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MEASURING ISLAMIC FINANCIAL LITERACY

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ABSTRACT

Islamic financial literacy (IFL) concerns Muslims' ability to manage their money while respecting Islamic law and ensuring Shariah compliance. IFL is a pressing concern in Muslim-majority countries where conventional financial literacy rates tend to be very low (<30%) (compared to the 60% global average) and IFL rates even lower (10%). Efforts to study and measure IFL are underdeveloped but growing. The paper begins by exploring what constitutes conventional financial literacy versus IFL, then profiles a detailed compendium of nearly 30 Islamic finance concepts inherent to measuring IFL – both permitted (*halal*) and forbidden (*haram*) (e.g., *riba, gharar, takaful, zakat, sukuk*, and *faraid*). We identified and critiqued seven nascent initiatives (2016–2022) exemplifying efforts to develop IFL measures. Many initiatives only reached the development stage. Those that progressed to instrument validation yielded reliable measures, albeit seldom on a full range of Islamic finance concepts. Virtually no instruments were empirically tested. The paper culminated with recommendations for future research around studying this bourgeoning phenomenon.

Introduction

Islamic finance grew rapidly between 1975 and 2015. Hand in hand was an emerging interest in *Islamic financial literacy* (IFL) (Ismail et al. 2016). But compared to *financial literary* (a term coined in 1787), Islamic financial literacy is in its infancy (Dinc et al. 2023) with the term in usage for about 15 years (Khairunnisa 2020). During the early 2000s, "there was relatively very little study specifically focusing on Islamic financial literacy" (Abdullah & Anderson, 2015, p. 80). In 2008, Kayed queried (italics in original).

> Are there any attempts by the research community to assess levels of Islamic financial literacy in various Muslim communities, and to highlight the importance of spreading Islamic financial knowledge through the educational system? Is the educational system in various Islamic countries living up to its moral and religious obligations by creating awareness amongst Muslims of the viability of Islamic finance and preparing 'the typical' Muslim to manage his/her financial affairs and to make sound and informed financial decisions in line with the principles of Al-Shariah? (p. 25).

Measuring this new phenomenon is important. However, the conventional financial literacy instruments often used when studying within the Muslim community cannot capture financial literacy informed by Islamic finances and economics (Hidajat & Hamdani 2017). This paper thus focuses on research around developing instruments to measure the IFL levels of Muslims living in Muslim-majority countries (e.g., Indonesia, Pakistan, India, Saudi Arabia, Egypt, and Turkey), any of the 140+ non-Muslim-majority countries (Razzak et al. 2011), or Muslim immigrants.

To clarify, Islam adherents are called Muslims. They are deeply guided by the tenets of the Qur̓an, the Islamic Holy Book, and Hadith (reports describing the words, teachings, actions, and behaviours of Prophet Muhammad) (Addleshaw Goddard 2017; VOA News 2021). IFL is basically "a way [for Muslims] to manage money that keeps within the moral principles of Islam" (Bank of England, 2022, para. 1). IFL differs from conventional financial literacy as it is based in Islamic economics and finances (Alsayigh & Al-Hayali, 2022; Lyons & Kass-Hanna, 2021). Some of the most striking differences are that the Islamic religion prohibits usury or interest practices and investing in prohibited industries (e.g., gambling, and alcohol); and it focuses on the ethical and moral practice of finances (Aisyah & Saepuloh 2019).

Abdullah et al. (2017) asserted that "Muslims must try to understand Islamic finance because it is a religious duty" (p. 70) (see also Dinc et al. 2023; Gunawan 2023). Rahim et al. (2016) concurred, claiming that "the importance of IFL is difficult to be ignored especially by Muslims" (p. 35). Despite this, Beik and Arsyianti (2020, p. 87) reported that IFL levels "are still far below the target." Using Indonesia as an example (the most populous Muslim country), they reported that the overall conventional financial literacy rate was low (29.7%), and the IFL rate was lower still (8.93%) (e.g., knowledge of Islamic banking, Islamic insurance products, and Islamic capital market investments).

Measuring Islamic financial literacy is important because the financial literacy rate for Muslim-majority countries worldwide is low, averaging 28% and ranging from 13% to 45% (Klapper et al. 2015). This compares to the average global financial literacy rate of 60% (Organization for Economic Cooperation and Development [OECD], 2020). The low rate in Muslim countries is problematic because of the sheer number of Muslims worldwide (more than 2 billion) (World

Population Review [WPR], 2024b). Also, more than one-third (38%, $N = 51$) of all countries in the world are Islamic, where Muslims tend to practice (WPR, 2024a).

Compared to conventional financial literacy, efforts to study and measure Islamic financial literacy are underdeveloped but growing (Beik & Arsyianti 2020; Hidajat & Hamdani 2017). "The study of Islamic financial literacy [is] a new concept [in] the area of financial literacy" (Ab Rahman et al. 2018, p. 126). After exploring what constitutes conventional versus Islamic financial literacy and profiling nearly 30 Islamic finance concepts, we delve into and critique seven nascent research initiatives that developed instruments to measure IFL using some combination of those concepts. The paper culminates with recommendations for future research around developing instruments to measure IFL.

Literature Review

Conventional versus Islamic Financial Literacy

The conventional approach to financial literacy defines it as "a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial well-being" (OECD 2020, p. 5). Financially literate consumers have "an understanding of basic economic and financial concepts required for the proper management of financial resources in order to achieve financial well-being" (Lone & Bhat 2024, p.125). As they become more financially literate, they gain *financial self-efficacy*. This is defined as improved confidence in their ability to find the information required to make effective financial decisions and minimize financial anxiety, thus improving their financial life and financial future (Lone & Bhat 2024).

Despite the alleged absence of a "commonly accepted meaning of IFL" (Rahim et al. 2016, p. 33; see also Setiawati et al. 2018), we deduced that existing definitions are very similar. To illustrate, IFL is "measured as knowledge about Islamic finance in making financial decisions" (Ahmad et al. 2020, p. 964). IFL is "the ability of a person to use financial knowledge, skills, and attitude ... in managing financial resources according to the Islamic teachings" (Rahim et al. 2016, p. 33). IFL is "the ability to understand [and manage] finance[s] based on *syariah* compliance" (Aisyah & Saepuloh 2019, p. 149). Finally, IFL is a Muslim's ability to draw on financial knowledge, attitudes, and behaviours that are based on the Islamic financial system and its principles to "make appropriate decisions according to Islamic financial principles to achieve a prosperous *muamalah* life" (Setiawati et al. 2018, p. 7). *Muamalah*, part of Islamic law and jurisprudence, includes Islamic rulings that govern commercial and consumer transactions all of which have legal, social, and economic repercussions (Kahf 2003).

Alsayigh and Al-Hayali (2022) explained that IFL is not concerned with traditional financial literacy concepts such as inflation, diversification, speculation, or interest rates. Instead, it is based not "only on prohibition but also promotes being aware of the rights, obligations, tools, assets, conditions, and transactions" (p. 6). Muslims must "be aware of *Halal* (accepted) and *Haram* (not accepted) in relation to financial instruments [and financial decisions]" (p. 11). They commented on Muslims' varying levels of ignorance or deficiency in Islamic financial literacy, which can vary by age, gender, and educational level.

Upon reflection, we understand traditional, conventional financial literacy as secular in nature (not bound by religion) with a focus on managing personal finances to improve individual and family well-being. IFL is religious in nature with a focus on Islamic law and Shariah compliance as a moral obligation when managing personal finances with others in mind. Both approaches strive to ensure financially literate consumers who are knowledgeable about all aspects of their finances: money management (budgeting and record keeping), credit and debt management, insurance, mortgages and leases, savings and investments, retirement planning, tax planning, and wills and estate planning (OECD 2020). They ensure literacy in *different* financial concepts and principles – respectively, non-Islamic and Islamic (Alsayigh & Al-Hayali 2022).

Overview of Islamic Finances

"Islamic banking and finance refers [sic] to a system of banking or banking activity that is consistent with the principles of the Shari'ah (Islamic law) and its practical application through the development of Islamic economics" (Lyons & Kass-Hanna 2021, p. 2738). Shariah is "the legal practice derived from the teachings of the Quran, Islam's holy book, and the teachings of the Prophet Muhammad, or Sunnah. It serves as an ordained code for fair, moral, and righteous living for Muslims and provides guidance on a variety of aspects of life" (VOA News 2021, paras. 6, 7). Thus, IFL is also called "Shariah financial literacy" (Yunus et al. 2021, p. 2) or "Shariah compliant" (Albaity & Rahman 2019, p. 990). We employed the generally accepted term Islamic financial literacy (IFL) in this paper.

Islamic finances are informed by two overarching principles: (a) the prohibition of *riba* and (b) the importance of partnership-based business transactions. Respectively, "charging interest … constitutes *riba* and, thus, is prohibited. In its place, Islamic economics propounds partnership-based arrangements where, to justify financial rewards, parties in the transactions must participate and bear risk related to business undertakings" (Ibrahim & Alam 2018, p. 668). Other prohibitions are uncertainty (*gharar*), speculation (*maysir*), and corruption or bribery (*rishwah*) (Ibrahim & Alam 2018). "Islam promotes trading, business, and investments based on ethical and equitable dealings. Risk-sharing [sic] and profit sharing is [sic] encouraged to discourage unjustified gains. Documenting commercial arrangements is heavily stressed" (Addleshaw Goddard 2017, p. 2).

Principle One: Riba (Interest) Prohibition

Paramount to Islamic finances is the interest-free system. *Riba* translates from Arabic to mean excess or increase. *Riba* (interest) is forbidden (*haram*) in Islam because it creates an inequitable transaction (i.e., one person gains due to another's loss). Charging interest to "someone who is forced to borrow to meet his [sic] essential consumption requirement is considered an exploitative practice" (Hossain 2009, p. 242). Earnings based on interest are thus *haram* – they are considered unethical, unfair, and unjust because the risk is not equitably shared. People who accept these earnings (described as "devouring interest") have sinned against Allah (Hossain 2009; Setiawati et al. 2018). As a caveat, Islam is not the only religion to frown on interest (Hossain 2009; Setiawati et al. 2018). However, it is forbidden to Muslims who "can only benefit from activities that comply with Sharia rules" (Setiawati et al. 2018, p. 4).

Because *riba* is forbidden (*haram*), Islamic banks charge a *profit rate* (a prenegotiated ratio based on risk assessment) instead of an *interest rate* (rent on using someone else's money). This permitted (*halal*) practice is shored up by two Islamic principles applied to finances: (a) money has no intrinsic value, and (b) time does not create any returns. In other words, money does not become more valuable with the passage of time. For this reason, lenders cannot charge interest (rent) for lending money to consumers who pay it back over time. Instead, a different principle kicks in. Any economic activity (*muamalah*) and effort spent on it can add value *to the money*. This value can be increased *if* the people engaged in *muamalah* become more successful and profitable, hence a profit rate. Both parties share any risk, which affects the profit shared (Compare Hero 2020a; Hossain 2009; Setiawati et al. 2018).

Principle Two: Partnership-Based Transactions and Profit Sharing

Regarding the second principle of the importance of partnership-based business transactions, "the fund provider acts as an investor rather than a creditor" (Setiawati et al. 2018, p. 4). Nouman and Ullah (2014) explained that

> partnership, commonly known as the profit and loss sharing (PLS) paradigm, allows a financial institution to earn profit on invested capital if the financial institution is willing to tolerate loss in case of the project failure. ... The allocation of reward and risk to each partner, and the distribution of responsibilities among them are defined in the contract which is enforced by the social values and the ethical standards set in the *Shariah*. (p. 47)

Houssain (2009) further clarified that

> banks are essentially financial intermediaries. They take money from those who have excess money (savings) and turn it over to those who need money for investment purposes. Interest is not necessary at all for such a system to work. The bank and its depositors (shareholders) invest, rather than simply provide loan to their holdings. The money is put at risk and the return to the depositors [consumers] will be based on the amount of profits made in the respective investments. (p. 247)

Compendium of Islamic Finance Concepts

Islamic finance must be included when measuring IFL because understanding Islamic finance concepts is a religious mandate for Muslims (Gunawan 2023). We thus teased out elements of the Shariah system (Islamic tenets and law), so IFL researchers can gain a clearer picture of how consumers being literate in Islamic finances is different from being literate in conventional finances. Indeed, one of the paper's key contributions is its detailed overview of what constitutes Islamic finance and economics when measuring Muslim financial literacy compared to measuring conventional financial literacy. With this compendium of information, researchers can more responsibly measure one or the other or both for comparative purposes.

Table 1 (which should be read in its entirety) shares the essence of Islamic finances (i.e., Shariah-compliant Islamic-law principles) that can be applied to measure IFL. It contains nearly 30 Islamic finance concepts with explanations. This compendium of information was

Table 1: Islamic Finance Concepts (Shariah-Compliant) for Measuring Islamic Financial Literacy

Financial Arrangements and Contracts – The giving and taking of interest (*riba*) are prohibited (*haram*, i.e., forbidden by Islamic law). Transactions between consumers and lenders are partnership-based (Nouman & Ullah 2014).	
riba	Islamic finance is an interest-free system. Interest (*riba*) is considered usury and is *haram*. In transactions involving personal loan arrangements, the consumer cannot make a profit by lending their money at unreasonably high rates of interest (*riba*) at the expense of the borrower (e.g., bank). They cannot pay interest on loans or mortgages nor earn interest on chequing or saving accounts.
akad	This is the Arabic word for contract. The *akad* "is important and foremost for business actors, business activities (*tijaraj*) and social (*tabarru'*) activities" (Setiawati et al. 2018, p. 5).
wakalah	To avoid interest (*riba*), the bank acts as the person's agent (*wakalah*). Anyone providing funds to a consumer purchasing goods or services acts as an investor rather than a creditor.
qard (loan)	The consumer deposits their money in a bank (chequing or saving account), and the bank (*wakalah*) treats it as an interest-free loan (a *qard*) for them to use; the bank has ready access to this money, which it invests in only Shariah-compliant investment vehicles (what Shariah says is not harmful). Islam believes there is a moral duty to give borrowers money free of charge if a case can be made that they need it. In that spirit, a *qard hasan* is a benevolent loan for social welfare or short-term bridging finance.
musharakah	This is a joint venture, profit/loss sharing, equity financing partnership between a consumer and the bank so that property can be jointly purchased and profits shared (no interest payments). The bank gradually transfers its portion of equity to the investor in exchange for the latter's payments using an installment plan. Losses are shared in proportion to the amount invested.
murabahah	Through *murabahah* (partnership/contract, cost-plus financing), the bank buys property or trades in commodities then sells to the consumer at a profit for the bank. The consumer lives in (uses) the jointly owned property and pays the bank back over time (no interest), but the bank concurrently charges the consumer a fee to cover its costs. This product is often used for consumer finance, real estate, the purchase of machinery, and financing short-term trade.
mudararba	In a *mudararba* contract (profit/risk-sharing investment arrangement), the person providing capital (financier) transfers the capital but *not* the ownership of it to a *mudarib* (entrepreneur or investment manager) who puts the money into a project (business) or portfolio. Any profits earned by a business or portfolio managed by a *mudarib* are shared with the capital owner at an agreed-to profit-sharing ratio. Loses are born by the financier/investor (*rab ul mal*). The *rab ul mal* cannot interfere in the running of the business but has the right to know how the business is being run and can specify conditions for better management of his or her money (i.e., like a silent partner). This contract is often used for investment funds.
Consumer Financial Instruments	
bai al inah personal financing	This Arabic word translates to personal *financing* (instead of personal *loan*, which implies debt and interest payments). It is a two-party transaction. Lenders charge consumers a profit rate for providing access to a personal financing facility. The lender buys an asset (e.g., cash, equipment, or a service) that the consumer wants, sells it to the consumer, and immediately repurchases it. The consumer pays it off using installments (deferred payment plan) (*bai muajjal*) but pays more than the original price (i.e., a profit markup instead of interest).
credit cards	Islamic credit cards do not charge interest (simple or compound) because *gharar* (overcharging) and *riba* (interest) are *haram*. Instead, lenders charge consumers for their services (profit rate instead of interest rate). Shariah-compliant credit cards have a *takaful* (insurance) coverage option and a *zakat* (wealth tax) payment option. Unlike conventional credit cards, there is a *halal* transaction filtering system on these cards, wherein if consumers try to buy alcohol or gamble, the card issuer will deny the purchase. Failure to make minimum payments (5% of the bill) on these cards leads to an increase in the profit rate and a late payment penalty (1%).
tawarruq credit card	This is a sales contract for a three-party transaction. The underlying Islamic principle is that a tangible asset must underlie each transaction. "If a customer wants a credit limit of $10,000, the bank will purchase an asset (usually a commodity; however, shares and mutual fund units have also been used) worth $10,000 and sell the same to the customer on a deferred payment basis with a credit period of 01 year at the applicable profit rate of say 10%, hence the selling price will be $11,000. Subsequently, the customer appoints the Bank as an agent to sell the same goods in the market for cash for $10,000" (Muhammad 2021, para. 2). "If a customer utilizes $10,000 of the limit every month during the validity of the card and pays it within the due date every month, he [sic] will be relieved from paying the $1000 profit on the deferred sale contract. However, if in any month any funds are outstanding beyond the due date, he will have to pay the profit based on the amount and the days it remains outstanding, and the rest of the profit will be waived" (Muhammad 2021, para. 13).

(*Continued*)

Table 1: Continued

urjah	This Arabic term loosely translates to *fee*. The credit card holder (consumer) is charged a *service fee* in exchange for services, benefits, and privileges tendered by the credit card company. Cash advances are available under the *urjah* concept. *Urjah* can also refer to wages, allowances, commissions, and other financial charges for using services (in lieu of interest, *riba*).
Investments – Any underlying asset must be Shariah compliant. All investments must be ethical. “Shariah prohibits activities connected with alcohol, pork-related products, tobacco, conventional financial services, gambling, sale of arms, and conventional insurance” (Addleshaw Goddard 2017, p. 2).	
gharar	Uncertainty, excessive risk, and deception are *haram* and not allowed in Islamic finance (e.g., short selling stocks, derivative contracts, or stock speculation). Uncertainty arises from ignorance (lack of information) of an essential element of the exchange.
maysir	Gambling, games of chance, conventional insurance, and speculation (*maysir*) are *haram* by Shariah law. Ownership of goods that are dependent on uncertain future events is not permitted.
rishwah	Corruption and bribery (*rishwah*) are *haram* because those taking the money (the bribe or payback) have already been paid to provide service to others. The money earned from the bribe is called *suht*, and owning it is unlawful.
Insurance – “Insurance in Islam [*takaful*] should be based on principles of mutuality and co-operation, encompassing the elements of shared responsibility, joint indemnity, common interest and solidarity” (IIBI, ca. 2004, para. 6).	
takaful	Conventional insurance is *haram* (forbidden). Islamic insurance (*takaful*) separates the funds from the shareholders by passing ownership of the insurance fund (*takaful*) to the policyholders. Like business partnerships, consumers (policyholders) are joint investors with the insurance vendor (*mudarib*) who manages the fund. Consumers share in the pool of profits and losses. To avoid *gharar*, the insurer charges consumers a premium in proportion to the scientifically and statistically calculated risks. Islamic insurance (*takaful*) emphasizes the ethical, moral, and social dimensions of life to enhance equality and fairness for the good of society. Thus, each consumer’s contribution (premium) to the insurance fund is viewed as a *donation* to help those needing assistance.
Rental and Leasing	
ijarah	Leasing (*ijarah*) is an Islamic financial arrangement whereby a financing party (lessor) purchases property, equipment, or some other asset desired by its client (i.e., the consumer, the lessee) and then leases it to the client for a rental fee (i.e., a stream of rental or purchase payments that can end with the transfer of ownership to the lessee or not) (e.g., a car lease or house lease). The rental payments are for the lender’s profit. To be Shariah compliant and to share the risks, both parties must enter a formal, signed agreement, whereby the consumer (lessee) agrees to maintain the asset (insurance, repairs) even though the lessor still owns it. This duty is not implied as it is with a conventional lease; instead, it is explicitly stated.
Pension and Retirement Plans These plans can be invested in Shariah-compliant (*halal*) assets. Per “Shariah principles, an investment must exhibit many qualities – including environmental and ethical considerations and excluding interest and excessive debt” (Manulife 2024, para.1).	
sukuk	A *sukuk* is an Islamic investment certification (an Islamic asset-backed bond). However, instead of a bond that earns interest (the consumer has a debt obligation), with a *sukuk* (a profit/risk sharing instrument), the consumer owns a piece of the asset linked to the investment. *Sukuk* holders receive a portion of the asset’s earnings instead of interest from loaning their money to an investor (conventional bond). *Sukuks* are *halal* (permitted) for pension plans because they are invested in Shariah-compliant investment activities and are structured, so they avoid both (a) consumer indebtedness and (b) interest payments (*riba*) as a source of investment income.
Taxation	
zakat	Islamic finance does not tax personal income or inheritances. It taxes wealth instead; this wealth tax is also called *zakat*, 2.5% (see Charitable Giving and Donations section). This tax leaves consumers with more short-term disposable income but exposes them to taxation on what is left at the end of the year, which must be planned for. Islam considers this tax a form of economic justice. The rate varies according to the type of property owned – cash, cattle, agricultural produce, minerals, or capital invested in industry and business.
kharaj	This is a mandated individual tax on agricultural land.
ushr	This is an individual land tax on the *harvests* (agricultural produce) from irrigated land (10%), rain-watered (10%) land, or land dependent on well water (5% tax).

(*Continued*)

Table 1: Continued

Charitable Giving and Donations	
zakat maal and *nisab*	Muslims are obligated to donate a certain portion (minimum 2.5%) of personal savings and wealth (currency, gold, silver, and property) to charitable causes. This mandatory process is a form of worship in that it purifies earnings exceeding those essential to a person or family (*zakat* means purify). Until a person reaches a certain financial threshold or exemption limit (*nisab* – equates to 85gms of gold, 600gms of silver, or equivalent currency), the payment of *zakat maal* is not required.
zakat fitrah	*Zakat fitrah* (fast breaking) is the obligatory payment of alms after Ramadan (fasting month).
sadaqah	This Arabic word refers to voluntarily giving charitable gifts (material or nonmaterial) out of kindness or generosity (regardless of *nisab*).
infaq	This Arabic word refers to voluntarily giving material goods to only charitable causes (regardless of *nisab*).
waqf	Similar to an endowment fund, a *waqf* is a donation made to a fund manager (*muta wail/nazir*) who generates profits that are in turn used to support socioeconomic development initiatives. *Waqfs* are strongly encouraged in Islam as contributions to society.
Estate Planning	
faraid and *wasiya*	*Faraid* is the law of inheritance – the distribution of an estate among heirs according to Allah and the Holy Qur'an using a *wasiya* (will, testament, and/or bequest). Islam holds that individuals should manage their financial affairs based on care and love toward others (*ta'awun* – helping each other, and *tabarru*' – sincere donations). Managing finances (including wills and estate planning) should benefit all parties.

derived from a cadre of scholars (Addleshaw Goddard 2017; Ahmad et al. 2020; Aisyah & Saepuloh 2019; Bank of England 2022; Beik & Arsyianti 2020; Compare Hero 2020a, 2020b; Corporate Finance Institute 2022; Editor 2011; Ganti 2024; Institute of Islamic Banking and Insurance [IIBI], ca. 2004; Jalil 2021; Kamso & Ng 2013; Kureshi & Hayat 2015; Manulife 2024; Muhammad 2021; Nasr 2001; Thompson Reuters 2022).

Setiawati et al. (2018) further explained that "the principles of sharia finance itself should briefly refer to the principle of mutual willingness (*antaraddim minkum*), no party suffers nor makes suffering to other (*la tazhlimuna wa la tuzhlamuna*), business results come together with the cost (*al kharaj bi al dhaman*) and profit comes along with the risk (*al ghunmu bi al ghurmi*)" (p. 5). Although not addressed in Table 1, the Islamic economic system also prohibits destructive consumer tendencies such as "israf (unnecessary spending), itraf (self-indulgence), tabdhir (spending on unlawful activities), and bukhl (stinginess). Ihtikar (hoarding) is also prohibited as it prevents wealth from circulating by halting supplies" (Laldin & Furqani 2013 p. 285).

Research Questions

Appreciating that studying IFL is a new concept in the financial literacy research arena (Ab Rahman et al. 2018), we envisioned IFL researchers using the information in Table 1 to develop instruments designed to measure IFL rates within a Muslim population. "The absence of measurement of Islamic finance is [particularly problematic] because the conventional measurement of financial literacy is currently still using the conventional financial knowledge, so it is imprecise when used to measure Islamic financial literacy" (Hidajat & Hamdani 2017, p. 7173).

This situation is further exacerbated by the lack of both (a) comprehensive research about how to best measure financial literacy in general and (b) a standard measurement of conventional

Table 2: Profile of Islamic Financial Literacy Measurement Initiatives

Year	Authors	Article Title	Instrument Development	Instrument Validation	Empirical Testing
2016	Rahim, Rashid & Hamed	Islamic financial literacy and its determinants among university students: An exploratory factor analysis	✓	✓	no
2016	Antara, Musa & Hassan	Bridging Islamic financial literacy, concepts, and indicators	✓	no	no
2018	Nawi, Daud, Ghazali, Yazid & Shamsuddin	Islamic financial literacy: A conceptualization and proposed measurement	✓	no	no
2018	Setiwati, Nidar, Anwar & Maysita	Islamic financial literacy: Construct process and validity	✓	✓	no
2020	Ahmad, Widyastuti, Susanti & Mukhibad	Determinants of the Islamic financial literacy	✓	✓	no
2021	Dinc, Çetin, Bulut & Jahangir	Islamic financial literacy scale: An amendment in the sphere of contemporary financial literacy	✓	✓	no
2022	Firdausi & Kasri	Islamic financial literacy amongst Muslim students in Indonesia: A multidimensional approach	✓	✓	✓

financial literacy let alone IFL (Hidajat & Hamdani 2017; Huston 2010). Regarding our research questions per se, we thought it would be beneficial to (a) determine what, if any, research is unfolding around measuring IFL? (b) Of *that* research, how comprehensive are the instruments relative to the compendium of nearly 30 Islamic finance concepts in Table 1?

Method

The study was conducted in September 2022. Our use of *Google Scholar* search functions (*custom range, advanced search, cited by, and related research*) revealed a growing cadre of papers about IFL. However, only a few were focused on instrument development to measure IFL. Identifying words for the *Google Scholar* search included but were not limited to *Islamic financial literacy, measurement, instrument, concepts, determinants, scales,* and *validation* (especially in the title, keywords, abstract, and method and discussion sections). Studies that applied existing instruments were excluded.

The six studies we initially found were published between 2016–2022. Using *Google Scholar's* custom range function, we expanded the time frame to ten years (2012–2022) and obtained the same results using *Google Scholar's* then algorithm. A follow-up search in September 2024 yielded another study: Dinc et al. (2021). These seven studies were basically the only ones that specifically documented some combination of IFL instrument development, instrument validation, and empirical testing (see Table 2). The small number of studies reflects the nascent nature of studying the IFL phenomenon, which is in its infancy (Dinc et al. 2023; Khairunnisa 2020).

Findings: Islamic Financial Literacy Measurement Initiatives

Regarding our reporting protocol for presenting our search findings, we recounted each study separately and chronologically. We reasoned that future IFL researchers intending to springboard off a particular IFL initiative would welcome instrument-specific details. We further reasoned that a singular accounting was acceptable because the papers in Table 2 did not serve as a literature review to set up a research question, which requires a synopsis of the literature (McGregor 2018). That said, our analysis of the main characteristics of this collection of instruments and their development processes informed our recommendations for future research around measuring IFL.

To begin, Rahim et al. (2016) developed and validated an instrument to measure IFL and its determinants without empirically testing it. Using an exploratory factor analysis (EFA) of survey data (5-point Likert scale) collected from $N = 200$ university students, they confirmed three factors impacting IFL in addition to demographics: religiosity, financial satisfaction, and hopelessness. Content validity was affirmed using construct-area experts. All three factors had very high Cronbach's alpha values (α **=** 0.82–0.92) with religiosity loading the highest. Per a focus on Islam, they defined religiosity as "the degree to which a person adheres to his or her religious belief, values, and practices which are manifested in their daily life" (p. 33) (e.g., *halal*). Eigen values for religiosity loaded highest on three items: (a) Going against Islam is forbidden by Allah (0.854), (b) Islam provides strength and comfort (0.839), and (c) I try to follow Islam in all aspects of my life (0.825).

Along a similar trajectory, Antara et al. (2016) asserted that *halal* (what is permitted) applies to all aspects of life (including personal finances and business finances), thus necessitating a bridge between *halal* literacy and Islamic financial literacy. *Halal* literacy is the ability to differentiate *halal* and *haram* (forbidden) goods and services based on Shariah (Islamic law). If Muslims do not have *halal* literacy, they will struggle when managing their finances while respecting Shariah law. IFL is the "degree to which individuals have a set of knowledge, awareness, and skill[s] to understand the fundamental[s] of Islamic financial information and services" (p. 199). Their two instruments (one for *halal* literacy and one for IFL), each with a true/false and an *I Do not know* option, contained many aspects of Islamic law (per Table 1), but neither instrument was validated nor empirically tested. They also perplexingly assumed that knowledge of business owners' IFL would help policymakers better understand consumers' IFL.

Nawi et al. (2018) also developed an instrument to measure IFL without validating or empirically testing it. It was organized along three dimensions: Islamic money basics, Islamic investments and insurance, and Islamic banking. (a) Knowledge of money basics included *riba*, profit, risk, money as a medium of exchange (but not a commodity), and using money to help. (b) Knowledge of Islamic investments involved the Shariah compliance principle, *gharar*, *maysir*, and *mudharabah* investment contracts. Knowledge of insurance (*takaful*) pertained to donations (*tabarru*), *gharar*, and the presence of participants' guarantee of each other versus an insured-insurer relationship. (c) Knowledge of Islamic banking pertained to *riba*, profit, and rent as income sources instead of interest, the risk-sharing principle, and Shariah-compliant business/goods. Their proposed 22-item *true/false/not sure* instrument scored 1 for a correct answer and 0 for incorrect. Anticipated IFL rates would be ranked as high, medium, or low.

Setiawati et al. (2018) developed and validated an IFL instrument without empirically testing it. To develop it, they collected qualitative data via semi-structured interviews with university economic lecturers in Java (Indonesia) ($N = 400$). Participants answered four questions: (a) What do you think about IFL and its scope? (b) What must you know about Islamic financial institutions when implementing financial activities? (c) What personal attitudes must people possess to show awareness of IFL? And (d) what compliance model should one use to conduct Islamic financial management practices? A Confirmatory Factor Analysis (CFA) yielded a reliable 26-item IFL instrument organized along three financial dimensions: knowledge, attitudes, and behaviours. They reported a Construct Reliability (CR) score of 0.96>0.7 and a variance extracted formula (FL) score of 0.57>0.5. All three financial dimensions fit with the Root Mean Squared Error of Approximation (RMSEA) fitness index.

Ahmad et al. (2020) initially developed a 5-point Likert scale IFL instrument comprising nine indicators. Using this instrument, they sampled people (N = 472) who had invested in Shariah mutual funds. Employing a CFA (including rotation method using varimax), they reported two IFL factors. (a) The *subjective knowledge of Shariah compliance* factor captured self-assessment of knowledge of Islamic concepts when making financial decisions (e.g., *mudharaba, riba, musyaraka,* and *gharar*) (factor loadings 0.533–0.763). (b) The *subjective knowledge of riba and the profit-sharing concept* factor captured self-assessment of knowledge of the interest-free system (profit rates instead of interest rates) (*riba, mudharaba,* and *musyaraka*) (factor loadings 0.452–0.699). Factor loadings of >0.7 are preferred for explaining variation; thus, loadings <0.6 should be removed (SAGE Research Methods Datasets, 2015). Ahmad et al. (2020) eschewed this convention. Their rankings ranged on the low side (0.452–0.763), suggesting that their two factors may not fully measure IFL. They did not report the fitness index for these two factors.

After following a detailed and structured item-generation process to develop a scale to measure IFL, Dinc et al. (2021) created a 40-item instrument comprising four dimensions related to Islamic financial (a) behaviour, (b) knowledge, (c) skills, and (d) awareness (using male Turkish university-educated, private-sector employees [N = 287] as well as a roster of male Islamic economic scholars [N = 81]). Dinc et al. especially accounted for *haram*, *gharar*, *gimar* (gambling), *riba*, and the prohibited financing of restricted goods and services. They employed EFA, principle components, varimax and rotation, CFA, and Pearson correlation to validate the instrument. Respectively, all factor loadings were larger than 0.50 and ranged from 0.517 to 0.869. The four IFL dimensions explained 60% of the variance. Mean scores for the four dimensions averaged 4.01 and ranged from 3.27 to 4.28. Cronbach's alpha scores for the four dimensions ranged from 0.695 to 0.870 with an overall instrument score of 0.880. They reported a good fit for the measure (RMSEA = 0.05). Pearson correlations indicated that each dimension was an independent construct (each was <0.70). The instrument was judged reliable and valid (discriminate and convergent). They did not recount any empirical testing of the final instrument.

Finally, Firdausi and Kasri (2022) developed a 25-item survey instrument to measure IFL. It comprised the three conventional dimensions of financial (a) knowledge, (b) attitudes, and (c) behaviour but with an Islamic twist. The financial knowledge component contained mostly Islamic principles: profit sharing, *zakat (fitrah* and *maal), sukuk, musharakah, gharar,* and *qard*. Attitude queried *riba*. Behaviour focused on *riba, infaq, sadaqah, qard, israf, bukhl,* and *ihtikar.* When empirically tested, the Indonesian university business and economic student sample frame (N = 195) scored moderately high (50.1%) or high (43.5%) (totalling 93.6%) on IFL. Financial attitude was moderately reliable (α = 0.575); financial behaviour had high reliability (α = 0.759). Failure to report Cronbach's alpha value for the financial knowledge dimension calls into question their conclusion of a high Islamic literacy rate for this sample as measured using this instrument.

Analysis and Recommendations

We defined Islamic financial literacy as the ability to gain and apply financial knowledge, attitudes, and behaviours (skills) to make *halal* personal financial management decisions that are Islamic-law and Shariah-compliant per the compendium of Islamic finance concepts in Table 1. By way of synopsis (main characteristics), the seven research efforts reported herein (see Table 2) tended to rely on quantitative data rather than qualitative or mixed methods data. Virtually all instruments were surveys. Some initiatives did not move beyond the development stage (i.e., were not validated). Those that were validated yielded valid IFL measures, albeit seldom on a full range of Islamic finance concepts per Table 1. Virtually none of the IFL instruments were empirically tested.

Sample frames constituted mostly males, meaning women's perspectives may be absent in these instrument validations. Sample frames for instrument development initiatives tended to eschew consumers and drew instead on academics (university faculty and students) or business owners. These instrument design choices may limit the use of the IFL instruments described herein with consumer sample frames. Finally, the reported initiatives reflected both self-assessment measures and objective measures of IFL with the latter being recommended by the OECD (Setiawati et al. 2018). The following text presents our recommendations with supportive discussion points (McGregor 2018).

Frontline Practitioners

As a caveat, this paper specifically targeted IFL researchers, not frontline practitioners, so our recommendations do not address actionable steps for practitioners to implement. That said, practitioners working with Muslim clients can use the compendium of Islamic finance concepts in Table 1 to better understand Islamic finances to augment their familiarity with non-Islamic finances. Financial and credit counsellors, financial planners, and investment managers can also use Table 1 to inform their advice and product and service recommendations to Muslim clients.

Consumer educators (and educators in general) teaching Muslims can use the information in Table 1 to create IFL curricula, although such initiatives are in their infancy relative to teaching conventional financial literacy (Ross 2023). For illustrative purposes, Abdullah and Razak's (2016) ILF curricular model reflected the parallels and religious distinctions between the conventional and Islamic/Shariah-compliant approaches (bracketed in the following series):

a) basic money and wealth management (*halal* earning, saving, consumption, and borrowing/credit);

b) financial planning (e.g., Shariah compliance, Islamic insurance [*takaful*], investments, pension schemes [*sukuk*], and taxation [*zakat*]);

c) inheritance (*faraid*) and wills and estate planning (*wasiya*); and

d) alms/charity donations (*hihah* [charitable gift], *zakat* [*fitrah* and *maal*], *sadaqah* [alms giving], and *waqf* [donation]).

Societal Benefits of Muslim Economic Empowerment

Also, our researcher-targeted recommendations did not focus on the tangible societal benefits of billions of financially empowered Muslims. That said, better measurements of IFL may contribute to conversations about the importance of IFL for economic empowerment and financial decision making within Muslim communities (Ismail et al. 2016). In a meta-analysis (one of six countries was Muslim), Hwang and Park (2023) concluded that "financial literacy is a key contributor to consumer economic empowerment" (p. 236). Widityani et al. (2020) commented that

> the goals of Islamic financial literacy are to empower the individual to determine which profitable Islamic financial instruments meet their needs. Furthermore, a literate individual can understand the benefits and risks correctly, know the characteristics of products and their differences from non-Islamic financial products and also understand the rights and obligations of the selected financial instruments in order to improve their welfare and achieve their financial goals by adhering to Islamic law principles. (pp. 54–55).

Future IFL Instrument-Development Researchers

On the IFL researcher front, we recommend that once an IFL instrument is proposed, explicit steps should be taken to affirm its reliability and validity and empirically test it instead of stopping at the conceptualization stage. Scholars should ultimately strive to design IFL instruments that are fully validated, empirically tested, and ready for uptake within the field. Our synopsis and critique of seven nascent efforts to develop instruments to measure IFL support the following recommendations for future IFL researchers:

- Anyone developing and validating an IFL instrument must provide a full account of the process, so others can judge the protocol and decide if they can trust the instrument to accurately measure IFL.
- Determining the dimensions and indicators of IFL is "strongly required as a parameter to measure the level of financial literacy of the [Muslim] community" (Setiawati et al. 2018, p. 2). Items comprising IFL instruments should, thus, be inclusive of the full array of Islamic financial planning and money management practices set out in Table 1. Researchers must justify their exclusion of any Islamic finance concepts so people using the instrument or data emergent from its application can better trust it and any interpretation.
- A mixture of qualitative, quantitative, and mixed methods should be used to develop, validate, and test IFL instruments. Using mixed methods especially helps researchers use qualitative data to nail down the import of statistical results. The resultant IFL instrument should have increased validity, reliability, and trustworthiness.
- All initiatives to quantitatively measure IFL should pay close attention to the reliability of the final instrument and protocols used to develop it. This includes content validity (test items contain content being measured), concurrent validity (compare new instrument with previously validated instruments), predictive validity (repeatedly test instrument and compare results), expert validity (judges attest to the instrument's reliability), and face validity (subjects think the instrument is measuring what it is supposed to measure) (McGregor 2018).
- Qualitative studies are necessary to better measure IFL (Setiawati et al. 2018). When conducting qualitative research to develop, validate, or test an IFL instrument, researchers should ensure the instrument is credible to the participants; transferable by other researchers to their context; and dependable (findings, interpretations, and conclusions from its use are stable over time and in changing contexts) (McGregor 2018).

- Sample frames for developing and testing IFL instruments should include men and women, different age cohorts, and consumers instead of other stakeholders. Gender, age cohort, and specialization (e.g., business, economics, and non-business or non-economics) were found to affect conventional financial literacy rates (Dewi 2022) intimating they will affect Islamic FL as well. Alsayigh and Al-Hayali (2022) reported that IFL varied by gender. Furthermore, it makes little sense to use university professors or business owners' opinions to develop an instrument that measures *consumers'* IFL levels.
- The Muslim community has "very little understand[ing] of the complexity of the teachings of Islam ... in the economic aspects [of their life]. [Many Muslims] no longer pay attention to *halal* and *haram* in ... everyday economic issues" (Rianto et al. 2019, p. 975). Scholars measuring IFL should, thus, always test for *halal* literacy when administering any IFL instrument. Consumers cannot be literate in Islamic finances, if they are not *halal* literate (Alsayigh & Al-Hayali, 2022). Without this two-pronged approach, the IFL instrument may inadvertently measure *halal* literacy instead of financial literacy informed by Islamic finances and economics.
- For the next few years, both self-assessment and objectives measures of IFL should be developed, validated, and tested to discern which of the two instruments yields more productive and insightful results. Self-assessment of one's IFL may introduce self-report bias (overly positive). de Zwaan et al. (2017) acknowledged the issue of consumers' overconfidence when self-reporting financial literacy. Objective measures of IFL may leave out Islamic finance issues that participants want to discuss. Objective IFL measures are currently preferred (Setiawati et al. 2018), but we recommend researchers' due diligence on this matter.
- Factor analyses proved useful in the studies reviewed. Future researchers should strive to use this statistical procedure to tease out additional IFL dimensions. Factor analysis is particularly beneficial when dealing with many interconnected variables (see Table 1) and when trying to simplify and better understand a complex phenomenon such as managing personal finances in accordance with religious tenets. Wan Ahmad et al. (2022) acknowledged that religious compliance with Islamic tenets informs and dictates Muslims' money, debt, and wealth management.

Conclusion

Developing validated and tested instruments for measuring Islamic financial literacy is an important step forward for the financial literacy field, where IFL is considered under-researched but timely and important. We intended to highlight efforts to develop instruments to measure this phenomenon and assess them using the comprehensive compendium of Islamic finance concepts (see Table 1). We found nascent evidence, and what we did find did not fully conceptualize and thus measure IFL. Islamic financial literacy researchers are thus invited to build off this report and our recommendations to develop, validate, and test IFL measures.

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Author contributions

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