework for patents in Islamic law.²²¹ To explore this tension, it is helpful to first examine the context of usufructs as justifications of intellectual property in Islamic law and interventions relevant to patent law. This topic is discussed *infra* Section II.A.1, following a descriptive account of patents entering the strategic, economic development priorities of Muslim-majority countries as a motivation for the need for theoretical exploration.

217. Bouheraoua et al., *supra* note 4, at 292–93 (stating that “Resolution no. 43 (5/5) of IFA-OIC and Article no 3/3/3/1 of AAOIFI Shari’ah Standards no. 42, respectively, [have resolved] that intangible assets are property [that have] monetary value that entitles it to legal protection and hence any violations [are] punishable”); *Resolution No. 43 (5/5)*, *supra* note 6.

218. Milani, *supra* note 2, at 43–44.

219. *Id.* at 43; Anjum, *supra* note 5, at 16 (suggesting that the usufruct is the purpose of the property, unlike the object of the property, and that the usufruct allows for beneficial consequences of the object of the property).

220. Ali, *supra* note 119, at 52.

221. *See infra* Section II.A.1.

D. Embracing Patents with Economic Development: Doctrinal Internalization, Demise of Property Exceptionalism, and Evolving Norms

As patent laws continue to develop along Western lines in Muslim-majority countries (particularly in the Arabian Peninsula in the Middle East region), a question arises whether application of the Western-derived patent laws conflicts with the principles of Islam.²²² This Article asserts that deference to Western-based theoretical foundations raises inconsistencies with legal tenants and doctrines of Islam that require exploration and clarity. Preservation of Islamic legal principles in the commercial context are giving way as patents gain greater importance in Muslim-majority countries, and evaluation and alignment with Islamic law is necessary to ensure that their patent laws fit within theologically and theoretically sound Islamic principles.

Whereas segregation from property marked the traditional relationship between Islamic law views of intangibles and patents, many Muslim-majority countries have now adopted patent laws. This Section briefly surveys the internalization of patents within select Muslim-majority countries, a phenomenon that has occurred through international treaties and assimilation into national patent laws. This Section then briefly summarizes the less appreciated ways that patents have been internalized within Muslim-majority countries' statutes. Islamic law increasingly views patent laws as fully integrated into the fabric of Muslim society and part of the narrative of economic development. Ultimately, these normative and institutional shifts have led to the rejection of property exceptionalism in Islamic law doctrine.

Numerous Muslim-majority countries in the Middle East region and in the Southeast Asia region have acknowledged that rejecting property exceptionalism and recognizing the importance of patent

222. PRICE & ALDEBASI, *supra* note 1, at 20 (describing that there were problems regarding intellectual property protection in Arab countries due to religious beliefs and that expansion of intellectual property rights renders their justifications under *Shariah* to be more complicated).

law is key toward economic development. Recently, Muslim-majority countries have embarked on bold innovation initiatives, for which patents have gained interest among universities, ministries, and companies. Though the evidence of how intellectual property rights affect innovation is of academic and policy debate,²²³ Muslim-majority countries have considered patents as conducive to expanding development and influencing economic activity and growth.²²⁴ In recent decades, the legal systems of many Muslim-majority countries have internalized patent law, which gradually eroded property exceptionalism and recognized patent protection.²²⁵

223. Keith E. Maskus, *Intellectual Property Rights and Economic Development*, 32 CASE W. RESRV. J. INT'L L. 471, 471–72 (2000) (suggesting that the question of how intellectual property rights affect economic development is complex and comprises numerous variables, and explaining that although intellectual property rights can raise the costs of imitation and permit monopolistic behaviors, they can encourage new business development and technology creation); B. Zorina Khan, *Innovations in Intellectual Property Systems and Economic Development* 4–5 (Jan. 2002) (unpublished manuscript), <https://economics.yale.edu/sites/default/files/files/Workshops-Seminars/Economic-History/khan-020328.pdf> [<https://perma.cc/Y75L-P9KC>] (describing that significant questions remain unanswered about whether strong intellectual property rights are necessary for economic development, while providing evidence from studies that there exists a positive relationship between strong intellectual property regimes and economic growth); Albert G.Z. Hu & Adam B. Jaffe, *IPR, Innovation, Economic Growth and Development* 1–2, 17 (Oct. 2007) (unpublished manuscript), http://policydialogue.org/files/events/Hu_Jaffe_IPR_Innovation_Econ_Growth_and_Dev_Paper.pdf [<https://perma.cc/PUM2-TGV3>] (explaining the unsettled policy debate between the interaction of intellectual property rights and technology transfer and diffusion, and concluding that empirical evidence of stronger intellectual property rights on encouraging innovation in developing countries is extremely limited). See generally Yee Kyoung Kim et al., *Appropriate Intellectual Property Protection and Economic Growth in Countries at Different Levels of Development*, 41 RSCH. POL'Y 358 (2012) (suggesting that appropriate types of intellectual property rights, rather than strength or weakness of intellectual property rights, is necessary for economic development).

224. ATLAS, *supra* note 71, at 8–9, 34–38, 41 (stating that fifty-seven member states of OIC have overwhelmingly introduced or strengthened intellectual property regimes, including increasing the number of patents filed and granted to strengthen links between research and industry and to contribute to national socioeconomic development, and noting that patent rights are a priority across OIC member states (i.e., Muslim-majority countries), for which the number of granted patents represents about 1.5% of all patents granted worldwide, and that there is greater desire to link advances in science and innovation to patent activity); WORLD INTELL. PROP. ORG. (WIPO), *WORLD INTELLECTUAL PROPERTY INDICATORS 2017*, at 32, 45 fig.A6, 46 fig.A8, 47 fig.A10, 48 fig.A11, 50 fig.A16, 51 fig.A17, 52 fig.A19 (providing trends of patents and patent applications among nations around the world, including many Muslim-majority countries).

225. The premise of this Article concerns the justification of and a framework for patents in Islamic law. Additionally, this Section highlights that patent law is underdeveloped in many Muslim-majority countries and provides narratives of some countries (with a focus on ones in the Middle East region and in the Southeast Asia region). In so doing, it aims to situate the effect of patents within the broader

Muslim-majority countries had few intellectual property protections in the 1970s and 1980s, but the landmark case in the Federal Shariat Court of Pakistan in 1983 recognized the permissibility of intellectual property in Islamic law.²²⁶ That case led to debates among Muslim jurists, and scholars brought new intellectual property considerations to the forefront in many Muslim-majority countries.²²⁷ Among the Arabian Peninsula countries in the Middle East, only Bahrain and Kuwait had any measure of patent protection in the 1970s and 1980s.²²⁸ The establishment of the Gulf Cooperation Council (GCC) in 1981 prompted economic development initiatives from its initial member countries and was followed by the establishment of a regional patent office with the GCC in 1992.²²⁹ Yet, most Muslim-majority Arabian Peninsula countries had either nonexistent or minor patent laws until their accession to the WTO, which prompted a rapid transformation.²³⁰

The creation of the WTO and concomitant requirement of binding TRIPS on all WTO countries prompted the establishment of minimum standards of intellectual property protection.²³¹ The initial

context of innovation and economic development. These narratives serve as examples for illustration, and there are other countries with large Muslim populations where patents have relevance; for the sake of brevity and to remain focused on the theoretical and normative focus, this Article avoids discussion of other large Muslim population countries, such as Algeria, Bangladesh, Egypt, India, Iran, Iraq, Nigeria, Pakistan, Turkey, and more, but recognizes the importance of patents to their economies and societies. Moreover, while the normative analysis and prescriptions of this Article work across most Muslim-majority countries (because Islam serves as the unifying religion), this Article recognizes that there is differential treatment by the underlying Islamic school of jurisprudence and by degree of primacy of *Shariah* among Muslim-majority countries.

226. See discussion *supra* Section I.C.2; Niazi, *supra* note 2, at 67 (citing *In re Trade Marks Act* (V of 1940) and 22 Other Acts, (1983) 35 PLD (FSC) 125 (Pak.)).

227. See discussion *supra* Section I.C.1; PRICE & ALDEBASI, *supra* note 1, at 40 (specifying that there were few intellectual property protections in place during and before the 1970s in Muslim-majority countries, with the exception of some basic trademark laws).

228. PRICE & ALDEBASI, *supra* note 1, at 142.

229. Jan Wrede, *The GCC Patent, PAT. LAW.*, at 50, 50–51, https://dennemeyer.com/fileadmin/user_upload/news/gcc_patent_published_in_the_patent_lawyer_magazine.pdf [<https://perma.cc/8N7D-6M34>].

230. Nadia Shehzad, *Developing Intellectual Property Regimes in the Gulf: Utilising Intellectual Property for Positive Economic Growth*, 2 *WORLD J. SOC. SCIS.* 231, 236–37 (2012).

231. PRICE & ALDEBASI, *supra* note 1, at 75.

reactions of Muslim-majority countries tainted intellectual property due to an association of intellectual property with the negative concepts of the West, notably the United States. Implicit in these initial reactions was the perception of intellectual property as oppressive and embodying a forceful international trade policy response to a decline in American industrial competitiveness.²³² As Muslim-majority countries gradually became more familiar with intellectual property and its potential positive impact on innovation, they began to embrace intellectual property protection with newfound respect and rapid legislative activity.²³³

Muslim-majority countries' ascension to and membership with the WTO required adoption of TRIPS' provisions and obligations concerning patents, which prompted the development of formal patent protection.²³⁴ At the same time, Muslim-majority countries sought to position themselves for industrialization through an increased emphasis on innovation with goals of expanding local economies and creating new infrastructure.²³⁵ Although public acceptance was not strong, legislative action occurred at an exponential rate.²³⁶ The principles enshrined in various Muslim-majority countries had similar themes and varied in their breadth and details, but did not acknowledge the difference in the degree of primacy of Islamic law between countries.²³⁷ Formed as a regional patent office in 1992, the GCC allowed for automatically extending patent protection to all member countries upon filing of a GCC patent application.²³⁸ Thus, although a single patent right

232. See Cullen, *supra* note 47, at 59 (suggesting that intellectual property laws were not well received by Muslim-majority countries, which perceived WTO membership and accession to TRIPS to be caused by threats of import/export restrictions, high tariffs, and a result of colonialism); PRICE & ALDEBASI, *supra* note 1, at 75–76 (suggesting that industrialized countries' industry lobbies promoted TRIPS as a response to declining American competitiveness and a desire by Western corporations to obtain worldwide protection on their innovations).

233. PRICE & ALDEBASI, *supra* note 1, at 83, 93; Cullen, *supra* note 47, at 60.

234. See PRICE & ALDEBASI, *supra* note 1, at 141–42.

235. Cullen, *supra* note 47, at 60.

236. See Shehzad, *supra* note 230, at 237–38.

237. PRICE, *supra* note 1, at 107; see also PRICE & ALDEBASI, *supra* note 1, at 20–21, 142–43.

238. Wrede, *supra* note 229, at 51 (specifying that the GCC carries out a formal examination of a patent application and that the GCC patent provides an opportunity to cover inventions for the entire

applies across several Muslim-majority countries of the Arabian Peninsula, GCC member countries have their own national patent systems, and as such, the GCC patent system is a parallel system that allows for acquiring patent rights with a larger geographical scope.²³⁹ The main benefit of the GCC patent regulations was that it allowed a GCC member country to obtain patent protection across all other member countries with the filing of one single patent application with the GCC Patent Office.²⁴⁰ The GCC patent regulations served as a uniform system that effectively internalized a uniform view of patents across several Muslim-majority countries without considering the doctrinal and normative differences between various schools of jurisprudence within each member country.

Many Muslim-majority countries of the Arabian Peninsula enacted national patent laws, and their patent systems served effectively as registration systems without many patent enforcement provisions.²⁴¹ Numerous Muslim-majority countries enacted domestic patent legislation, most of which internalized Western conceptions of patents. These patent legislation efforts ratified international treaties and GCC regulations, relied on TRIPS obligations, and amended earlier primitive versions of domestic patent laws in many Muslim-majority countries from the late 1990s to late 2010s.²⁴² During this period, Muslim-majority countries effectively rejected property exceptionalism by adopting, amending, and legislating national patent laws.²⁴³ In some cases, this rejection was due to a

region in one filing).

239. Eleonora Rosati, *The Diplomatic Crisis of Qatar and Gulf Cooperation Council's IP*, THE IPKAT (July 6, 2017), <https://ipkitten.blogspot.com/2017/07/the-diplomatic-crisis-of-qatar-and-gulf.html> [https://perma.cc/MLU6-VH6V].

240. PRICE, *supra* note 1, at 143.

241. Greg Reilly, *The Complicated Relationship of Patent Examination and Invalidation*, 69 AM. U. L. REV. 1095, 1109 (2020) (describing a patent registration system for which a patent office issues patents so long as the proper documentation is provided without any *ex ante* examination, and such that significant aspects of patentability determinations are left entirely to *ex post* procedures); *see also* PRICE & ALDEBASI, *supra* note 1, at 142, 144.

242. PRICE & ALDEBASI, *supra* note 1, at 143–46 (describing the legislative activities and associated national patent laws of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates, Jordan, and Yemen).

243. *Id.*; *see also* discussion *supra* Sections I.C.2, I.D.

more commercial-oriented conception of patents. Earlier in the history of intellectual property evaluation in Islamic law, such doctrinal hedges that separated patents from Islamic principles were often predicated on conceptions drawn from Western contexts.

Patents and the related research and development from applied science, engineering, and technology became critical to commercial initiatives of many Muslim-majority countries. The forces that shaped technology transfer and technology entrepreneurship became important subjects of patent law policy in such countries, including in the Middle East region and in the Southeast Asia region. Muslim-majority countries in the Middle East region have embarked on bold economic development initiatives, for which the development of patent law regimes and patent activity is a key facet. For example, the emphasis on patents has been a key driver for economic development and diversification from dependence on the oil and gas sector in Middle Eastern, Muslim-majority countries, such as Oman,²⁴⁴ Qatar,²⁴⁵ and Saudi Arabia.²⁴⁶ These

244. Oman sees innovation as a key driver for economic development and diversification of its economy from its dependence on the oil and gas sector. *See generally* OMAN VISION 2040, MOVING FORWARD WITH CONFIDENCE: VISION DOCUMENT, <https://www.2040.om/Oman2040-En.pdf> [<https://perma.cc/2NPN-H2SY>]. Oman has already experienced a transformation over four decades, from a nation previously dependent on farmers and fishermen, to one now dependent on oil and gas and now embarking on a national Vision 2040 initiative aimed at economic diversification. *See generally id.*; U.N. Conference on Trade and Development, *Science, Technology & Innovation Policy Review: Oman*, U.N. Doc. UNCTAD/DTL/STICT/2014/1 (Nov. 3, 2014) [hereinafter *U.N. Oman Review*] (stating that although oil and gas represents 51.6% of the country's GDP, diversification of the economy requires technology transfer, commercialization of new scientific knowledge and technological inventions, and development of new intellectual property policies that enable cooperation among the private sector and academic research institutions). Some challenges to its ambitious plan include an economic structure dominated by large firms, underdeveloped capacity to manage intellectual property, lack of aspirations for entrepreneurship, fragmented interactions among its innovation ecosystem, and relatively small financial support for innovation. Patents are a critical policy component for Oman's functional national innovation system and development of a knowledge-based economy. *See generally U.N. Oman Review, supra*. Oman is a party to several international intellectual property treaties and conventions, and has national patent laws for which applications can be made to the Department of Intellectual Property at the Ministry of Commerce and Industry. *See generally id.* The national patent laws of Oman require that a patent application be compatible with *Shariah*, as well as be new, contain a novel idea, and be worthy of industrial application. *See generally* Royal Decree No. 65/2008 (Oman) Promulgating the Law of Copyrights and Neighboring Rights (issued 4 May 2008, published 15 May 2008) OG 863. Prior Royal Decree 82/2000 on patents required that the invention must not be incompatible with *Shariah* but did not clarify specific exclusions of patent eligibility that conflict with *Shariah*. *See generally* Royal Decree No. 82/200 (Oman) Promulgating the Patent Law (issued 23 Sept. 2000, published 10 Oct. 2000) OG

680. Recent Royal Decree 67/2008 excluded any reference to *Shariah* but specified exclusions from patent protection that may or may not qualify under *Shariah*.

245. Qatar has launched its National Vision 2030 economic development framework to diversify its economy by stimulating innovation and entrepreneurship. *See generally* GEN. SECRETARIAT FOR DEV. PLAN., QATAR NATIONAL VISION 2030 (2008), <https://www.gco.gov.qa/wp-content/uploads/2016/09/GCO-QNV-English.pdf> [<https://perma.cc/XTP4-X9G9>]. Objectives include accelerating economic diversification, advancing research in science and engineering with world-class infrastructure, and embracing initiatives that promote innovation and entrepreneurship. *See generally id.* Qatar has prioritized a national research and development strategy that is linked to technology transfer. *See generally* QATAR FOUND., QATAR NATIONAL RESEARCH STRATEGY 2014 (2014), <https://www.qnrf.org/Portals/0/Download/QNRS%202014.pdf> [<https://perma.cc/QB27-D6H6>]. As part of this strategy, Qatar has sought to increase its patent activity, which has averaged about fourteen patents per year over a five-year period ending in 2011, to being more aligned with patenting rates of countries focused on climbing in the global innovation index. GEN. SECRETARIAT FOR DEV. PLAN., QATAR NATIONAL DEVELOPMENT STRATEGY 2011–2016, at 99 (2011), https://www.psa.gov.qa/en/nds1/Documents/Downloads/NDS_EN_0.pdf [<https://perma.cc/547E-WUPW>]. *See generally* THE KNOWLEDGE FOR DEV. (K4D) PROGRAM, WORLD BANK INST., PUB. NO. 68744, A KNOWLEDGE ECONOMY ASSESSMENT OF QATAR (2006), <https://openknowledge.worldbank.org/bitstream/handle/10986/8234/687440ESWOP1060ark0Assessment0Qatar.pdf?sequence=1&isAllowed=y> [<https://perma.cc/TA9L-99YF>]. The Qatar Foundation, which was developed to spearhead Qatar's efforts to become a knowledge-based society, has created and manages the Qatar Science and Technology Park. *See generally* MINISTRY OF DEV. PLAN. & STAT., NAT'L DEV. STRATEGY, QATAR'S FOURTH NATIONAL HUMAN DEVELOPMENT REPORT: REALISING QATAR NATIONAL VISION 2030 THE RIGHT TO DEVELOPMENT (2015), https://www.psa.gov.qa/en/knowledge/Doc/HDR/Qatar_Fourth_National_HDR_Realising_QNV2030_The_Right_to_Development_2015_EN.pdf [<https://perma.cc/H6PR-TSUQ>]. Despite Qatar's innovation efforts, its national patent laws, which comprise only ten pages of text, are in need of much development. *See Patents*, SABA BULL., July 2011, at 8. Article 2 of Qatar's Decree Law No. 30 to Issue Patents' Law concerning patent eligibility needs greater elaboration, particularly the phrase, "Besides, it shall not be contradicting with the provisions of Islamic Sharia' (Law), violating the public order, ethics or national security." Decree Law No. (30) for the Year 2006 (Qatar) To Issue Patents' Law (issued 8 June 2006, published 12 Dec. 2006).

246. Saudi Arabia enacted its Vision 2030 initiative to serve as a long-term economic blueprint to curtail the country's dependence on oil and to transition to a knowledge-based economy. *See generally* KINGDOM OF SAUDI ARABIA, VISION 2030 (2017), https://www.vision2030.gov.sa/sites/default/files/report/Saudi_Vision2030_EN_2017.pdf [<https://perma.cc/EKT3-JVTZ>]. To embark on this transition, Saudi Arabia has already heavily invested into patenting activity, both with its companies (such as Saudi Aramco and SABIC) and also with universities (King Fahd University of Petroleum & Minerals (KFUPM) and King Abdullah University of Science & Technology (KAUST)). *See generally* JINAL MEHTA ET AL., ARANCA, SAUDI ARABIA: EMERGENCE OF AN INNOVATION KINGDOM (2014), <https://www.aranca.com/assets/uploads/resources/special-reports/Saudi-Arabia-Emergence-of-an-Innovation-Kingdom-An-Aranca-Special-Report.pdf> [<https://perma.cc/C3SP-XXF6>]. Although Saudi Aramco and KFUPM have become among the leading companies and universities in the world for the number of filed and granted U.S. utility patents, there is a paucity of patent filings among others and throughout Saudi Arabia and regionally with the Gulf Cooperation Council. *See generally Facts and Figures*, KING FAHD UNIV. OF PETROLEUM & MINS., <http://www.kfupm.edu.sa/SitePages/en/PageDetails.aspx?pid=25> [<https://perma.cc/3Z9M-3KF6>]; Aarti Nagraj, *Saudi's SABIC Becomes Largest Patent Developer in the Middle East*, GULF BUS. (June 12, 2014), <https://gulfbusiness.com/saudis-sabic-becomes-largest-patent-developer-middle-east/> [<https://perma.cc/XBH7-8UBQ>]; Benoit Faucon & Summer Said, *Oil Giant Saudi Aramco Wants to*

Muslim-majority countries of Oman, Qatar, and Saudi Arabia have internalized patents as part of their legal systems. Although patenting in such Muslim-majority, Arabian Peninsula countries has continued to increase, the development of patent law regimes has been a recent event in Oman, Qatar, and Saudi Arabia.²⁴⁷ Similarly, many Muslim-majority countries have embraced patents into their doctrines, and property exceptionalism seems to have eroded in Islamic legal systems. Additional Middle East region countries have recognized the importance of patents in varying degrees and initiatives, including Jordan and Kuwait.²⁴⁸ Also, the patent system,

Become a King of Patents, WALL ST. J.: BUS. (Apr. 28, 2018, 7:00 AM), <https://www.wsj.com/articles/saudi-aramco-a-wellspring-of-oil-wants-to-become-a-fount-of-ideas-1535454000> [<https://perma.cc/7B5Y-KFNA>]; *KSA Ranks 23rd in Number of Patents Granted by the US Patent and Trademark Office*, ARAB NEWS (Apr. 17, 2018, 3:04 AM), <https://www.arabnews.com/node/1286031/saudi-arabia> [<https://perma.cc/R5H6-ZF9Z>]. The first law governing all forms of intellectual property was passed in 1989, following Saudi Arabia's ascension to the WTO. Alabdulkarim, *supra* note 10, at 37. Patents in Saudi Arabia are governed by Royal Decree No. M/38, and its Article 9 specifies that a patent "shall not be granted if its commercial exploitation violates the *Shari'ah*." Royal Decree No. M/38 (Saudi Arabia) 10/06/1409H (January 18, 1989), modified 19/07/1425H (September 4, 2004).

247. See *supra* notes 244–246.

248. For a discussion of patent-related initiatives adopted by Jordan, see generally Bashar H. Malkawi, *The Jordanian Intellectual Property Regime: Triangle of Copyright, Trademark, and Patent*, 7 MACQUARIE J. BUS. L. 237 (2010); Bashar H. Malkawi, *Enacting Patent Legislation in Jordan and Its Impact on Innovation*, in FIRST IP & INNOVATION RESEARCHERS OF ASIA CONFERENCE 38 (2019); MINISTRY OF PLANNING & INT'L COOPERATION, PROJECT BUDGETING AND FINANCING SUBMISSION BY THE NATIONAL CENTER FOR INNOVATION, HIGHER COUNCIL FOR SCIENCE AND TECHNOLOGY WITH THE MIDDLE EAST AND NORTH AFRICA TRANSITION FUND FOR THE JORDAN NATIONAL CENTER FOR INNOVATION (Apr. 15, 2015); *National Centre for Innovation Launched*, JORDAN TIMES, <http://www.jordantimes.com/news/local/national-centre-innovation-launched> [<https://perma.cc/T6RU-TPBZ>] (May 10, 2018); KHALED ELSHURAYDEH ET AL., SCIENCE & TECHNOLOGY AND INNOVATION PROFILE OF JORDAN (2006), http://www.idaea.csic.es/sites/default/files/Final_report_Jordan_IM_RA.pdf [<https://perma.cc/8SAT-SM9N>]; Abu-Ghazaleh Intell. Prop., *Jordan: Summary of the Patent Registration System in Jordan*, MONDAQ (Jan. 7, 2000), <https://www.mondaq.com/sales-taxes-vat-gst/3899/summary-of-the-patent-registration-system-in-jordan>; Law No. 32 for the Year 1999 (Jordan) Patents of Invention Law (issued 1 Nov. 1999) OG 4389 (amended 13 Dec. 2001) OG 4520; *Amended Patent Law Comes into Force in Jordan*, ABU-GHAZALEH INTELL. PROP. (June 19, 2017), <https://www.agip.com/news.aspx?id=12916>; and JANSETTE QUANDOUR, U.S. AGENCY FOR INT'L DEV., JORDAN ACCESSION TO THE PATENT COOPERATION TREATY (PCT): IMPACT ASSESSMENT (2016). For a discussion of patent-related initiatives adopted by Kuwait, see *Kuwait Vision 2035 "New Kuwait,"* KUWAIT MINISTRY OF FOREIGN AFFS., <https://www.mofa.gov.kw/en/kuwait-state/kuwait-vision-2035/> [<https://perma.cc/BK9J-22D2>]; Mishari Alnahedh, *Kuwait's National Innovation Ecosystem*, THE LONDON SCH. OF ECON. & POL. SCI.: BLOG (Sept. 27, 2017), <https://blogs.lse.ac.uk/mec/2017/09/27/kuwaits-national-innovation-ecosystem/> [<https://perma.cc/WQ6Y-6GJV>] (recognizing that patent applications have been increasing in Kuwait

although considered an important contributor to economic development and innovation policy, needs significant attention and improvement in Southeast Asian, Muslim-majority countries, such as Indonesia and Malaysia,²⁴⁹ where major aspects of their economy come from natural gas and petroleum reserves. These brief narrative

and suggesting that increased patenting activity will contribute toward acceleration of a national innovation ecosystem in Kuwait); IAN BRINKLEY ET AL., *THE LONDON SCH. OF ECON. & POLI. SCI., KUWAIT AND THE KNOWLEDGE ECONOMY* 21 (2012) (suggesting that a weakness in the transformation of the Kuwait economy has been the country being a latecomer in attempting blockbuster licenses based on university-patented research and technology transfers to small and medium enterprises and startups); MINISTRY OF COM. & INDUS., TRADEMARKS & PAT. DEP'T (KUWAIT), *PCT APPLICANT'S GUIDE—NATIONAL PHASE—NATIONAL CHAPTER—KW 2* (2016); *ERF 25th Annual Conference: Knowledge, Research, Networks, and Development Policy*, ECON. RSCH. F. (Mar. 10–12, 2019), <https://erf.org.eg/events/erf-25th-annual-conference-knowledge-research-networks-and-development-policy/> [<https://perma.cc/MKT7-9UC2>] (providing as a key policy question toward attaining the intangible economy of Kuwait, “What is the institutional framework needed to incentivize the creation of patents and proprietary knowledge?”); Law No. 4 of 1962 (Kuwait) Patents, Designs & Industrial Works (issued 15 Apr. 1962) OG 373; and *Kuwait: Country Updates*, SABA & CO. INTELL. PROP. (Mar. 19, 2018), <https://www.sabaip.com/news/kuwait-country-updates/> [<https://perma.cc/NKH5-JM4G>].

249. For examples of why the patent system in Indonesia needs significant attention and improvement, see generally Bambang Pratama, *Indonesian Legal Framework to Support Innovation Sustainability*, 2018 IOP CONF. SERIES: EARTH & ENV'T SCI. 126; CAROLINE PAUNOV, OECD, *NATIONAL INTELLECTUAL PROPERTY SYSTEMS, INNOVATION, AND ECONOMIC DEVELOPMENT: INDONESIA'S NATIONAL INTELLECTUAL PROPERTY SYSTEM* 14 (stating that “[l]egal and administrative reforms are needed to improve the quality of the IP system” and that “IP policy also has to address challenges that inhibit public research institutes from supporting the innovation system”); Anton Aliabbas & Benny Tjahjono, *The Need for a Progressive Policy to Boost Innovation*, JAKARTA POST (May 26, 2015, 6:34 AM), <https://www.thejakartapost.com/news/2015/05/26/the-need-a-progressive-policy-boost-innovation.html> [<https://perma.cc/6JTA-LUUE>] (suggesting the need for a transformational boost to research and innovation in Indonesia, which had only twelve patent applications in 2012 through the Patent Treaty Cooperation international phase filing); Yose Rizal Damuri et al., *Innovation Policy in Indonesia*, in *INNOVATION POLICY IN ASEAN* 96, 102–04, 108 (Masahito Ambashi ed., 2018); THE WORLD BANK OFF. JAKARTA, PUB. NO. 74619, *INDONESIA: RESEARCH & DEVELOPMENT FINANCING*, at viii, 11–12 (2013) (describing Indonesia's low level of patenting activity and lack of significant improvement); and Jamie N. Jones, *Commentary: Innovation Is an Economic Imperative in Indonesia*, JAKARTA GLOBE (Oct. 8, 2015), <https://jakartaglobe.id/opinion/commentary-innovation-economic-imperative-indonesia/> [<https://perma.cc/BU5U-SH6G>]. For examples of why the patent system in Malaysia needs significant attention and improvement, see Angayar Kanni Ramaiah, *Innovation, Intellectual Property Rights and Competition Law in Malaysia*, 14 S.E. ASIA J. CONTEMP. BUS. ECON. & L. 60, 60 (2017) (explaining the need for balancing “the boundaries of private rights under [intellectual property rights] and public right[s] under [common law]”); Pathma Subramaniam, *IP: The Importance of Intellectual Property in Economic Development*, THE EDGE MKTS.: DIGIT. EDGE (Oct. 26, 2020), <https://www.theedgemarkets.com/article/ip-importance-intellectual-property-economic-development> [<https://perma.cc/KKG6-26J8>] (suggesting that Malaysian companies are behind in patent filings relative to similar companies in other countries, such that the result is that Malaysia is still importing technologies); and OECD, *BOOSTING MALAYSIA'S NATIONAL INTELLECTUAL PROPERTY SYSTEM FOR INNOVATION* (2015).

profiles provide context for the motivation of patents in Islamic law, for they illustrate that patent systems are both growing in importance and are in a primitive state of development in many Muslim-majority countries (particularly those that have developing economies) compared to Western patent systems.²⁵⁰

The internalization of patents within Islamic legal systems of many Muslim-majority countries has continued without robust analysis of whether patents fit within Islamic law in a theoretical sense. While the IFA-OIC and the AAOIFI positions deemed intellectual property as being permissible, they did not provide detail on their reasoning or explain any departure from classical views.²⁵¹ Although Muslim-majority countries have highly complex histories, doctrinal and jurisprudential differences on interpretation of Islamic law, and degrees of primacy of Islamic law, many have sought to situate the effect of patents (or in a more broad sense, intellectual property rights in general) within the broader context of innovation and economic development in recent years.²⁵² Muslim-majority countries have had

250. DEAN BAKER ET AL., INNOVATION, INTELLECTUAL PROPERTY, AND DEVELOPMENT: A BETTER SET OF APPROACHES FOR THE 21ST CENTURY 28 (2017) (describing that countries with developing economies are significantly distant from the global innovation and production frontier due to a gap in resources, such that the inquiry of whether intellectual property rights advances standards of living must go further in analysis than in developed countries).

251. *Resolution No. 43 (5/5)*, *supra* note 6; *see also supra* note 217 and accompanying text.

252. Western scholars have long debated the impact of exclusive rights on innovation. On the one hand, these scholars have argued that patents provide incentives to inventors and serve a signaling function to investors. Empirical evidence certainly reveals a relatively high—though varying—support that patents promote innovation and increase a nation’s gross domestic product. *See generally* Bronwyn H. Hall, *Patents, Innovation, and Development* (Max Planck Inst. for Innovation & Competition, Research Paper No. 20–07, 2020) (suggesting that the introduction of a patent system, or strengthening of one, in a developing country has been known to coincide with industrial development and allows developing countries to catch up with industrialized nations by promoting knowledge spillovers through technology transfer). On the other hand, more recent scholarship has argued that patents decrease innovation and that no empirical evidence exists to suggest that patents improve gross domestic product. *See* Karol Sledzik, *Patent Policy in an Innovation Driven Economy: Schumpeter’s “Innovation Wave” Perspective*, 79 *FINANSE RYNKI FINANSOWE UBEZPIECZENIA* 327, 333 (2016) (presenting a patent wave curve to demonstrate that a further increase beyond an optimal point in the number of patents in a country’s system leads to a decrease in the level of innovation in an economy); *see also* Hall, *supra*, at 24–25 (suggesting there are some reasons why a patent system may not be an important ingredient for development policy of low- and middle-income countries, based on historical evidence and empirical findings); Sahar Aziz, *Linking Intellectual Property Rights in Developing Countries with Research and Development, Technology Transfer, and Foreign Direct Investment Policy: A Case Study of Egypt’s Pharmaceutical Industry*, 10 *ILSA J. INT’L & COMPAR. L.* 1, 6, 10 (2003) (recognizing the benefit of

a greater emphasis on the commercial function of patents over concerns for access and distributed values, revealing easier acceptance of patents in countries that emphasize innovation and economic development. Despite the commonalities among those countries, the state of patent law and understanding of patents is still in a primitive form relative to Western states, although growing in importance.

In recent decades, ministerial and royal decrees in many Muslim-majority countries have reflected a new reality, lumping patents and Islamic law together with commercial, innovation-seeking endeavors. In a variety of modern-day academic contexts—perhaps most notably the doctrinal and theological conceptions of intellectual property in general—scholars have treated patents as just another set of commercial instruments that are permissible in an Islamic legal system. The modern conception of patents in Islamic law exhibits some degree of reciprocity between Islamic norms and doctrines—to the extent that Muslim-majority countries have shed traditional Islamic norms and embraced modern commerce, their legal systems should not treat patents any differently from other commercial innovations. Expansive interpretations of patents in Islamic law should continue to fuel the innovation and economic development goals sought by Muslim-majority countries. Viewed from one angle, Muslim-majority countries' rejection of property exceptionalism through internalization of Western notions of patents is somewhat predictable because many Islamic law scholars and economic development leaders in Muslim-majority countries have argued for favorable doctrinal interpretations of intellectual property broadly. Given this state of affairs, it is not surprising that as property exceptionalism has largely died in the

“the dissemination of knowledge through required patent disclosures,” but also emphasizing that “the link between strong [intellectual property rights] and technology transfer is not as direct as some proclaim” to suggest that strong patent rights may hurt developing nations and reduce their access to essential medicines). This Article does not enter the empirical debate of the effect of patents on innovation but instead identifies the theory of patents in Islamic law as an initial step toward providing a rich theoretical foundation that will serve to promote predictability and reliability of patent law in Muslim-majority countries without the fear of downstream theological exclusions.

scholarly discourse and Muslim-majority countries have embraced patents, a modern development to which this Article now turns.

II. CONCEPTUAL NORMATIVE FRAMEWORK AND JUSTIFICATIONS

Contemporary Muslim-majority countries, responding to international treaties and economic development initiatives, view patents as fully integrated into their commercial narrative of Islamic law. Due to a host of developments culminating in the late twentieth century and beyond, patents began to be recognized in Muslim-majority countries.²⁵³ More recently, patents have been internalized in Muslim-majority cultures not only by ascensions to international patent treaties but also in statutes.²⁵⁴ Due to innovation initiatives by leaders of Muslim-majority countries and the influence of globalization, patent laws have been enacted and have become more prominent in Muslim-majority countries.²⁵⁵ In effect, property exceptionalism has vanished to the extent that Muslim-majority countries now recognize patents.²⁵⁶

On the other hand, property exceptionalism has seen a resurgence among some scholars who argue that Islamic sources approach intellectual property in a very different way and thus seek to reframe intellectual property in Islamic law on a theory of social justice with broad strokes.²⁵⁷ Another characterization of intellectual property in Islamic law requires a deep analysis of theories and principles to frame and justify one type of intellectual property—patents—with a focus on inventions. In so doing, it is important to clarify and cabin the claims in this Article regarding the construct of the theory of

253. *See supra* Section I.A.1.

254. *See* PRICE, *supra* note 1, at 143–46.

255. *See supra* Section I.D.

256. *See supra* Section I.D.

257. ELMAHJUB, ISLAMIC VISION, *supra* note 4, at 121–22 (arguing that exclusive rights from patents cause restriction of access to knowledge and suggesting that patent protection could reduce opportunities to innovate by small firms); Milani, *supra* note 2, at 40 (suggesting that some Islamic law scholars consider patents to conceal knowledge).

patents in Islamic law as an extension of property theory in Islamic law in the same sense as have many Muslim-majority countries.

This Article argues that patents are permissible in Islamic law and that secondary sources of Islamic law justify the construct of patents. In important ways, the question of how patents should theoretically interact with Islamic law depends on the normative vision of intangibles in Islamic law. The interpretation of Islamic law and its use of secondary sources toward intangibles may lead to different visions about the justification and scope of patents in Muslim society and how an Islamic society should administer (or not advance) a patent office with Islamic principles.²⁵⁸

A positive, normative framework for the theory of patents should arise as a result of scholarly consensus through an interpretative process. And within this normative framework, this Article offers assessments and prescriptions that follow.

A. A Positive, Normative Framework for Patents in Islamic Law

This Article offers a useful three-part normative structure that provides foundational reasons for theoretically justifying patents under Islamic law. First, the principle of usufructs in Islamic law provides the basis for humans to derive the benefit and scope of intangible property that belongs to The Divine. Second, the principle of trusteeship in Islamic law provides that human beings' temporary and metaphorical ownership of any property can be extended to administer property rights in intangibles by an Islamic state. Third, Islamic law principles concerning use of human intellect to attain closeness to The Divine should consider the conception of an invention and the process of inventing as being permissible and laudable in Islamic law. The combination of permitted scope (from usufruct conceptualization), permitted use and administration (from trusteeship and Islamic state rights), and permitted human conception (from intellect) serves as a positive, normative framework for patents

258. *See infra* Section III.D.

in Islamic law. The underlying principles, which are derived from Islamic law, provide a conceptually sound and theologically rich foundation that serves as a substructure to justify a construct of a theory of patents in Islamic law.

This tripartite structure derived from Islamic law allows for recognition of patents under Islamic law principles. It suggests that analogical reasoning can be used to support a theoretical justification for patents under Islamic law.²⁵⁹ This framework is comprised of three justifications, which work together and, when combined, elaborate upon interpretation of property in Islamic law to include patents as permissible. This reasoning combines principles from Islamic law to provide a novel and theoretically sound response to problems raised against patents in Islamic law. This tripartite framework uses the conceptual mechanism of usufructs, implementation aspects via trusteeship and administration by an Islamic state, and application of human intellect to reason that patents hold a proper place in Islamic law, even though no primary sources of Islamic law mention patents in any form. To further shore up these justifications and how they relate, this Section turns to doctrines from Islamic law and applies analogical reasoning to the new circumstance of patents.

1. Usufructs' Conceptual Scope

Usufructs are recognized under Islamic law, and patents can be reasoned to fit within the principles concerning usufructs, so patents should also be recognized.²⁶⁰ Islamic law considers a usufruct as the benefits that are used independently of the body from which the property right is generated.²⁶¹

259. KAMALI, *supra* note 8, at 53, 128 (explaining that analogical reasoning extends textual rulings in *Shariah*, and the process of analogical reasoning requires one to “identify an original case, and a new case, and then a precise effective cause, and each of these steps must fulfil a long list of requirements, which are incidentally all a juristic construct that partake in speculative thought”).

260. SAIT & LIM, *supra* note 117, at 26, 116, 139 (describing that the usufruct refers to the profits, benefits, use of a thing, or the use or access rights, which is distinct and different from the thing itself).

261. Niazi, *supra* note 148, at 54, 61 (describing further that, in Islamic law, the usufruct has an existence independent of the corpus from which it is generated).

Usufructs serve as a conceptual mechanism to draw an analogy to permissible legal principles in Islamic law for supporting the justification of patents in Islamic law. The basis of this analysis stems from Islamic law's recognition of the differences between the corpus (the absolute right of ownership of the property) and the usufructs of a property (the right to use and enjoy the property, in a limited sense).²⁶² Islamic law classifies property ownership in a variety of ways—including classification based on rights with the chattel, the usufruct, and the use—and these distinctions impact the benefits and services associated with analysis of various types of properties.²⁶³ This analysis focuses on one layer of this classification—the usufruct—to serve as a conceptual distinction to clarify the normative framework's scope for patents in Islamic law.

Before turning to the analysis with this part of the tripartite framework, it is worthwhile to note that Islamic law property principles exhibit usufruct-like features, and many Muslim-majority countries have already enacted usufructs. However, Islamic legal systems' statutes addressing usufructs and Islamic scholars' discussions of usufructs concern Roman and civil usage, which comprise narrower rights.²⁶⁴

In general, usufructs concern a real right that is of a limited duration and is a part of a larger ensemble of rights that constitute ownership.²⁶⁵ The principle of usufructs refers to the right of an individual to use something that belongs to someone else, and that right terminates with the other person's life.²⁶⁶ This right provides

262. Tabrez Ahmad, Comparative Study of Gift Under Islamic Law and Transfer of Property Law: Indian Perspective 3 (Sept. 11, 2009) (unpublished manuscript), <http://ssrn.com/abstract=1471926>.

263. See Niazi, *supra* note 148, at 71 (explaining that property in Islamic law can be classified on the basis of 'ayn, or the chattel, *manafa'ah*, or the usufruct, and *istimta*, or use).

264. Aaron Schwabach, *Convergence and Divergence: The Treatment of Certain Aspects of Real Property Under the Civil Codes of Qatar and California*, 2015 INT'L REV. L. 1, 7 (Thomas Jefferson Sch. of L., Research Paper No. 2687603, 2015) (pointing out that Qatar Civil Code has adopted usufructs in stating that "Foreigners may acquire usufructs of up to 99 years").

265. See A.N. Yiannopoulos, *Usufruct: General Principles - Louisiana and Comparative Law*, 27 LA. L. REV. 369, 371 (1967).

266. *Id.* (characterizing usufruct as being "attached to the person whose benefit they are established, and terminate with his life" (quoting LA. CIV. CODE ANN. art. 646(2) (1870))).

that the usufruct is a benefit derived from an asset or property being provided or leased by a party to another.²⁶⁷ More broadly, it refers to the right of a person to enjoy or use a specified object, such that the property of which is vested in another person, and to draw from it all benefits and utility that it may produce, provided that the user will not alter the substance of the object.²⁶⁸ However, the right over the incorporeal thing will terminate when the usufruct ends.²⁶⁹ This can include rights to gather and use the fruits of the thing and the right to alienate.²⁷⁰ Usufructs encompass several distinct legal doctrines in Islamic law that share this basis.

Islamic law scholars have pointed out that general principles of usufructs provide a basis for justifying intellectual property.²⁷¹ However, their analysis has not gone into sufficient depth and has conflated topics. Rather than outlining usufructs in broad strokes as property-centric justifications for patents, the challenge, of course, lies in fleshing out the details. In particular, the potential application of usufructs from property law hinges considerably on whether the benefit should encompass incorporeal property that can be owned and transferred to another in a legally enforceable sense. In general, the objectives and risks of adapting usufructs in Islamic law should provide a functional guide to distinguishing between the Roman and civil law usage and the conceptual usage to serve as an analogy to justify patents in Islamic law.

267. See Gerald LeVan, *The Usufructuary's Obligation to Preserve the Property*, 22 LA. L. REV. 808, 809 (1962) (characterizing a perfect usufruct as being one for which the usufructuary may draw from the thing "its profits, its utility, and its advantages" without changing its substance, and one for which the usufructuary must return the thing itself in its original condition except for some normal wear and tear (quoting LA. CIV. CODE ANN. arts. 534, 549, 550 (1870))).

268. See Yiannopoulos, *supra* note 265, at 377 (defining a usufruct as "the right of enjoying a thing, the property of which is vested in another, and to draw from the same all the profit, utility and advantage which it may produce, provided that it be without altering the substance of the thing" (quoting LA. CIV. CODE ANN. art. 533 (1870))).

269. *Id.* at 406.

270. LeVan, *supra* note 267.

271. Niazi, *supra* note 148, at 54, 61; SAIT & LIM, *supra* note 117, at 9, 14 (associating the usufructuary right in Islamic property law with the right to exclude, which is a central feature of intellectual property law).

Islamic scholars' use of usufructs is strikingly odd, as it seems to apply the same rules governing ownership and possession from Roman and civil law usage. In fact, Islamic law scholars have failed to distinguish usufructs and their conceptual usage from the Roman and civil law to justify intellectual property in Islamic law. To avoid confusion, distinguish from the Roman and civil law usage, and concretize the analysis of usufructs, reasoning to support a framework for patents in Islamic law should focus on the conceptual usage. Clarifying that any right that is in rem and backed by an immunity is a usufruct in a conceptual usage sense would broaden the reasoning to support a framework for patents in Islamic law. This conceptual perspective of usufructs provides a broader application than the Roman and civil law usage, which refers to limited real rights (in civil law and mixed jurisdictions) that were intended to be limited nonpossessory rights carved out of another estate of ownership.²⁷² The conceptual usage of usufructs downplays exclusivity and emphasizes the interest and use and, in so doing, expands the usufruct's range.²⁷³ The expanded meaning with the conceptual usage of the usufruct encompasses a legal interest in undivided absolute ownership and, as such, comes to mean assurance of using an asset to extract benefit for a benefit.²⁷⁴

The expansive rights of the usufruct provide the correct reasoning toward a framework of patents in Islamic law. Islamic law scholars' use of the Roman and civil law origins of usufructs narrowly focuses on the right to exclusive use and profit, rather than broader conceptual usage that allows for only the right to extract benefits. The exclusivity focus centers on relations between humans in society,

272. Eric R. Claeys, *Property, Concepts, and Functions*, 60 B.C. L. REV. 1, 24, 56, 63 (2019) (defining usufructs as limited property rights structured around the ongoing use of the external resource covered and suggesting that a usufruct refers to a secondary use without jeopardizing the dominant use for a resource that has both a dominant and a secondary use, and as such, usufructs serve as "a reliable vehicle for protecting secondary uses by non-owners on terms consistent with owners' primary uses of their lots").

273. Eric R. Claeys, *Intellectual Usufructs: Trade Secrets, Hot News, and the Usufructuary Paradigm at Common Law*, in INTELLECTUAL PROPERTY AND THE COMMON LAW 404, 412 (Shyam Balganesh ed., 2013).

274. *Id.*

whereas the right to extract benefit focuses on the relationship between The Divine and a human. In applying this conceptual basis of usufructs toward justifying patents in Islamic law, a human being can have the right to use what may belong to The Divine for the human being's own purpose, even though the ownership of the right is vested in The Divine. Rather than focusing on exclusivity (from the Roman and civil law origins of usufructs), which prompts the access and distributed values concerns,²⁷⁵ a broader usage of usufructs allows for humans to use the benefits and outcomes provided by The Divine. This reasoning could be convincing to some Hanafi jurists and scholars who still hold onto the view that property in Islamic law excludes intangibles²⁷⁶—by adopting a broader reasoning of usufructs, skeptics of intangibles in Islamic law may be more prone to accept the framing of usufructs regarding The Divine and a human. Thus, an expansive scope of usufructs provides that a human is allowed to use The Divine's property—this part of the tripartite structure provides a conceptual foundation to apply to ensuing trusteeship and state administration principles to coalesce a normative framework for patents in Islamic law.

2. *Trusteeship and Administration by the State*

The legal concept of a trustee refers to any type of person or organization that holds legal title of another and is granted this type of legal title through a trust (an agreement between two consenting parties).²⁷⁷ The concept of a trust in *fiqh* considers a human as being

275. ELMAHJUB, ISLAMIC VISION, *supra* note 4, at 122 (arguing that exclusive rights from patents cause restriction of access to knowledge and suggesting that patent protection could reduce opportunities to innovate for small firms).

276. Auwal Adam Sa'ad, *Can Rights Be the Underlying Assets of Sukuk?: The Malaysian Experience*, 6 ISLAM & CIVILISATIONAL RENEWAL 92, 93 (2015).

277. Thurman W. Arnold, *The Restatement of the Law of Trusts*, 31 COLUM. L. REV. 800, 803 (1931) (providing a definition of a trust as, "A trust is one of several judicial devices whereby one person is enabled to deal with property for the benefit of another person" and more specifically characterizing a trust as "a fiduciary relationship with respect to property, arising out of a manifestation of an intention to create it, and subjecting the person in whom the property is vested to equitable duties to deal with the property for the benefit of another person." (first quoting RESTATEMENT OF THE LAW OF TRUSTS, intro. note (AM. L. INST. 1930); and then quoting *id.* § 2)).

a trustee and viceregent of The Divine.²⁷⁸ Trusteeship administered by an Islamic state is allowed, and similarly, patents can be structured to support their legitimacy.²⁷⁹ The trusteeship concept in Islamic law serves as an analogy to show how patents could be justified under the same rationale.

Trusteeship principles combined with allowable administration by an Islamic state serve as an additional conceptual mechanism to add to the conceptual analogy of the usufruct for developing the normative framework of patents in Islamic law. The claim here is that entrusting rights to a human being during a temporary life in the material world, along with an Islamic state's ability to administer matters in the material world, allows for human use of The Divine's property.

In Islamic law, human beings are considered trustees of The Divine, and life on earth is a temporary period for which actions must be in accordance with the conditions of that trust.²⁸⁰ Regarding property rights in Islamic law, The Divine is considered the owner of all property that is made available for human beings, which are equally given the divine gift of the right to hold private property.²⁸¹ As such, the absolute right to ownership is in The Divine, and property is a divine gift to humankind for a temporary life on earth in the form of a trust.²⁸²

278. Salasal, *supra* note 157, at 286–87.

279. See generally Rafik I. Beekun & Jamal A. Badawi, *Balancing Ethical Responsibility Among Multiple Organizational Stakeholders: The Islamic Perspective*, 60 J. BUS. ETHICS 131, 133 (2005) (introducing the Islamic concept of trusteeship, which considers the human race as being trustees of God on earth, and as trustees, human beings' actions must be in accordance with that trust with God (citing *Quran* 67:2)).

280. See *id.*; see also SAIT & LIM, *supra* note 117, at 133 (explaining the concept of dual ownership being that of a human being–God, whereby what appears as human ownership of property is in fact a matter of trusteeship in an Islamic perspective).

281. See Laluddin et al., *supra* note 136 (elaborating on the concept of property and ownership rights from an Islamic perspective by explaining that a human being is considered an owner of property in a metaphorical sense as a trustee and vicegerent in charge of God's property because God is the owner of the dominion of all of Heaven and earth).

282. *Quran* 57:7 (stating, through an English translation, “Believe in Allah and His Messenger and spend of that whereof He has made you trustees”).

Additionally, Islamic law allows an Islamic state to administer and grant property rights.²⁸³ The state is allowed to limit the rights to private property at its inception.²⁸⁴ In other words, property belongs to The Divine, but the Islamic state has the right to intervene in human beings' trusteeship relationship with The Divine to administer and manage rights related to The Divine's property during human beings' temporary life on earth.²⁸⁵ In a *Shariah* rule of law system, *siyasa* lawmaking power allows the Islamic state to have discretion to serve the public good, including for good governance of the administration of property rights.²⁸⁶ The state is necessary to ensure that property rights exist for humans in an Islamic society in a way that they can pursue market decisions without fear.²⁸⁷

Combining the conceptual basis of trusteeship with an Islamic state's right to administer property adds to the usufruct conceptualization of the positive, normative framework of patents in Islamic law. In so doing, the first and second parts of this normative framework suggest that Islamic law should allow human beings to serve as metaphorical owners of property during temporary life on earth, during which an Islamic state is permitted to administer those rights. The grant of such property rights should be performed by an agency—such as a patent office—that can serve as a trustee to grant property rights allowed by an Islamic state.

The missing piece of this framework, which is addressed *infra*, is the human ability to conceive of an invention and attain

283. SAIT & LIM, *supra* note 117, at 8 (describing an Islamic state's role in property management as being that of supervising property that ultimately belongs to God, but that the Islamic state is mandated to administer property in accordance with Islamic principles).

284. Laluddin et al., *supra* note 136, at 1126–27 (explaining that human beings are allowed to exploit and use resources provided by God, including property, and that an Islamic state has rights to administer and manage property rights as it deems beneficial for human society).

285. *Id.*

286. Quraishi-Landes, *supra* note 18, at 550–54.

287. Malik, *supra* note 135, at 13 (“Attacks on people’s property remove the incentive to acquire and gain property When attacks on (property) are extensive and general, affecting all means of making a livelihood, business inactivity, too, becomes general.” (quoting IBN KHALDUN, THE MUQADDIMAH: AN INTRODUCTION TO HISTORY: THE CLASSIC ISLAMIC HISTORY OF THE WORLD 238 (Franz Rosenthal trans., Princeton Univ. Press 1967) (1377))).

state-mandated rights to such invention.²⁸⁸ The remaining piece reasons that the use of human intellect in the process of inventing brings the human being closer to The Divine with spirituality of thought and, in so doing, provides a conceptual connection between human beings and The Divine.²⁸⁹

3. *Human Intellect As Conceptual and Laudable Spiritual Closeness*

References to the human intellect in Islamic law can serve to complete the proposed tripartite framework of justifications for a construct of patents. Human intellect, or using one's mind and inquiring about the physical world, is within the principles of Islamic law and has been equated with Islamic spiritual traditions.²⁹⁰ The prism of human intellect in Islamic law allows humans to use the process of inventing as a means to come closer to The Divine. The claim here is that the spiritual nature of thought and intellect overcomes scholars' philosophical impediments to patents in Islamic law.²⁹¹

When one studies the metaphysical sciences in Islam, one comes closer to The Divine.²⁹² Islamic spirituality mentions that by transcending the body and the physical world, one approaches a transcendent God.²⁹³ In this view, the purpose of mankind is to serve

288. See *supra* Section II.A.3.

289. See *supra* Section II.A.3.

290. See Seyyed Hossein Nasr, *Introduction to ISLAMIC SPIRITUALITY: FOUNDATIONS* 21, 31 (Seyyed Hossein Nasr ed., Routledge 2008) (1987) ("Since in Islam the intellect . . . and the Spirit . . . are closely related, the acquiring of knowledge itself has always been seen as a religious activity."); Yusuf Dalhat, *The Concept of al-Aql (Reason) in Islam*, 5 INT'L J. HUMANS. & SOC. SCI. 77, 79, 81 (2015) (describing the concept of *al-aql*, or reason in Islam, to suggest that human intellect and knowledge applied to the material world has a role and significance in Islamic law).

291. See *supra* Section I.B.2.

292. See generally Khalid Zaheer, *Relationship of Divine Law with Human Intellect*, AL-MAWRID (July 1, 1996), <http://www.al-mawrid.org/index.php/articles/view/relationship-of-divine-law-with-human-intellect> [<https://perma.cc/NDN2-4VMM>] (asserting that the Quran and the Word of God attach great significance to human intellect in Islam and that deepening understanding of spirit is desirable in achieving closeness to the Divine Law).

293. See generally Alfred Ivry, *Arabic and Islamic Psychology and Philosophy of Mind*, STAN. ENCYC. OF PHIL., <https://plato.stanford.edu/entries/arabic-islamic-mind/#toc> [<https://perma.cc/KK5M-WACA>] (May 29, 2012) (drawing on psychology of the classical Muslim philosophers to assert that

God by removing transcending humans' entrapment with the material world.²⁹⁴ By focusing on human intellect, a human being can be enlightened in a way to draw closer to God.²⁹⁵ This spiritual framework considers human intellect as a means to understand God's connection to the material world.²⁹⁶

The effect of this theory is that closeness to The Divine spiritualizes the intellect and equates the holiness of the physical world with its intellectual component to be useful in human life and in civilization.²⁹⁷ Thus, acts toward discovering and applying the intellect toward a "spirituality of thought" that equates the physical world with its intellectual component should be afforded legal rights. Specifically, human skill and intellectual effort are pleasing to God, permissible and useful to humans, and entirely compatible with Islam.²⁹⁸ Because patents are an attempt to claim ownership over that which is based on transforming intellectual thought over the physical world, such rights should be afforded in a theoretical basis.

The human ability to conceive of an invention is an example of a permissible use of human intellect to attain spiritual closeness to The Divine. In combining the application of human intellect with earlier-introduced conceptual principles—including an expansive

human intellect and a quest for the knowledge of universal truth are critical components of attaining closeness to The Divine command).

294. Seyyed Hossein Nasr, *God*, in ISLAMIC SPIRITUALITY: FOUNDATIONS, *supra* note 290, at 557, 574 (explaining that the material world is fragile and will perish, and as a result, that Islamic spirituality development requires that humans recognize the temporary nature of the material world by pleasing God).

295. Abdul Hai Madni et al., *The Role of Intellect in Islamic Law*, 46 BOTHALIA J. 2, 2–3, 8, 10 (2016) (suggesting that gained intellect and knowledge in Islam do not refute closeness to The Divine, while recognizing that when taken to an extreme, such as that of pure rationalists, there are defects and misalignment with Islamic teachings).

296. *See generally* Thoraya E. Abdel-Maguid & Rabie E. Abdel-Halim, *The Qur'an and the Development of Rational Thinking*, 7 UROLOGY ANNALS 135 (2015) (proposing that actualizing the intellect, along with the proper use of reason within a scientific framework of the mind, allows for deeper insight into the reality of the material world).

297. *See* Dalhat, *supra* note 290, at 77 (discussing the concept of *al-aql* to explain reason's role in Islamic legal provisions that guide Islamic human life and civilization).

298. Charles Le Gai Eaton, *Man*, in ISLAMIC SPIRITUALITY: FOUNDATIONS, *supra* note 290, at 637, 659 ("To make out of raw materials, by means of human skill and effort . . . objects that are both pleasing to God . . . and useful to man is a labor worthy of the 'children of Adam' and entirely compatible with their delegated splendor.").

scope of usufructs that allows humans to use The Divine's property and an agency as a representative trustee to administer The Divine's property rights to human beings²⁹⁹—a human being should have rights to inventions under patents administered by an Islamic state.

4. *The Framework in Practice and Normative Challenges*

In combining the conceptual basis of usufructs, trusteeship and the role of the Islamic state in private property, and human intellect, Islamic law provides a positive, normative framework and justification for patents. An Islamic legal system's administration of patents should allow for an agency of the Islamic state (such as a patent office) to administer and grant a patent to a human being and allow that human being to draw benefit from, use, and transfer of such a legal right for the temporary life of the human being. Furthermore, the Islamic state could limit the timeframe of the patent right because a time period exceeding a human being's life may be indefinite and too long under the framework.³⁰⁰ As such, if the grant of a patent in an Islamic legal system was tied to a human's life, then there would be too much uncertainty with not knowing how long anyone would live. Moreover, with an average life expectancy being greater than the twenty years of a patent grant in the U.S. patent system, it would make sense to limit the number of years of a patent grant in an Islamic legal system; the Islamic law doctrine of waste could be used to limit the time period of the grant of the patent, and such principles require further theoretical analysis in a future study.³⁰¹

The positive, normative framework allows conceptual reasoning to enable a Muslim-majority country to grant patents in the Islamic legal system; however, practice does not always parallel theory. The normative challenges to implementing the theory of patents in an Islamic state are fraught with difficulties that require further

299. *See supra* Sections II.A.1, II.A.2.

300. *See supra* Section II.A.2.

301. *See infra* Section III.D.

theoretical justification from an Islamic law lens. First, there are differences in Muslim countries concerning the degree of primacy of *Shariah* and in the underlying school of jurisprudence. Second, there are challenges in identifying ethical and morality prohibitions to patentable subject matter.³⁰² Third, there is uncertainty regarding the permissibility of post-issuance administrative proceedings that arguably take away patent rights granted by an Islamic state.³⁰³ Although several of these factors complicate the theory of patents in Islamic law in general, they are intensified in the theoretical administration of patents in a practical sense in an Islamic society. Thus, even if Islamic law principles can be construed to provide a positive, normative framework of patents, there are normative challenges with understanding the theory through varying Islamic jurisprudential interpretations among different Muslim-majority countries, limiting the reach of patents in an Islamic society, and properly administering patents following their grant in an Islamic society.

B. Toward a More Holistic Framework of Patents in Islamic Law

The application of conceptual principles supports this Article's basis of framing patents in Islamic law from theoretically and theologically sound Islamic law principles.³⁰⁴ By contrast, a very different conception of the Islamic view of intellectual property arises in recent social justice scholarship that suggests a normative viewpoint contrary to the theoretical and theological justifications of this Article's thesis and does not consider the commercial benefits of patents supported by Islamic law. A consistent theme arising from the social justice analysis lens in Islamic law is a critique of intellectual property because it promotes unfairness in distribution of resources in society, concentrates power and wealth, reduces access,

302. See generally PATENTS ON LIFE, *supra* note 59 (providing a discussion of issues at the intersection of biotechnology, ethics, patent law, religion, and social justice).

303. See *infra* Section III.D.

304. See *infra* Section II.A.

and allows for substantial market leverage without equivalent labor.³⁰⁵

These opposing viewpoints require closer inspection of the two sides of an inherent conflict in patents—they increase the supply of new inventions by replicating scarcity where it would otherwise not exist.³⁰⁶ Of course, one obvious and necessary trade-off is that exclusive rights may constrain access to patented inventions.³⁰⁷ The result is that patents can provide incentives for innovation, which otherwise would not exist. For a variety of reasons, this Section argues against limiting patent rights based on Islamic distributive principles and asserts that a more holistic conception of patents reveals a more balanced approach based on Islamic commercial principles.

1. Objections and Responses to Distributive Values in Islamic Law

Arguments against intellectual property in Islamic law emphasize critique of monopolization effects and related concerns for distributive values in Islamic societies. This Article's proposal to apply Islamic commercial principles to enable the commercial

305. ELMAHJUB, ISLAMIC VISION, *supra* note 4, at 1–2, 5.

306. See generally Mark A. Lemley, *IP in a World Without Scarcity*, 90 N.Y.U. L. Rev. 460 (2015) (suggesting that intellectual property laws artificially replicate scarcity where it would not otherwise exist and, in so doing, take a public good that would otherwise be available to society and artificially restrict its distribution); Amy Kapczynski, *The Cost of Price: Why and How to Get Beyond Intellectual Property Internalism*, 59 UCLA L. REV. 970 (2012) (arguing that intellectual property has costs for distributive justice because its reliance on price yields unjust distribution of existing resources and unjust production of future resources).

307. See Peter Lee, *Towards a Distributive Agenda for U.S. Patent Law*, 55 HOU. L. REV. 321, 323–24 (2017) (suggesting that enforcing exclusive rights with patents is consonant with access, equity, and distributive justice issues, but stressing that patent law scholarship should consider the effect on incentives on technological development in marginalized communities). See generally Elif Kavusturan, *Reforming U.S. Patent Law to Enable Access to Essential Medicines in the Era of Artificial Intelligence*, 18 NW. J. TECH. & INTELL. PROP. 51 (2020) (recognizing that although incentives for patents are important, there are tradeoffs with access, such as for health care and pharmaceuticals, including effects concerning pricing, health risks, and essential medicines); Dan L. Burk, *Racial Bias in Algorithmic Patenting*, CARNEGIE MELON UNIV., <https://www.cmu.edu/epp/patents/events/jurix2020/abstracts/burk-abstract.html> [<https://perma.cc/26VJ-C4QJ>] (describing evidence of racial bias in the patent system, and noting that patent standards and practices are systematically excluding minorities).

justification of patents provides a counterargument and balance against the distributive justice principles of Islamic law. The Islamic social justice view illustrates the potential conflict between the patent bargain metaphor and Islamic values. Unlike a democratic society, where the potential conflict with the patent bargain concerns defining how broad the exclusivity the inventor should get and what inventions should be granted the exclusivity, an Islamic social justice objection to justifications for patents center on the effect of exclusivity on the religious principles and limitations of a Muslim society. This view has ignored that intangibles can provide positive benefits to social justice in society.³⁰⁸ Nonetheless, the Islamic social justice scholars that are critical of patents fail to recognize the beneficial features of patents that are recognized from Islamic commercial law principles.³⁰⁹ Addressing the criticisms against intellectual property strengthens the argument for the commercial justification of patents in Islamic law.

The potential for patents to concentrate power over large markets and concentrate power in the hands of a few parts of society motivates the positivist conceptions of social goods. Take, for example, Professor Elmahjub's reasoning:

For instance, if a corporation created an essential drug to cure a terrible illness by investing hundreds of millions of dollars and relying on publicly funded research, we should be cautious about accepting arguments that such a

308. Menell, *supra* note 202 (providing as examples access to life-saving genetic information, creative freedom, group identity, and increases in the distribution of wealth). "Advances in technological knowledge increase productivity, enhance the quality and reduce the cost of goods, and improve standards of living. Technological innovation can also address climate change, cure disease, and expand what societies can accomplish with limited resources." *Id.* at 17. Therefore, "[i]ntellectual property law and policy should thus be seen not just as an engine of economic progress, but also as an engine of human and cultural flourishing, dignitary values, access, inclusion, and empowerment." *Id.* at 59.

309. See NICHOLAS H.D. FOSTER, INDRET, ISLAMIC COMMERCIAL LAW: AN OVERVIEW (I), at 4–5 (2006), https://indret.com/wp-content/themes/indret/pdf/384_en.pdf [<https://perma.cc/96GS-WLJZ>] (discussing parts of *Shariah* relating to the exchange of goods and services with the aim of profit, including those concerning transactions and institutions).

corporation can rely on patent law to exercise broad control powers. We should question the extent to which it can exercise its monopoly to set prices, prevent others from reverse-engineering the drug, or prevent others from producing generic version of the drug for deprived populations in poor countries.³¹⁰

Criticisms against patents in Islamic society concern monopolization, concealment of knowledge, accessibility of lifesaving medicines, and bioethical limitations.³¹¹ These views focus on the potential of patents to reduce access to technologies for various segments of society, concentrate power, enable exclusive control, raise transaction costs, and block downstream innovation.³¹² Other scholars argue that patents do not promote innovation,³¹³ nor do they provide incentives to inventors.³¹⁴

Such reasoning, however, ignores that incentives, public interest, and teaching-function critical to Muslim social welfare, and forces shaping economic development are important subjects for examination. Although there are economic and societal costs with

310. ELMAHJUB, ISLAMIC VISION, *supra* note 4, at 7–8.

311. El Said, *supra* note 59, at 138, 145–49 (summarizing criticisms made by scholars against patents, including the creation of “a right that enables its owner or holder to preclude others from making, selling, distributing, importing, or dealing with the property subject to protection for a certain period of time,” creating “a monopoly [that] creates a conflict with some established Islamic principles” while providing as examples certain biotechnologies, human cloning, genetic engineering, and bio-engineering in agriculture and animals).

312. ELMAHJUB, ISLAMIC VISION, *supra* note 4, at 121.

313. *See generally* Soma Dey, Are Patents Discouraging Innovation? (Sept. 14, 2007) (unpublished manuscript), <https://ssrn.com/abstract=1014531> (suggesting that “the strategic complementarity between patenting and R&D is relatively weaker in the presence of licensing” and proposing that a patent regime’s effect on R&D depends on the licensing environment); Bernard Girard, Does ‘Strategic Patenting’ Threaten Innovation? And What Could Happen If It Did? (Jan. 16, 2012) (unpublished manuscript), <https://ssrn.com/abstract=1985495> (suggesting that overprotecting intellectual property in general, and patents specifically, “is not the only solution to promote innovation”; proposing that stronger intellectual property laws in the United States may not be good for other nations; and noting that patent law may cause speculative bubbles that could harm certain industries).

314. *See generally* Eric E. Johnson, *Intellectual Property and the Incentive Fallacy*, 39 FLA. ST. U. L. REV. 623 (2012) (arguing that the foundational belief that intellectual property, of which patents are an example, serves as incentive is a fallacy based on behavioral economics, psychology, and business management studies).

patents, a balanced approach to patents in Islamic society should recognize benefits such as invention motivation, invention dissemination, commercialization inducement, and orderly exploration control of patents.³¹⁵

2. *Patents As Promoting Incentives, Knowledge, and Teaching*

Scholars have long argued that exclusive rights from patents create barriers to entry and monopolization.³¹⁶ There are normative concerns about the concentrated nature of innovation with a relatively small number of companies that are granted patents and concerns about downstream effects on competition and pricing. But exclusive rights have effects in different contexts.³¹⁷ For example, patents can promote positive commercial benefits at various stages of a company's growth, such as promotion of company formation, attracting of investor capital, and market entry.

Broadening the commercial perspective also serves to argue against prohibitions of patents in Islamic law. This Subsection asserts that patents offer many benefits within the commercial principles of Islamic law. Proponents point out that patents provide one source of useful technical information to researchers,³¹⁸ demarcate the contours

315. Roberto Mazzoleni & Richard R. Nelson, *Economic Theories About the Benefits and Costs of Patents*, 32 J. ECON. ISSUES 1031, 1033, 1042 (1998) (summarizing broad theories about the principal positive purposes of patents in society, including: providing motivation for useful inventions, inducing inventors to disclose their inventions when they would otherwise rely on secrecy to facilitate wide knowledge about and use of the inventions, inducing the investment need to develop and commercialize inventions, and enabling orderly exploitations about broad invention prospects into a full range of possibilities).

316. See sources cited *supra* note 307.

317. See generally Jay P. Kesan, *Economic Rationale for the Patent System in Current Context*, 22 GEO. MASON L. REV. 897 (2015) (examining several theories that explain and justify the role of patents in the modern economy, including traditional *ex ante* and *ex post* justifications, as well as how these economic rationales may differ across industries); Douglas Lichtman et al., *Strategic Disclosure in the Patent System*, 53 VAND. L. REV. 2175 (2000) (explaining the strategic use of patent disclosure in the realm of patent races and, in so doing, analyzing the incentive to disclose for preempting a rival's patent when the laggard lacks the ability to leapfrog the leader, and concluding that a leader in a patent race has an incentive to disclose to cause the rival to quit the race).

318. See Lisa Larrimore Ouellette, *Do Patents Disclose Useful Information*, 25 HARV. J.L. & TECH. 531, 533 (2012).

of property rights,³¹⁹ achieve the goal of predictable patent claim boundaries,³²⁰ and provide incentives.³²¹ Patents have been considered to advance the storehouse of knowledge that leads to further advancements and improvements in a technology area.³²²

Legal mechanisms, such as patents, that enhance commerce and introduce innovation to modernizing economies will hopefully motivate Muslim-majority countries to further develop their patent systems. Of course, this proposal to apply commercial law principles from Islamic law to patents must address the aforementioned criticisms. This proposal may best be understood as introducing the beneficial features of patents to the commercial dialogue and within Islamic law doctrines. First, patents provide private incentives to invent, and the absence of them would discourage investments into research and development.³²³ Secondary sources of Islamic law support the view of permissible profit and trade as being acceptable and encouraged to advance Muslim society.³²⁴ An absence of incentives would dampen the pace of innovation in Muslim society. In this regard, considering public interest, a secondary source of Islamic law, would support efforts to create new industries. Second, consideration of the teaching function of patents should support the

319. See Alan Devlin, *The Misunderstood Function of Disclosure in Patent Law*, 23 HARV. J.L. & TECH. 401, 409 (2010).

320. See Joseph Scott Miller, *Enhancing Patent Disclosure for Faithful Claim Construction*, 9 LEWIS & CLARK L. REV. 177, 180 (2005).

321. See Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265, 276–78 (1977) (“[T]he patent owner has an incentive to make investments to maximize the value of the patent without fear that the fruits of the investment will produce unpatentable information appropriable by competitors. . . . Absent a patent on the product, the incentives to provide information to purchasers about their need for a product as opposed to information about the particular characteristics of the seller’s product are limited. . . . [T]he patent gives its owner an affirmative incentive to seek out firms and inform them of the new technology . . .”).

322. See *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 481 (1974).

323. Kesan, *supra* note 317, at 898–99 (asserting that innovation would be at suboptimal levels absent incentives provided by patents).

324. Malkawi, *Sharia Perspective*, *supra* note 1, at 95 (arguing that trade in Islamic legal systems can involve trade of physical products and trade of intellectual property for the purposes of making profit); Malkawi, *Structure and Practice*, *supra* note 1, at 626 (asserting that “[i]ntellectual property can also be justified on the basis of trade and making profits”); Milani, *supra* note 2, at 42 (arguing that intellectual property in Islamic law can be “justified on the basis of trade and making profits”).

view of patents enhancing Muslim society.³²⁵ The Quran specifies the necessity of revealing information when it is necessary for social benefits, and patents would allow for revealing information concerning how to make and use an invention.³²⁶ The technical disclosure function of patents provides associated knowledge spillovers and knowledge transfer.³²⁷ The positive view of knowledge sharing in Islamic law supports the public benefits to the knowledge contained in a patent and sharing of knowledge through disclosure.

C. Commercial Justifications of Patents

The intellectual property debate in Islamic law scholarship considers that social objectives and relations in an Islamic society should not be violated by potential monopolization effects of patents.³²⁸ As demonstrated *supra*, however, patents should not be weakened in Islamic society because they can be justified from sources of Islamic law through using a positive, normative framework in theory and in practice.³²⁹ Dominant themes in the commercial law discourse in Islamic law can provide support for socio-political links to the positive, normative framework of patents in Islamic law.³³⁰ The existing Islamic commercial law principles, which are associated with transactions, institutions, and industry as guiding humans' free will in dealing justly with God and fellow human beings in trade,³³¹ can serve as foundations for justifying patents in Islamic law. There are, accordingly, well established

325. Nefissa Chakroun, *Improving Patent Information Quality: Development and the Disclosure Requirements*, 15 J. WORLD INTELL. PROP. 199, 199 (2012) (suggesting that disclosure of patent information is essential for development for a society).

326. Asad Zaman, *Contrasts Between Islamic and Economic Views of Incentives* 3 (Sept. 17, 2013) (unpublished manuscript) (on file with the Georgia State University Law Review).

327. See Wesley M. Cohen et al., *R&D Spillovers, Patents and the Incentives to Innovate in Japan and the United States*, 31 RSCH. POL'Y 1349, 1349–50 (2002); see also Ouellette, *supra* note 318, at 548, 550.

328. See *supra* Sections I.B.2, I.C.2.

329. See *supra* Sections II.A, II.C.

330. See *infra* Sections II.C, II.D.

331. ROBERT DICKSON CRANE, *ISLAMIC COMMERCIAL LAW IN CONTEMPORARY ECONOMICS* 1, 5, 14 (1981), <https://apps.dtic.mil/dtic/tr/fulltext/u2/a107751.pdf> [<https://perma.cc/U6FB-9NHT>]; FOSTER, *supra* note 309.

Islamic commercial law principles and norms to protect the rights of businesses and commercial dealings. It is therefore surprising that similar justification to protect the rights of inventors and innovators involved in commerce does not exist yet in a theoretical and theological sense.

Broadening the prevailing perspective of restricting or prohibiting intellectual property in Islamic law, this Article's observations suggest greater attention to the commercial law functions of patents in promoting innovation. As noted *supra*, one view of Islamic law scholarship has focused on the role of exclusive rights as concentrating power and creating imbalances in Muslim society, whereas other views of Islamic law scholarship have drawn from principles concerning permissible profit and trade. This is a valuable and challenging line of inquiry, which requires exploring normative implications from a Western and a non-Western lens.

The key questions explored in this Section are first, what justifications for patents support commercial functions within an Islamic society, and second, to what extent do the justifications could draw support from the Article's normative framework in implementing their practical adaption? The aspiration is not to promote developing binding conventions in Islamic legal systems but to initiate a bottom-up process to begin dialogue and future scholarship. Recognizing the roles of public interest, regulatory, and commercial assuredness is necessary to establish justifications for patents in Islamic law. By acknowledging the strong resistance of the social justice community but recognizing the need to protect inventors and innovators, these commercial law instruments provide a guiding framework. The Article's normative framework for patents can also be used as a tool to implement the justifications provided herein to implement in Islamic societies where the innovation policy relevance is of great modern emphasis.

1. *Public Interest Justification*

As demonstrated *supra*, patents can be justified as property rights within Islamic law.³³² But public interest objectives within Islamic law can also provide guidance for patent policy in an Islamic society. The property-based justification of patents within Islamic law stems from construing primary sources of Islamic law, whereas public interest justifications stem from secondary sources of Islamic law.³³³ Generally, the property-based justification of patents within Islamic law may have the laudatory impact of working toward a system that results in more innovation, which in turn, could increase public interest of modern Muslim-majority countries.

In some cases, scholars have argued that the property-based justification of patents does not fit completely or sufficiently well into the property rights paradigm within Islamic law, and as a result, public interest provides a separate and supplementary justification.³³⁴ In other words, where the property-based construct of patents within Islamic law does not define the limits of those rights or is unclear, then public interest should serve as a principle that serves as a societal duty in an Islamic legal system. Thus, if property law in Islamic law is unclear or does not provide sufficient justification to recognize patents under Islamic law, then public interest principles can fill the gap. The lack of explicit reference to anything akin to patents within Islamic sources of law gives more reason for implicitly

332. *See supra* Section II.A.1.

333. El Said, *supra* note 59, at 133, 139–42 (recognizing that patent protection can be construed from a legal ruling based on the Quran and the Sunnah, which are primary sources of Islamic law, and that public interest, or *maslaha*, can be used to promote the preservation of property and achieve the objectives of an Islamic society so long as public interest does not conflict with an existing ruling).

334. Elmahjub, *supra* note 129, at 32–34 (stating that public interest in Islamic law refers to “[a]ny action or policy that brings benefit to the community . . . for which there is no specific text” concerning it, and more specifically meeting three conditions: “(1) It must be certain, and this condition is fulfilled after conducting an evaluation to determine if its consequences constitute a definite interest to the community; (2) It must be general, in that [it benefits] the whole community or the majority of its members, and not only a limited number[, which] resembles what is known in Western political thought as ‘the greatest good for the greatest number’; (3) It must be compatible with the primary sources and must not breach fixed principles provided in the Qu’ran, Sunnah, or *Ijma*” (cleaned up)).

deriving patents through secondary sources of Islamic law, such as public interest.

The theological orientation of patents within Islamic law can be examined in the context of its nexus with the public interest obligation of Islamic law through *fiqh*. Public interest, or *maslahah*, in Islamic law literally means securing benefit (or a cause of benefit) or removal of harm.³³⁵ Public interest serves as a normative tool in an Islamic society when Islamic law is silent on particularly novel situations.³³⁶ Furthermore, the legal meaning of public interest can be construed to mean that commerce can be the cause of benefit, as long as it does not conflict with the primary sources of Islamic law.³³⁷ While the majority of Muslim jurists consider public interest as a source of Islamic law, there is disagreement and some doctrinal schools (*madhabs*) reject it.³³⁸ Nonetheless, applying the majority view in a rational and reasoned sense, legal instruments that serve as a source of achieving an Islamic societal goal that is good provides support for patents in Islamic law. Specifically, the core of public interest principle in Islamic law can serve as a juristic device to conclude that patents provide advantage, benefit, or prosperity for Muslim society by promoting innovation.³³⁹

The repeated resonance of public interest objectives of Islamic law in commerce is a common theme that informs the foundations of modern Muslim-majority countries.³⁴⁰ In advancing this

335. See Nik Abdul Rahim Nik Abdul Ghani et al., *Maslahah As a Source of Islamic Transactions*, 33 ISLAMIYYAT 59, 60–61 (2011) (providing as a literal meaning of public interest, or *maslahah*, to be suitability, which implies “a cause, a means, an occasion or a goal which is good or is for good,” and providing as a technical meaning, to be “benefit and interest, which Islamic law tends to achieve for humans by way of protecting the five basic values[:] religion, life, intellect, lineage, and property”).

336. Elmahjub, *supra* note 129, at 101–03.

337. See Hayatullah Laluddin, *Maslahah's Role As an Instrument for Revival of Ijtihad*, 8 INT'L J. ISLAMIC THOUGHT 27, 27 (2015) (concerning public interest as being, “what we mean by *maslahah* is protection of the purposes of *Shari'ah* which are: preservation of religion, life, reason, descendants, and property” (quoting Islamic philosopher al-Ghazali)).

338. *Madhhab*, THE OXFORD DICTIONARY OF ISLAM (John Esposito ed., 2003) (explaining that the Shafii *madhhab* does not allow for juridical opinions based on public interest).

339. AZMAT HAYAT & MUHAMMAD HAKIMI MUHAMMAD SHAFIAI, THE NATURE OF PUBLIC INTEREST IN MUSLIM AND NON-MUSLIM WRITERS 15 (2019), <https://mpr.ub.uni-muenchen.de/94153/> [<https://perma.cc/9952-VTLS>].

340. See generally Elvan Syaputra et al., *Maslahah As an Islamic Source and its Application in*

socioeconomic public interest theory, patents are justified in Islamic law by fulfilling a social benefit objective to serve the larger innovation and economic development needs of a modern Muslim society. As such, public interest is not a per se justification for patents in Islamic law. However, the concept of *maslaha* can serve as a vehicle for legal change and can address situations that are not addressed in the scriptural sources of law in Islam.³⁴¹ The general principle of serving the public good to promote well-being and welfare in an Islamic society as a justification can drive and dictate the larger public benefits of technology advancement and innovation.³⁴²

2. *Regulatory Justification*

In addition to applying principles from the conceptual, positive, normative framework of patents based on the Quran and the Sunnah,³⁴³ patents can be justified through *siyasa* lawmaking as an instrument and as a means of regulating markets. As a grant from the state, patents can shape the creation, development, and organization of markets.³⁴⁴ The scope of patents as a regulatory tool has been set aside or unexplored by Islamic law scholars. Instead, the view of patents has been reduced to access limitations and distributed value concerns in an Islamic society.³⁴⁵ However, the social justice concerns emphasize only one dimension of the patent instrument and

Financial Transactions, 2 J. RSCH. HUMANS. & SOC. SCI. 66 (2014) (finding that *maslaha* has a role in Islamic financial transactions).

341. Felicitas Opwis, *Maslaha in Contemporary Islamic Legal Theory*, 12 ISLAMIC L. & SOC. 182, 183 (2005) (suggesting that *maslaha* bestows legitimacy to new rulings in Islamic jurisprudence).

342. See generally Md. Abdul Jalil et al., *The Greatest Good for the Greatest Number of People: An Islamic Philosophical Analysis*, 9 J. SOC. SCIS. & HUMANS. 14 (2014) (analyzing the harmonization of Western philosophy with Islamic jurisprudence of public interest, or *maslaha*, to argue that the greatest good for the greatest number of people provides a philosophical justification for an Islamic society).

343. See *supra* Section II.A.

344. See generally Daniel F. Spulber, *How Patents Provide the Foundation of the Market for Inventions*, 11 J. COMPETITION L. & ECON. 271 (2015) (developing a framework that demonstrates that patents provide a foundation of the market of inventions).

345. See *supra* Section II.B.1.

ignore the role of patents as an administrative means of regulating markets and creating new ones.

The market regulatory function of patents provides another justification for patents in Islamic society—a role that is critical for the economic development of many Muslim-majority countries. Furthermore, a regulatory view of patents resolves some of the tensions between Western patent systems and an Islamic vision of patents raised by some scholars.³⁴⁶ Once patents are seen as a means of regulating behaviors and establishing commercial integrity in an Islamic society, then patents can be seen to work like other laws and regulations that Muslim-majority countries enact to bring market value and Islamic commercial value to support the development of innovation economies.³⁴⁷

Patents should be understood as enhancing permissible profit and trade within the principles of Islamic law.³⁴⁸ The connection between the regulatory role of patents and Islamic society has not been cogently made in other scholarship. Whatever the reason for scholars ignoring that relationship, the regulatory approach augments Islamic law's commercial law principles and helps to establish well-regulated markets in Islamic societies.³⁴⁹ Under the administrative and regulatory principles in Islamic law, patents are justified because they effectively govern behaviors among those engaged in commercial activity within Islamic society and foster a well-regulated marketplace.³⁵⁰

346. Elmahjub, *supra* note 129, at ii, 66–73 (providing as examples inconsistencies and tensions with Western and Islamic notions of patents, such as concealment of knowledge, protectable subject matter, indefiniteness, and accrual of tremendous wealth relative to minimal labor and effort).

347. *See infra* Section II.D.

348. Foster, *supra* note 309 (suggesting that instruments that promote the exchange of goods and services with the aim of profit are a part of Islamic commercial law).

349. *Id.* at 5 (defining Islamic commercial law as “all those parts of the shari’a relating to the exchange of goods and service with the aim of profit”).

350. CRANE, *supra* note 331, at 14; Foster, *supra* note 309; *see also* Shuba Ghosh, *Patents and the Regulatory State: Rethinking the Patent Bargain Metaphor After Edred*, 19 BERKELEY TECH. L.J. 1315, 1317, 1318–19, 1349–50, 1352–53, 1357, 1368–69 (2004) (introducing a regulatory view of patents and describing patents as enabling the market to function more efficiently by promoting reciprocity).

Furthermore, as defined in the next Subsection, “commercial assuredness” captures the role of patents as a regulatory means within Islamic law principles and draws upon prior Western scholarship’s focus on patents as providing assurance.³⁵¹ Thus, the regulatory view of Islamic law recognizes that patents’ assuredness allows markets to function more efficiently via capturing different commercial contents of patents.³⁵²

3. *Commercial Assuredness Justification*

An Islamic law theory of patents should not be understood solely in terms of Islamic social relations, but more so in terms of regulating societal behaviors through commercial assuredness. There is a debate over the proper role of an Islamic legal system in regulating a marketplace and tensions with Islamic social relations theories.³⁵³ Commercial assuredness is an alternate Islamic law theoretical view of patents, which responds to the critiques of Islamic social relation theories.³⁵⁴

Though access and distributed values concerns may present limitations to the reach of patents in an Islamic society,³⁵⁵ the commercial assuredness model presents permissible private orderings involving patents. The central point is that Islamic social relation theories present limitations to the economic reach and potential monopolization effects of patents but are countered by the need to promote certainty and predictability of commercial relations influenced by patents.³⁵⁶ Three main benefits drawn from Western

351. *See infra* Section II.C.3; *see also* Ghosh, *supra* note 350, at 1315, 1319, 1330, 1335–38, 1352–53, 1357, 1360–61, 1363 (suggesting that patents yield assurance in the marketplace, and that such assurance provides a basis for understanding patents as market regulatory policy).

352. *See infra* Section II.C.3.

353. *See* SHEIKH YUSUF AL-QARADAWI, *THE LAWFUL AND THE PROHIBITED IN ISLAM* 257 (Al-Falah Found. trans., 1989) (noting that “a basic principle in the field of [Islamic] commerce[,] that the market, its prices, and sales, should be left free to respond to internal economic forces and natural competition without manipulation,” but recognizing that commercial practices should not go against the aims and purposes of *Shariah* and that social and economic life must function smoothly in an Islamic society).

354. *See supra* Section I.B.2.

355. *See supra* Section II.B.1.

356. *See supra* Section I.B.2.

systems—the use of patents in business relations, information sharing, and serving as incentives—can be reconciled with Islamic law principles to promote commercial certainty.

First, patents can be aligned with Islamic law principles when considered as an asset to promote business relations. Similar to other property rights in Islamic law, patents can be construed as property rights that can be owned by a business entity in an Islamic society. The Western view of patents in business is based on two theoretical principles—the theory of the firm,³⁵⁷ and the commercialization theory.³⁵⁸ The theory of the firm partitions internal assets of the firm from external assets, and it considers that property owned by the firm determines bargaining positions of parties.³⁵⁹ This view considers that patents are a form of property owned by the firm that facilitates bargaining behaviors in a market and in business relationships between various firms.³⁶⁰ The commercialization theory, which is more relevant in this context, suggests that patents promote innovation by transforming inventions into products and services that can be sold in markets.³⁶¹ The commercialization view considers that patents indirectly promote innovation by creating incentives to bring inventions to market and, in so doing, facilitate business relations in a particular market (as well as nonmarket relations).³⁶² Thus, the business relations view of patents emphasizes patents' commercial value and considers that there is a relationship between patenting behaviors and business behaviors. Islamic social relation theories fall short of considering patents as a means to promote and enable

357. See generally Oliver Hart & John Moore, *Property Rights and the Nature of the Firm*, 98 J. POL. ECON. 1119 (1990) (arguing that a firm is identified with the assets in the form of property rights that its owners control).

358. See Ted Sichelman, *Commercializing Patents*, 62 STAN. L. REV. 341, 345 (2010) (providing a commercialization theory to modify the reward theory to encourage patenting later in the innovation process).

359. Hart & Moore, *supra* note 357, at 1122.

360. See generally Paul J. Heald, *A Transaction Costs Theory of Patent Law*, 66 OHIO ST. L.J. 473 (2005) (arguing that patents act as affirmative asset partitions in the corporate form).

361. Sichelman, *supra* note 358, at 345, 351–54.

362. See generally Camilla A. Hrdy, *Commercialization Awards*, 13 WIS. L. REV. 13 (2015).

business relations between firms.³⁶³ Just as other legal instruments of Islamic law impact commercial dealings (such as debt and credit instruments and principles),³⁶⁴ patents serve a coordination function to guide business relations in an Islamic society.³⁶⁵

Second, patents can be construed within Islamic law principles as promoting commercial transactions by serving an information function. Under the information theory of patents, transaction costs are reduced and interested investors receive higher quality information from innovative firms.³⁶⁶ The function of patents meets the Islamic law principle of providing certainty and predictability in commercial transactions. As a result of the information function of patents, externalities are resolved by information-based goods. For example, an innovator would want to reveal information about the innovation to an interested party but doing so could obviate the need for the second party's interest.³⁶⁷ Patents minimize such externalities by reducing search and transaction costs in the marketplace, and they also serve a signaling function.³⁶⁸ The teaching function and disclosure of patents reveals the metes and bounds of an invention to the public and, in so doing, gives notice about ownership and rights to the marketplace.³⁶⁹ Such an information revealing benefit of patents can be extended toward signaling the patent holder's value to potential investors and acquirers.³⁷⁰ As such, patents serve as an information tool to enable economic appropriation and resolve

363. See *supra* Section II.C.3.

364. Foster, *supra* note 309 (suggesting that instruments that promote the exchange of goods and services with the aim of profit are a part of Islamic commercial law).

365. See Sichelman, *supra* note 358, at 343, 376; see also Kitch, *supra* note 321, at 276.

366. See Clarisa Long, *Patent Signals*, 69 U. CHI. L. REV. 625, 631 (2002).

367. Kenneth J. Arrow, *Economic Welfare and the Allocation of Resources for Invention*, in *THE RATE AND DIRECTION OF INVENTIVE ACTIVITY: ECONOMIC AND SOCIAL FACTORS* 609, 614–16 (Richard R. Nelson ed., 1962) (explaining that absent a legal right protecting information, in order to sell information, it usually must be disclosed, but once disclosed it has no monetary value).

368. See Clarisa Long, *Information Costs in Patent and Copyright*, 90 VA. L. REV. 465, 495 (2004) (stating that patents signal information about themselves that would be more expensive to do so through other means and, in so doing, serve as informational mechanisms).

369. See Jason Rantanen, *Patent Law's Disclosure Requirement*, 45 LOY. U. CHI. L.J. 369, 374–75 (2013) (explaining the reasons for patent law's disclosure requirement, including to limit "the maximum scope of patent claims . . . [by] establish[ing] the outer boundaries of what the applicant might claim").

370. Long, *supra* note 366, at 628, 631.

externalities. These principles are aligned with Islamic commercial law principles of clarity in commercial exchange,³⁷¹ which effectively gives parties confidence and trust with commerce in Muslim societies. The knowledge about an innovation represented by a patent creates and subsumes uncertainty in commerce, which is a central goal of Islamic commercial transactions.³⁷²

Third, patents can be construed within Islamic law principles as supporting property rights by serving as incentives. This view considers that patents could be construed as property rights and, as such, can promote efficient markets to maximize social welfare in an Islamic society. This assumes that strong property rights would allow individuals to secure their interest in the marketplace, and because markets function through self-interests, strong property rights would then provide the basis for a well-functioning marketplace.³⁷³ As such, there is alignment with Islamic principles that allow for inventors to maximize their interests to avoid threats of imitators in a nonproprietary Islamic marketplace. Absent such property rights, an Islamic society would then suffer from a tragedy of commons due to depletion and spoiling of shared resources.³⁷⁴ Just as property rights

371. ISRA & THOMSON REUTERS, *ISLAMIC COMMERCIAL LAW REPORT* 2016, at 17, 118 (2016) (describing the importance of the principle of transparency in Islamic commercial transactions).

372. See Ryan M. Rittenberg, *Gharar in Post-Formative Islamic Commercial Law: A Study of the Representation of Uncertainty in Islamic Legal Thought* 1, 78 (Jan. 1, 2014) (Ph.D. dissertation, University of Pennsylvania) (on file with the Georgia State University Law Review) (conceptualizing different forms of uncertainty that cause *gharar*, which is a central theme in Islamic commercial dealings and which contemporary Western scholars of Islamic law have translated as either “risk” or “uncertainty”).

373. Adam Mossoff, *Institutional Design in Patent Law: Private Property Rights or Regulatory Entitlements*, 92 S. CAL. L. REV. 921, 922–23, 926 (2019).

374. See Michael A. Heller & Rebecca S. Eisenberg, *Can Patents Deter Innovation? The Anticommons in Biomedical Research*, 280 SCIENCE 698, 698 (1998) (defining a tragedy of the commons as a metaphor concerning “the cost of overuse when governments allow too many people to use a scarce resource”); Michael A. Heller, *The Tragedy of the Anticommons: Property in the Transition from Marx to Markets*, 111 HARV. L. REV. 621, 622 (1998) (specifying that the tragedy of the commons occurs “[w]hen too many owners hold such privileges of use, [and thus] the resource is prone to overuse”); Hazik Mohamed, *Investments & Environmental Damages: An Islamic Perspective*, WAHED: INDUS. INSIGHTS, <https://journal.wahedinvest.com/investments-environmental-damage-an-islamic-perspective/> [<https://perma.cc/E4QM-JTTS>] (explaining that Islamic law’s prohibition of wastefulness requires efforts to preserve the environment to prevent overexploitation that leads to a tragedy of the commons).

are justified in Islamic law for the discovery and marketing of natural resources, such as oil- and gas-related products, inventions can be more efficiently brought to the market and to the public domain through patents in an Islamic society. Thus, an Islamic theory of patents not only prevents the harms of unauthorized imitation in a Muslim society but also serves to promote efficient markets in a Muslim society. Nonetheless, because strong property rights in patents, such as broad patent prospects, may limit market entry and create monopolization effects, a more proper scope and scale should be designed for Islamic society to fit with Islamic limitations.³⁷⁵

D. Integrating Justifications of Patents Within the Normative Framework

It is essential to strengthen patent protection in Islamic legal systems to support the transformational innovation and economic development initiatives for Muslim-majority countries. Promoting Islamic commercial law-based justifications of patent protection through a conceptual framework and clarifying its parameters in practice is relevant to innovation policy.³⁷⁶ Muslim-majority countries have observed that property exceptionalism is no longer warranted in Islamic law and have advanced broader innovation policy objectives of modern-day Muslim societies.³⁷⁷

An Islamic law theory of patents should be understood in terms of regulating societal behaviors through commercial law justifications,³⁷⁸ while recognizing limitations posed by access and distributed values.³⁷⁹ This analysis reveals that an Islamic normative vision should embrace benefits of patents with business relations and information sharing in an Islamic society,³⁸⁰ but patent protection should have a more narrow scope for an Islamic legal system than a

375. *See infra* Section III.B.

376. *See supra* Sections II.A, II.B, II.C.

377. *See supra* Section I.C.

378. *See supra* Section II.C.

379. *See supra* Section II.B.1.

380. *See supra* Section II.C.3.

Western system due to moral and ethical limitations with patentable subject matter.³⁸¹ Additionally, principles and theories of patents in Islamic law can be adopted with the conceptual normative framework to more aptly promote industry regulation through a more intrusive role for an Islamic legal system. Industry-specific tailoring should identify how an Islamic theory of patents can deal with unique problems facing different industries in an Islamic society.³⁸²

A related challenge is to explore the extent to which patent protection should be narrowed. Another related challenge is developing appropriate industry-specific technological regulations in Muslim-majority countries. It is necessary to establish the particular reach of patents in an Islamic society that, by contrast to Western legal systems, necessitates evaluation of public interest and morality principles within Islamic law. The normative implications, prescriptions, and future research of patents in Islamic law reflect one of the most fundamental issues for innovation and economic development in Muslim-majority countries.³⁸³ The interplay between public interest and morality uniquely encourages innovation and economic development in an Islamic legal system.

Much of the current discourse on intellectual property in Islamic law scholarship, particularly from social justice-focused scholars, is a reactive response where patents are seen as incompatible with Islam. However, a proactive and developmental innovation policy strategy that adopts and improves Western notions of patents to align with Islamic principles reduces inconsistencies. Islamic law should consider a strategy for adaptation of Islamic principles to support patent protection to encourage innovation and economic development in Muslim-majority countries, many of which have weak protection and enforcement of intellectual property. In the context of innovation and economic development, it is important to recognize that Islamic societies are at least able, or willing, to protect and not undermine

381. *See infra* Section III.B.

382. *See infra* Section III.A.

383. *See infra* Part III.

rights and securities in inventions from a broader range of sociopolitical religious factors.

III. NORMATIVE IMPLICATIONS, PRESCRIPTIONS, AND FUTURE DIRECTIONS

This Article argues for a conceptual, theoretical, and theologically sound justification and framework for patents in Islamic law. It recognizes that the interpretation of patents in Islamic law is subject to several non-Western considerations, including public interest and morality-based Islamic principles. Several features specific to Islamic law push in different directions from U.S. patent law to take Islamic religious considerations into account.

Turning to normative implications, this Article argues that patents in Islamic law based on a Western perspective can be salutary to a point in a Muslim-majority society, but Islamic legal systems should consider the interplay of public interest and morality-based Islamic principles to shape a unique role for patents. To do so, this Article prescribes industry-specific regulations based on public interest considerations, tailored narrower patentable subject matter based on morality and ethical principles, and *ex ante* institutional intervention of patentable subject matter by a *Shariah* Board to avoid *ex post* patent enforcement remedies based on public interest factors.

A. *Normative Implications for Industry Regulation and Patent Policy*

Having explored numerous theoretical and theological drivers of intellectual property generally and patents specifically in Islamic law, this Section now turns to normative implications for industry regulation and patent policy in an Islamic legal system. Although a comprehensive evaluation of all industries is beyond the scope of this Section, a high-level perspective reveals several general insights and serves as a foundation for future research on patent law and policy in an Islamic legal system. Due to Islamic law's particular concern with public interest, this Section will focus on its relationship with

industry regulation; in so doing, it argues that Islamic law allows for tailoring of public interest principles for the needs of particular industries in promoting innovation and economic development.

Essentially, public interest in an Islamic society sense can apply to specific circumstances and facts raised by different industries and technologies to mold the innovation process. One mechanism for rationalizing an Islamic law theory of patents to be more sensitive to the public interests of modern Muslim societies is to shape certain industry policies. It should not be surprising that many Muslim-majority countries have already begun to shape the development of certain technological industries, particularly biotechnology and software.³⁸⁴

Western scholars have cautioned against attempts to tailor patent policies to specific industries.³⁸⁵ In theory, the U.S. patent system is technology-neutral, and it applies the same rules to different technologies and industries. As a result, it would be inefficient to apply industry-specific patent law in Western economies. However, the problems with tailoring industry-specific rights are less of a concern in a Muslim society because religious guidelines and prohibitions present new considerations for Islamic society. Similarly, patent laws that are applied to specific industries in an Islamic society should consider religious principles and limitations that may impact innovation processes and competition.

There are special rules for industry regulation in an Islamic legal system, and these rules result from the application of general rules of Islamic law to idiosyncratic and often new developments that are acknowledged as particular religious guidelines. A good example of an industry-specific rule is the rule governing *Shariah*-compliant mutual funds provided by the Islamic financial industry that prohibits investment in businesses that earn profit from alcohol, gambling,

384. *See supra* Section I.D.

385. Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575, 1578 (2003) (noting concerns with rent-seeking and the inability of industry-specific statutes to respond to changing conditions).

pork, pornography, and weapons products.³⁸⁶ Another example is provided by cartoon and film industries that prohibit depictions of Prophet Muhammad because they are considered anti-Islamic blasphemy, including by the OIC.³⁸⁷ Given that existing law arose, and most law-making when encountering new considerations in Muslim-majority countries occurs, through Islamic religious considerations, it would be surprising if an Islamic law theory of patents did not exhibit differences that could be correlated with specific industries and technologies.

A narrow version of the conclusion that Islamic law allows for tailoring of public interest to specific industries is that Muslim-majority countries should be more self-conscious and adopt a systematic approach to developing industry-specific considerations as an application of an Islamic law theory of patents. To rationalize and systematize the approach of tailored patent policy to encourage innovation, the point that needs to be implemented better in devising an Islamic theory of patents is to enhance industry regulation.

Part of the challenge is the existence of implicit normative assumptions about competition and innovation and the development of certain ad hoc and heterogeneous reflections. Nonetheless, an Islamic law theory of patents involves fewer policy levers than Western patent systems because the tailoring of goals to certain technological industries is limited to Islamic principles.³⁸⁸ Tellingly,

386. Aminu Yakubu et al., *Legal and Illegal Earning in Islam: A Literature Review 2* (Apr. 25, 2019) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3499695; HSBC AMANAH, *INTRODUCTION TO ISLAMIC INVESTING 2* (2015), <https://www.islamicfinance.com/wp-content/uploads/2015/05/HSBC-Introduction-to-Islamic-Investing.pdf> [<https://perma.cc/X7L5-KBPE>]. See generally Standing Comm. for Econ. & Com. Coop. of the Org. of Islamic Coop. (COMCEC), *Proceedings of the 11th Meeting of the COMCEC Financial Cooperation Working Group: "Islamic Fund Management"* (Nov. 2018), <http://www.comcec.org/en/wp-content/uploads/2018/11/11-FIN-PRO.pdf> [<https://perma.cc/ZHN4-553Q>]; Raphie Hayat, *Essays on Shariah Compliant Stocks* (June 26, 2015) (Ph.D. dissertation, Vrije Universiteit Amsterdam) (on file with the Georgia State University Law Review); Mufti Taqi Usmani, *Principles of Shariah Governing Islamic Investment Funds*, ALBALAGH, https://www.albalagh.net/islamic_economics/finance.shtml [<https://perma.cc/BCR9-CXSP>].

387. *History*, *supra* note 15 (explaining that the OIC is an intergovernmental organization comprised of fifty-seven Muslim-majority countries that is considered as the "collective voice of the Muslim world").

388. See *infra* Section III.B.

although Western approaches echo industrial policy that some policymakers may oppose,³⁸⁹ especially those who have championed a deregulatory approach, an Islamic law theory of patents shaped by industry regulation would entail fewer questions than Western contexts. Questions concerning which industries to target and what shape the policies should take are more easily answered in an Islamic society where limitations would be imposed by religious law and where those decisions are already delegated to ministries and councils.

Thus, the debate over the proper role of an Islamic legal system in regulating the marketplace implies a more intrusive and clearer role for Muslim-majority countries in tailoring patents than in Western contexts. In addition to commercial assurance, industry regulation implies a role for the Islamic legal system in Muslim society that creates normative implications and motivation for prescriptions.³⁹⁰

B. Normative Implications and Prescriptions for Patentable Subject Matter

Patentable subject matter within Islamic law demarcates what constitutes an invention and may be excluded as an invention in an Islamic society. In general, patentable subject matter, which refers to what is eligible to be patented, has significant links to any religion because it matters from a moral perspective.³⁹¹ The boundary of patentable subject matter in Islamic law is essentially a policy choice with major implications for innovation and economic development of Muslim-majority countries. Hence, patentable subject matter's function as a limitation embodies a normative belief and indicates a social choice that is based on Islamic law considerations.

389. See generally Roger Pilon, *On the Folly and Illegitimacy of Industrial Policy*, 5 STAN. L. & POL'Y REV. 103 (1993) (analyzing the constitutional authority for industrial policy in the United States); WILLIAM R. NESTER, A SHORT HISTORY ON AMERICAN INDUSTRIAL POLICIES (1998) (analyzing the ideological and political struggles of the United States' industrial policymaking).

390. See *supra* Section II.C.3, II.D.

391. See Joshua D. Sarnoff, *Religious and Moral Grounds for Patent-Eligible Subject Matter Exclusions*, in PATENTS ON LIFE, *supra* note 59, at 38, 56–58 (discussing religious exclusions for discoveries of science, nature, and ideas that involve moral considerations).

Patents in Islamic society must balance competing interests of permitting patents based on Islamic law and monitoring access and distributed values objections in an Islamic society.³⁹² This debate concerning competing interests continues even while rudimentary patent laws exist in some Muslim-majority countries. This Article provides a middle ground justification for patents that could reconcile these two opposing views. The normative determination of patents in Islamic law, which this Article has made clear can be implemented in practice with enhanced industry regulation for encouraging innovation, could very well lead to economic development in Muslim-majority countries.³⁹³

However, patents in Islamic law are not so simple and clear, and are not a matter of just a simple tuning mechanism. The other side of the coin is the question of limitations, which, unlike Western patent systems, must include considerations of Islamic ethics and morality.³⁹⁴ Having examined patents in Islamic law, an important normative question arises: What are the limitations, and which institution should address those limitations in an Islamic society? Accordingly, this Section engages in a normative evaluation of limitations to patents in Islamic law, institution choice for assessing such limitations, and resulting ancillary benefits. These considerations especially apply toward patent eligibility—in two ways. First, the scope of what may be allowed to enter the patent system in an Islamic state should be narrower than in a Western legal system. Second, the means to assess inventions that present ethical and moral considerations necessitate a more stringent examination for patentability in an Islamic state. To further shore up these prescriptions, this Section turns to doctrines from Western notions of the patentable subject matter doctrine and institutional assessment, and formulates a more holistic framework of patents in Islamic law.

392. See *supra* Section II.B.1.

393. See *supra* Section III.A.

394. See generally al-Aidaros et al., *supra* note 65 (comparing and contrasting the Islamic and Western perspectives of ethics and, in doing so, presenting the Divine Command Theory that reasons ethics and religion always go together in monotheistic religions).

1. *Tailoring of Patentable Subject Matter with Ethics and Morality*

The question of whether an invention qualifies for patent protection is referred to as patentable subject matter. The boundary of patentable subject matter is essentially a policy choice for Muslim-majority countries on the optimal balance between Islamic law and innovation. If the patentable subject matter boundary in Islamic law is marked off too broadly, then it may conflict with Islamic prohibitions and may also impair other innovators' ability to improve upon the works of others in a Muslim society. If the patentable subject matter boundary in Islamic law is marked off too narrowly, then it may fail to protect the most socially valuable aspects of inventions and may diminish incentives to innovate in a Muslim society. Indeed, much is at stake in striking the optimal balance of patentable subject matter because the shape and pace of innovation strongly impact economic development and the advancement of Muslim-majority countries.

Patents clearly offer many benefits for commerce and for encouraging innovation and economic development in Muslim-majority countries.³⁹⁵ However, patents in Islamic law have limitations due to religious considerations. Ethical and moral codes in Islam could restrain new scientific and technological developments.³⁹⁶ Ultimately, there is a delicate normative balance with patentable subject matter in Islamic law. Muslim-majority countries should address instances of tailoring patentable subject matter where the ethical and moral harms of patents outweigh their innovation benefits. Biotechnology presents many morally controversial inventions that may conflict with norms or values held

395. See *supra* Section II.D.

396. See generally Wael K. Al-Delaimy, *Ethical Concepts and Future Challenges of Neuroimaging: An Islamic Perspective*, 18 SCI. & ENG'G ETHICS 509 (2012) (suggesting the need for setting up ethical frameworks and guidelines for Islamic considerations when presented with new scientific and technological developments, such as functional Magnetic Resonance Imaging and its impact on neuroscience, brain function, and conscious confession).

by a society.³⁹⁷ A tailored patent system, which excludes patent protection based on the unique characteristics of an invention that are prohibited by Islamic law, can be used to improve the function of a sound Islamic patent system.³⁹⁸

This Article suggests that Muslim scholars and policymakers focus less on wholesale changes to patent law in Muslim-majority countries and instead pursue more granular modifications to patent law concerning the *ordre public* exception that may violate the principles of *Shariah*.³⁹⁹ In particular, policymakers in Muslim-majority countries should modify patent laws in light of differential treatment by the underlying Islamic school of jurisprudence and by the degree of primacy of *Shariah*,⁴⁰⁰ rather than assume a unitary interpretation of patents in Islamic law. For example, differences in the underlying Islamic *madhab*, or school of jurisprudence, influence the scope and reach of moral and ethical exceptions to patent eligibility.⁴⁰¹ As an additional example, Oman, Qatar, and Saudi Arabia consider *Shariah* as having varying levels of authority on their legal systems—from authoritative to persuasive in some countries, to all-encompassing in Saudi Arabia.⁴⁰² At present, what may be patentable in Islamic legal systems is subject to exclusion by a later determination of violation. As a result, downstream innovation can suffer from a less reliable and predictable patent system in Muslim-majority countries.

397. Margo A. Bagley, *Patent First, Ask Questions Later: Morality and Biotechnology in Patent Law*, 45 WM. & MARY L. REV. 469, 475 (2003) (providing examples of morally questionable inventions such as “isolated genes, sequenced DNA, medical procedures, embryonic stem cells, genetically modified transgenic animals, and methods of cloning mammals”).

398. Fusco, *supra* note 21, at 312, 323 (explaining that the Venetian government used its power to decide patent terms to tailor incentives for certain industries more than others and, in so doing, the power was used to improve regulatory authority in optimizing the advancement of certain industries).

399. See El Said, *supra* note 59, at 151 (suggesting that Muslim-majority countries should consider a proactive approach and develop national policies under the principles of *Shariah*).

400. PRICE & ALDEBASI, *supra* note 1, at 21; PRICE, *supra* note 1, at 18.

401. See El Said, *supra* note 59, at 148–51.

402. PRICE & ALDEBASI, *supra* note 1, at 21.

2. *Institutional Design for Patentable Subject Matter*

Though much academic commentary on intellectual property in Islamic law has considered the implications of exclusivity and monopolization effects in a Muslim society, it has failed to recognize that patentability and patent examination considerations could be more effective than theoretical debates. Unlike the U.S. patent system, where the U.S. Patent and Trademark Office (USPTO) lacks rulemaking authority and instead implements rulings from the U.S. Supreme Court and the federal circuit courts,⁴⁰³ nascent or developing patent offices in Muslim-majority countries follow rulings by a ministry or the supreme ruler in the country.

Thus, it is important to consider not only whether scholars agree on the permissibility of patents in Islamic law but also whether they agree on the effects on patentability and patent examination arising from their agreement. If patents in Islamic law exclude inventions with ethical and moral objections, then patent laws in Muslim-majority countries may chill some incentives and may discourage some biotechnological, healthcare, medical device, and pharmaceutical research and development. Nonetheless, this tradeoff is acceptable and required to be operational in an Islamic society with ethical and moral restrictions.

Patentable subject matter, as this Article has recognized *supra*, is narrower in scope in Islamic legal systems due to religious ethical considerations and the TRIPS Article 27 morality exception.⁴⁰⁴ Importantly, the question of how to carry out this limitation in an Islamic legal system is indeterminate. To complicate this matter further, the patentable subject matter doctrine itself, particularly in

403. See Saurabh Vishnubhakat, *Disguised Patent Policymaking*, 76 WASH. & LEE L. REV. 1667, 1667, 1672–74, 1679 (2019) (describing that the USPTO cannot claim broad authority to make patent-related substantive law, which stems from the federal district courts, the federal circuit courts, and the U.S. Supreme Court); Jonathan Masur et al., *Who Defines the Law? USPTO Rulemaking Authority*, 8 NW. J. TECH. & INTELL. PROP. 410, 411 (2010) (stating that the USPTO may establish regulations consistent with the law and govern its proceedings but that the USPTO does not have substantive rulemaking authority and can make only procedural rules).

404. See *supra* Section III.B.1.

the United States, is rife with indeterminacy and foggy standards.⁴⁰⁵ Thus, even if a clearer and more appropriate patentable subject matter standard could be drafted, if the wrong institution in an Islamic legal system is deciding it, the problem could be magnified further. Because the question of patenting ethically and morally controversial inventions in an Islamic society involves serious religious considerations—which are not assessed in the U.S. patent system—vesting of decision-making power should be aligned with those considerations.

Patent applications for ethically and morally controversial biotechnological subject matter may not find themselves to be in high numbers and under consideration in patent examination under an Islamic legal system in current times. However, because biotechnology investment and research are increasing in many Muslim-majority countries,⁴⁰⁶ the lure of patent protection may drive necessary funds for biotechnology development. Furthermore, one benefit of developing an uncertain doctrine of patentable subject matter and aligning it with an underdeveloped patent system in Muslim-majority countries is that it helps to advance various tenets of institutional design. Currently, because the GCC grants patents valid in all GCC countries that have their own national patent systems,⁴⁰⁷ the institutional design of patentable subject matter is more complicated than a single country evaluation—such as in the United States. Although the GCC represents only some Muslim-majority countries, the choice of which institution should evaluate patentable subject matter may seem limited to the GCC, a national patent office, or the courts.

Instead of simply limiting the patentable subject matter evaluation to such institutional choices, this Article suggests a different and

405. See Kevin Madigan & Adam Mossoff, *Turning Gold into Lead: How Patent Eligibility Doctrine Is Undermining U.S. Leadership in Innovation*, 24 GEO. MASON L. REV. 939, 941 (2017). See generally Sławomir Dorocki & Marta Boguś, *Regional Variety of Biotechnology Development in Asia*, 120 PROCEDIA-SOC. & BEHAV. SCIS. 197 (2014).

406. See generally Dorocki & Boguś, *supra* note 405 (suggesting the dynamic expansion of biotechnology research centers, including in the Middle East, is based on a variety of factors).

407. Rosati, *supra* note 239.

perhaps radical prescription: Patentable subject matter doctrine should be assessed by a Patent *Shariah* Board. However, the GCC and national patent offices should flag sensitive patent applications involving moral and ethical considerations. A detection system at a national patent office or the GCC patent office could serve as a warning system akin to the USPTO's former Sensitive Application Warning System.⁴⁰⁸

Specifically, this Article argues that the patentable subject matter doctrine assessment in an Islamic legal system should not be undertaken by the GCC or a national patent office, which should only flag patent applications that present potentially ethically and morally sensitive inventions.⁴⁰⁹ In accordance with the normative implication that patents in Islamic law have morality and ethical limitations and that all property belongs to The Divine,⁴¹⁰ an Islamic legal system limits patentable subject matter. As such, this Article's normative position is that patent offices in an Islamic legal system have a diminished role for assessment of patentability compared to Western systems' patent examination, yet patentable subject matter is still a patentability criterion that necessitates some operational considerations as to flagging by patent examiners.⁴¹¹

3. *Ancillary Operational Considerations and Benefits*

The vesting of decision-making power of the patentable subject matter doctrine in a proposed Patent *Shariah* Board ensures that the ethical and morality issues are before a suitable institution for Islamic legal systems. Furthermore, this necessitates ancillary operational

408. *Sensitive Application Warning System*, U.S. PAT. & TRADEMARK OFF. (Mar. 2, 2015), <https://www.uspto.gov/patents/initiatives/patent-application-initiatives/sensitive-application-warning-system> [<https://perma.cc/DRB8-FARK>] (stating that the Sensitive Application Warning System allows a patent examiner to alert leadership when a patent might issue on a sensitive matter); Dennis Crouch, *USPTO Cancels Sensitive Application Warning System (SAWS)*, PATENTLY-O (Mar. 2, 2015), <https://patentlyo.com/patent/2015/03/cancels-sensitive-application-warning.html> [<https://perma.cc/2UAR-T5R5>] (announcing that the USPTO cancelled its Sensitive Application Warning System).

409. *See supra* Section III.B.1.

410. *See supra* Sections I.B.2, III.B.1.

411. *See infra* Section III.B.3.

considerations for the GCC and national patent offices in Muslim-majority countries. In shifting the patentable subject matter doctrine assessment to a *Shariah* Patent Board, the GCC and national patent offices retain the ability to flag sensitive patent applications concerning morality and ethical considerations of patentable subject matter.

Unlike other United States proposals that call for the evaluation of patentable subject matter in courts,⁴¹² most Islamic legal systems have primitive patent litigation systems and lack specialized patent courts.⁴¹³ There is no thriving patent infringement system in Muslim-majority countries, and the patent systems serve effectively as registration systems without many enforcement provisions.⁴¹⁴ Islamic legal systems do not have the sophistication of the U.S. patent system. The federal circuit courts of appeals provide a specialized appellate patent court, and the Patent Trial and Appeal Board serves as an administrative body on patentability issues. As such, though U.S. courts may be competent to carry out patentable subject matter evaluation,⁴¹⁵ courts in Islamic legal systems have not handled the intricacies nor a sufficient volume of patentable subject matter cases. The primitive and underdeveloped patent system in the Islamic legal system presents even more reasons to remove patentable subject matter determinations from the GCC and national patent offices, which should have a minimal flagging role.

412. See Kristen Osenga, *Institutional Design for Innovation: A Radical Proposal for Addressing § 101 Patent-Eligible Subject Matter*, 68 AM. U. L. REV. 1191, 1191 (2019) (proposing that patentable subject matter inquiries should be vested solely in the courts and not at the USPTO).

413. See generally TIMA HACHEM & LEA FEGHALI, PATENT LITIGATION IN THE GULF COOPERATION COUNCIL (GCC): OVERVIEW, Westlaw (database updated Aug. 2020) (giving a high-level overview of patent disputes in the Gulf states and mentioning a lack of a unified court system and that none of the GCC member countries have a specialized patent court); Rouse, *Patents in the Gulf Cooperation Council*, LEXOLOGY (Jan. 13, 2015), <https://www.lexology.com/library/detail.aspx?g=6a2d2ef7-0e46-44d2-bb99-eba9ba6ad87f> [<https://perma.cc/LPY2-XFPG>] (suggesting a primitive version of a patent litigation system relative to that in the United States based on characteristics such as there being no uniform forum selection, no specialist patent tribunals or judges (except in Saudi Arabia), and no definite grounds to invalidate a patent).

414. PRICE & ALDEBASI, *supra* note 1, at 142, 144.

415. Osenga, *supra* note 412, at 1242.

Foremost, patent examiners in Islamic legal systems should not be charged with assessment of controversial patentable subject matter. Currently, patent examiners in the GCC or in patent offices of Muslim-majority countries, just as in any patent office, serve as the first institutional means to consider an invention's patentable subject matter with other patentability requirements. However, the current situation is problematic for ethical and morality evaluations. Although patent examiners go through training programs and receive supervision at the GCC, they have no guidance on ethical and morality issues to consider in their examination nor how examination procedure guidelines fit within ethical and morality interpretations in their country.

Law and policies concerning Islamic moral and ethical considerations should be evaluated by those more skilled, such as jurists, scholars, and theologians—or, as this Article argues, by a Patent *Shariah* Board—and not by untrained patent examiners. Patent examiners' education or training is usually in engineering and the sciences and rarely in law.⁴¹⁶ Accordingly, they lack the capability to make patentable subject matter decisions for complex biotechnology inventions or potentially ethically and morally sensitive inventions. Moreover, patent examiners have time and quota pressures in any patent office that prevent keeping up with the evolution of the doctrine and court cases.⁴¹⁷ As a result, they would not be able to develop an adequate analysis for complex moral and ethical considerations concerning patentable subject matter. Additionally, patent examiners' decisions on patent applications are often not the last word on patentability, and courts and ministries in the Islamic

416. See Tabrez Y. Ebrahim, *Computational Experimentation*, 21 VAND. J. ENT. & TECH. L. 591, 642–43 (2019) (describing that patent examiner hiring norms is based on specific educational backgrounds and degrees, along with expertise in specific technological areas).

417. See Naira Rezende Simmons, *Putting Yourself in the Shoes of a Patent Examiner: Overview of the United States Patent and Trademark Office (USPTO) Patent Examiner Production (Count) System*, 17 J. MARSHALL REV. INTELL. PROP. L. 32, 32–33, 41 (2017) (describing that patent examiners are evaluated on a production system, for which productivity is based on production goals, and not on knowledge of patent law).

legal system make decisions that are binding on patent examination procedure.

Even in Islamic legal systems that lack common law, both systems with a partial common law system and systems with binding authority from non-court institutions make substantive patent law-related decisions. In such Islamic legal systems, unlike in the United States, there are no post-issuance proceedings with a comparable Patent Trial and Appeal Board—although this is a future area of exploration as this Article points out *infra*.⁴¹⁸ The lack of a post-issuance error-correcting institution inside of a patent office suggests further that another institution is better suited for the complex task of patent application's patentable subject matter. Even if the GCC initiates a comparable Patent Trial and Appeal Board or if a Muslim-majority Arabian Peninsula country attained its realization,⁴¹⁹ the review of patentable subject matter at multiple instances presents unnecessary further uncertainty. For this reason, taking patentable subject matter away from the GCC or a patent office provides greater certainty and predictability.

Courts should not decide patentable subject matter doctrine in Islamic societies. Patentable subject matter has not come into play as often in Muslim-majority countries as it has in U.S. patent law. However, courts in Islamic legal systems have opportunities to rule on patentable subject matter questions should they arise. Because of the ministries' unique roles and Islamic legal systems' lack of specialized patent courts,⁴²⁰ courts should not serve as a primary arbiter of patentable subject matter doctrine, and their jurisprudence should not affect patentable subject matter as patents become more prominent in Muslim-majority countries.

The most effective institution for assessing patentable subject matter doctrine in Islamic legal systems is a *Shariah* Board—or, as this Article prescribes, a Patent *Shariah* Board. A *Shariah* Board is

418. See *infra* Section III.D.

419. See *infra* Section III.D.

420. See generally HACHEM & FEGHALI, *supra* note 413, at 2; Rouse, *supra* note 413.

an independent board of specialized jurists that direct, review, and supervise activities involving Islamic commercial jurisprudence, such as for Islamic finance, and provide legal opinions with binding effect.⁴²¹ In a similar fashion, a proposed Patent *Shariah* Board would advise upon patentable subject matter doctrine, certify whether a patent application was in compliance with Islamic law's morality and ethical objections, dispose of noncompliant inventions, and verify assessments of patentable subject matter by patent offices and courts. As such, a binding opinion of a Patent *Shariah* Board would prevent patentable subject matter assessment in a variety of sequential and overlapping points in a patent's life like in the U.S. patent system.⁴²²

Balancing competing interests of patentable subject matter doctrine is not the only function of a Patent *Shariah* Board. Additionally, a Patent *Shariah* Board should set the doctrine's boundaries and limits, assess controversial biotechnologies, guide the GCC and national patent offices in Muslim-majority countries,

421. MAHMOUD A. EL-GAMAL, *ISLAMIC FINANCE: LAW, ECONOMICS, AND PRACTICE* 11 (2006) (suggesting that a *Shariah* Board plays a function in its participation at various conferences and workshops and by publications that describe why certain products are considered Islamic and also plays a role in various stages of product development for Islamic finance products); Wafik Grais & Matteo Pellegrini, *Corporate Governance and Shariah Compliance in Institutions Offering Islamic Financial Services* 3–4 (World Bank Pol'y Rsch., Working Paper No. 4054, 2006), <https://openknowledge.worldbank.org/bitstream/handle/10986/8901/wps4054.pdf?sequence=1&isAllowed=y> [<https://perma.cc/TG3P-8STP>] (suggesting that a *Shariah* Board is an independent body of knowledgeable agents of Islamic law); Husam Suleiman, *Defining 'Islamic Finance'* 6 (Oct. 29, 2020) (unpublished manuscript), <https://ssrn.com/abstract=3721663> (defining Islamic Finance as “a system based on advancing society, and ourselves, from the degradation resulting from desires, greed, and selfishness, to a society that moves away from the mindset of scarcity and competition towards a mindset of abundance and mutual benefit” and suggesting that “the axioms of Islamic Finance are only meant to counter competition with mutuality, and replace scarcity with abundance, ultimately mitigating greed and desires”); Dena H. Elkhatib, *Islamic Finance*, 47 *INT'L LAW.* 275, 276 (2013) (stating that “many Islamic financial institutions have a Shariah supervisory board that assist in the application of the Shariah principles to the activities of the financial institution” and that “[t]he Shariah board assists in ensuring that the practices and business of the Islamic financial institution is acceptable”). *See generally* HANS VISSER, *ISLAMIC FINANCE: PRINCIPLES AND PRACTICE* (3d ed. 2019) (exploring the products and practices of Islamic finance against the background of its ideology, along with tension that arise between its ideology and practices); Robert R. Bianchi, *The Revolution in Islamic Finance*, 7 *CHI. J. INT'L L.* 569 (2007) (suggesting that Islamic finance is an intersection of law, economics, religion, and politics).

422. Osenga, *supra* note 412, at 1218 (suggesting that a patent may survive one challenge to its eligibility during patent examination and be subject to another challenge as an issued patent, or a patent may survive a validity challenge in courts but be found invalid by the Patent Trial & Appeal Board).

provide language for the judiciary in Muslim-majority countries to interpret, and serve as the authority to adjust the scope of patentable subject matter in Islamic law. Specifically, the proposed Patent *Shariah* Board would not leave the GCC and national patent offices in Muslim-majority countries without discretion in making initial patentable subject matter determinations but instead would allow them to flag patent applications with sensitive morality and ethical considerations.

In effect, the proposed Patent *Shariah* Board would set the core Islamic values, reach, and scope of patentable subject matter, while ensuring predictability, coherence, and transparency of its process as well as adaptability to changing needs of an Islamic society.⁴²³ By vesting patentable subject matter law and policy in the proposed Patent *Shariah* Board, there would be ancillary operational considerations and benefits. As a result, there would be more consistency in interpreting the scope of patentable subject matter in such an Islamic legal system than that of the inconsistent U.S. patentable subject matter jurisprudence.⁴²⁴ Moreover, doing so would allow patents to issue more quickly and commercialize their technologies without the state of crisis and mess that exists in the United States.⁴²⁵

C. *Public Interest Considerations in Deciding Patent Litigation Remedies*

Public interest could be a consideration for patent law that can serve as a balancing act between promoting innovation and protecting competition. The balance stems from inventors' exclusionary rights and incentives along with the public's interest

423. See *supra* Section III.B.1.

424. Michael Risch, *Everything is Patentable*, 75 TENN. L. REV. 591, 592 (2008) (suggesting that patentable subject matter in the United States is not based on actual issues decided in U.S. Supreme Court decisions but instead by "sweeping dicta that outlined unsubstantiated concerns about broad patent claims" that led to inconsistencies and suboptimal outcomes).

425. See *The Impact of Bad Patents on American Business: Hearing Before the Subcomm. on Cts., Intell. Prop., & the Internet of the H. Comm. on the Judiciary*, 115th Cong. 3 (2017).

and access to innovative technologies. On one hand, a patent system requires some level of exclusionary rights, and on another hand, the exclusionary right lessens access and competition. Inventors should want rewards and economic benefits from exclusionary rights of patents, whereas the public should want better products and lower prices. This balancing act comes into play when considering patent infringement remedies, for which its conception affects incentives.

Although Western patent systems rarely discuss the notion of the public interest, patent infringement remedies can include consideration of public interest in deciding whether to grant an injunction against a party who infringed upon a patent.⁴²⁶ Thus, the concept of public interest can have prospective importance in the design of a patent system, such as with patents in Islamic law and for Islamic legal systems. Just as the question of public interest arises as a justification of patents in Islamic law,⁴²⁷ it should be evaluated in deciding whether a judge should grant an injunction to prohibit an infringer from continuing to infringe upon a patent within an Islamic legal system. An assessment of public interest for patents in Islamic law helps to justify patents but also restricts patentability through limitations on patent infringement in Muslim-majority countries.

Patent infringement substantive law and procedure is still under development in many Muslim-majority countries and is unclear in GCC countries.⁴²⁸ In particular, enforcement of patent infringement varies in GCC countries, which have a mix of civil or criminal proceedings and various border control measures, yet lack clarity or sufficient depth due to their infancy.⁴²⁹ As such, a prospective assessment of what public interest may mean in terms of patent infringement remedies within an Islamic legal system is necessary. Whereas the United States affords courts discretion through the *eBay*

426. See *eBay Inc. v. MercExchange, LLC*, 547 U.S. 388, 391 (2006).

427. See *supra* Section II.C.1.

428. PRICE & ALDEBASI, *supra* note 1, at 143–45. See generally HACHEM & FEGHALI, *supra* note 413; Rouse, *supra* note 413.

429. See generally HACHEM & FEGHALI, *supra* note 413 (summarizing enforcement of patent litigation in various member countries in the GCC, including a variety of civil, criminal, and border measure penalties).

four-factor test to grant a patent plaintiff injunctive relief and allows the International Trade Commission to consider a statement of public interest in a plaintiff's complaint for an exclusion order, Muslim-majority countries have not developed case law or statutes with such considerations.⁴³⁰

Although this Article takes a general salutary view of public interest to justify patents in Islamic law, public interest poses limitations in an Islamic society in some cases. Even without public interest motivations in an Islamic legal system, public interest considerations may impact *ex ante* incentives to innovate if public interest becomes a stronger *ex post* consideration. A potential promising legal reform is to balance public interest as a justification for patents in Islamic law and as a requirement to demonstrate harm for a plaintiff seeking injunctive relief or prevent importation of infringing articles. This Article argues that public interest within Islamic law can be construed to justify a positive, normative theory of patents; moreover, public interest within Islamic law can also be used in determining sufficient harm in patent infringement.

In theory, a Muslim-majority country's leadership or ministry could develop and enact a public interest requirement for patent infringement injunctive relief or prevention of importation of infringing articles, thus impacting the strength or weakness of patents in an Islamic legal system. Such an approach could allow a court to order injunctive relief or an exclusionary action for public health and welfare by invoking public interest harm with patent enforcement. However, public interest, by definition, in Islamic law is impossible to codify, and an enacted public interest requirement would vastly increase the information costs of patent enforcement.

Even though requiring patent plaintiffs to explain how the requested injunctive or exclusionary relief affects public health and welfare is helpful, it would still be inadequate because public interest in Islamic law simply resists codification.⁴³¹ Furthermore, a codified

430. See *eBay*, 547 U.S. at 391; see also PRICE & ALDEBASI, *supra* note 1, at 143–45.

431. See *supra* Section II.C.1.

public interest requirement for patent enforcement might harm some actors (such as small and medium enterprises that may choose to pursue trade secrecy), which ironically may dampen the innovation and economic development of many Muslim-majority countries. Additionally, it would be almost impossible for courts in Muslim-majority countries to evaluate the tension between the public's interest in health and welfare and the public's interest in strong patent law, given that patent law is in its infancy and still developing in Islamic legal systems.

Rather than *ex post* patent enforcement remedies, the most effective intervention of the public interest principle in Islamic law is *ex ante* intervention by a Patent *Shariah* Board. Ultimately, this Article argues that a Patent *Shariah* Board should assess patentable subject matter with a binding opinion, and a patent office in a Muslim-majority country should flag sensitive patent applications.⁴³² Rather than rationalizing regulatory interference with patents by asserting that it serves “the public interest” with *ex post* patent enforcement, the key inquiry concerning public interest is an *ex ante* one by a Patent *Shariah* Board that is cognizant of Islamic law considerations, including morality and ethical principles.⁴³³ Such *ex ante* conditions serve an information-forcing or screening function because they can identify concerns for private control of what may be of the public benefit in an Islamic society.

D. Ongoing Challenges, Long-Term Ramifications, and Future Directions

This Article's observations suggest that greater attention to patent theories and implementation in Islamic legal systems is necessary. As noted *supra*, traditional Western patent law scholarship has focused on the role of exclusive rights in providing incentives for innovation without factoring in religious principles and limitations. An Islamic law view is a valuable and challenging line of inquiry for Western

432. See *supra* Section III.B.2.

433. See *supra* Section III.B.1.

patent law scholarship because it explores undertheorized principles, value judgments, and underlying forces from a new perspective.

Although some Islamic law scholars have just begun to pursue the inquiry of intellectual property in Islamic law, more attention to theory and theology within Islamic law is necessary. Foremost, translation between Arabic words and English words needs a greater depth of study to identify the precise locus of the property right justification of patents in Islamic law. For example, though this Article and most Muslim scholars have focused on the concept of *mal* in analysis of intellectual property within Islamic property law, the precise locus of the property right justification for patents may be found in both the meanings of the underlying substrate and the juridical means of controlling the substrate.⁴³⁴ Additionally, analysis of Islamic law property concepts concerning principles of waste and rivalrousness would add richer conceptual insights to patents in Islamic law. Some Western scholars have investigated the spectrum of rivalrousness and its influence on the theoretical contours of intellectual property law in Western contexts.⁴³⁵ A similar analysis from the Islamic viewpoint and how it plays out in the specific context of patents would help shape patent policy in an Islamic legal system. Theoretical discourse on Islamic law and Western reasoning, such as on a theory of economic incentives, has just begun.⁴³⁶ Further examination to elucidate and verify these phenomena based on Islamic law sources may benefit from interviews with Islamic law jurists and theologians.

434. A more in-depth follow-up study can investigate the translation question about whether the scope of the right to patents in Islamic law also encompasses the right to exclude, which is the hallmark of the Western notion of patent law. Such a study can shed insights on whether the control aspect of property in Islamic law includes full control or a more limited control and, in so doing, can characterize the scope of the exclusionary aspect necessary for patents to function in a theoretically and theologically sound Islamic view.

435. See generally Irina D. Manta, *Keeping IP Real*, 57 HOUS. L. REV. 349 (2019) (assessing the question of rivalrousness, or where consumption of a good by a consumer prevents simultaneous consumption of that good by other consumers on economic grounds).

436. See generally Zaman, *supra* note 326 (suggesting that a deeper analysis of a theory of incentives in Islamic law would shed insights on information rent, the free rider problem, and insurance markets).

Future research can investigate how an Islamic vision of patents does not abolish the market system and self-interests of inventors and businesses, while fairly balancing access to resources in society. Islamic economics recognizes private property and recognizes the role of markets in the efficient allocation of resources, but it also tries to promote socioeconomic justice and well-being through an integrated role of Islamic moral values, market mechanisms, societal interests, and good governance.⁴³⁷ This view argues that a sole market focus is not by itself the only way to fulfill the needs of a human society.⁴³⁸ It deemphasizes the serving of self-interests, which raises the crucial question in the context of patent law, inventors, and organizations that employ inventors—why would a rational person sacrifice self-interests that engendered motivation for a patent? Relatedly, what can Western patent systems, such as that of the United States, learn or possibly adopt from this Islamic vision of patents?

Furthermore, an analysis of normative implications of patentability and the role of a patent office in a Muslim-majority country is warranted. As mentioned earlier, the scope of patent eligibility in an Islamic state should be narrower than non-Western contexts and warrants differential treatment under an Islamic legal system grounded in the underlying Islamic school of jurisprudence and the degree of primacy of *Shariah*.⁴³⁹ Furthermore, an exploration of Islamic law's views on post-issuance administrative proceedings, the potential revocation of a granted patent by an Islamic state, and a theologically driven theory of patent infringement in Islamic law present additional questions. The collective assessments of patent

437. See Mahmud bin Ahmad, *Islam and Economic Growth in Malaysia* 1, 51, 68 (Dec. 2003) (M.A. thesis, Naval Postgraduate School), https://calhoun.nps.edu/bitstream/handle/10945/6241/03Dec_Ahmad_M.pdf?sequence=1&isAllowed=y [<https://perma.cc/74CA-FAUR>] (describing that an Islamic system should involve a government that intervenes in the market to redistribute income and expropriate private property to achieve an economic social justice).

438. ELMAHJUB, *ISLAMIC VISION*, *supra* note 4, at 9, 32 (stating that “Islamic vision on social justice and the social good coincides with global comparative efforts to define justice beyond merit and economic efficiency” and inherently contains a notion of social good).

439. See *supra* Section III.B.1.

theories can have orthogonal and significant impacts on innovation and economic development in Muslim-majority countries.

Some Western patent scholars have richly pursued this line of inquiry, but more attention is needed on the Islamic law theoretical and theological consideration of patent infringement and the structural implications of a developing patent system on transformational innovation and economic development. Notably, such jurisprudential and theological forces have been empirically explored in Western countries, and they have shed light on the longstanding debate over patents on a country's innovation trajectory. Yet, there is little empirical study on the effect of patents on innovation in an Islamic legal system. This topic is underexplored in innovation policy scholarship. A host of new considerations in an Islamic society, as opposed to a Western legal system, may present a myriad of factors that impact long-term ramifications on innovation beyond Western notions of patent themselves.

A future, long-term study that explores such forces and their relationship to innovation and economic development in Muslim-majority countries may shed new light on normative concerns on access and competition. Notably, a holistic innovation policy framework in an Islamic legal system will require a more nuanced assessment than in Western contexts and require answering three major questions in future exploration: (1) Do patents within the limits and principles of Islamic law and formal patent legal institutions significantly contribute to innovation and economic development in developing Muslim-majority countries?; (2) To the extent that patent law and patent legal institutions are important determinants of a Muslim-majority country's innovation and economic development prospects, what Islamic law considerations and jurisprudential differences result in chronically poor adoption and acceptance of patents in certain Muslim-majority countries?; and (3) For those Muslim-majority countries that have failed to capitalize on the development potential of patents within an Islamic legal system, what reform strategies are likely to prove both significant and feasible in those Muslim-majority countries? Although it is

important to understand the complex ways in which the theories of Islamic law may impact patents, it is also important to contextualize these effects within the broader and strategic forces that shape innovation and economic development in Muslim-majority countries.

CONCLUSION

This Article has shed new light on the recent debate of the permissibility and scope of intellectual property in Islamic law with a focus on patents. One body of scholarship suggests that patents are against Islamic law principles and Islam's social vision of intellectual property. Conversely, another perspective has argued that patents can be reasoned and construed within Islamic law. The classical corpus of Islamic law provides an important contribution to resolve unsettled conceptual issues for nascent patent laws in modern Islamic legal systems.

This Article has argued that patents are permissible in Islamic law but has cautioned that patentable subject matter and public interest considerations narrow the scope of patents in Islamic legal systems relative to Western systems. Further, this Article has introduced novel distinctions to clarify these effects. First, it has chronicled the historical presence of property exceptionalism (or exclusion of intangibles or treatment of intangibles different from other forms of real property and chattels) in Islamic legal systems, its assimilation in Muslim-majority countries through international treaties, and its demise with doctrinal internalization and focus on innovation and economic development. Second, it has presented a positive, normative framework for a theory of a construct of patents in Islamic law and provided normative justifications in line with Islamic commercial law principles. Third, it has prescribed that Islamic legal systems tailor patentable subject matter assessment through a Patent *Shariah* Board, which should also intervene in *ex ante* design of public interest considerations rather than with *ex post* patent enforcement remedies.

These findings provide legal and policy decision makers with a more robust understanding of the nuanced ways that patents should operate in Islamic law. Finally, although it is important to understand the contribution of theory to patents in Islamic law and to Muslim-majority countries, this investigation suggests (1) a new array of principles to Western patent systems, such as that of the United States, and (2) forces that warrant further dialogue with Western patent law scholars.