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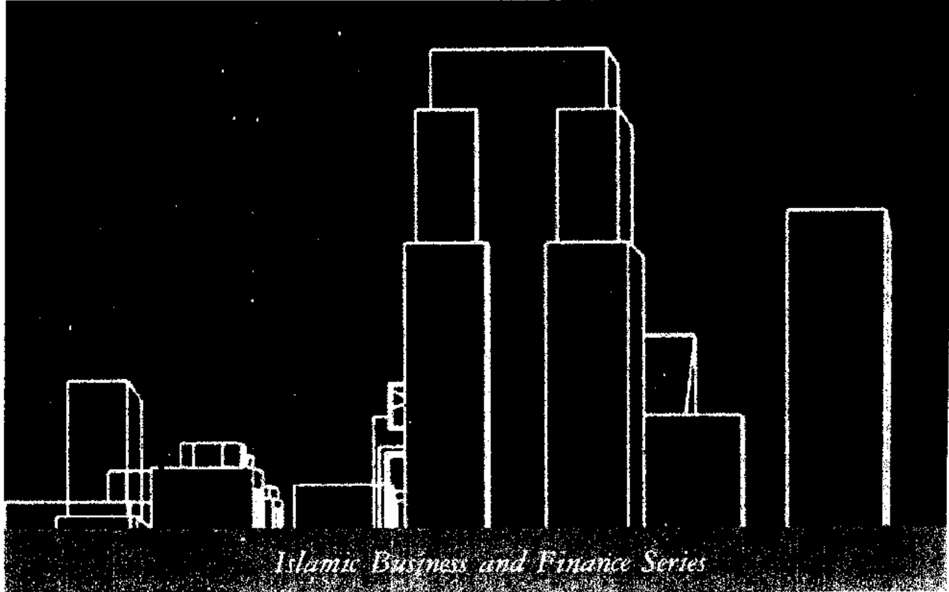
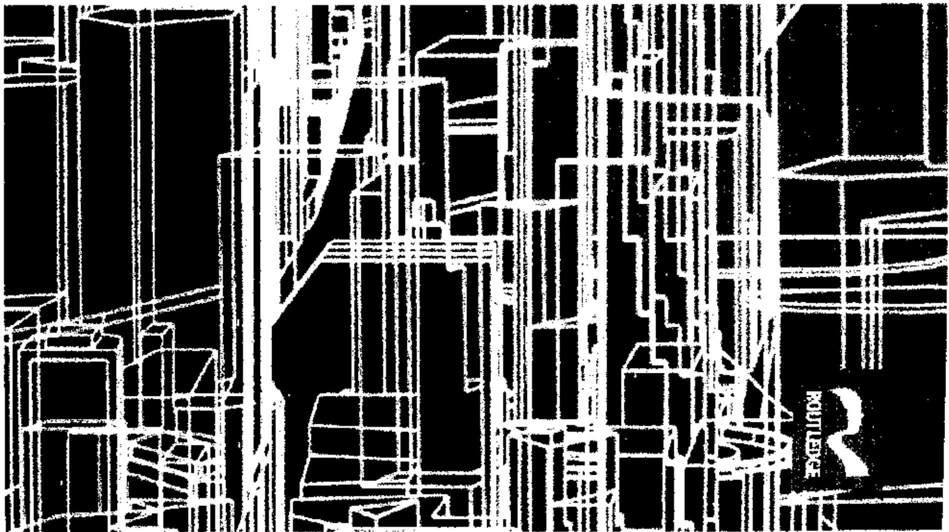


ISLAMIC FINTECH

Edited by
Sara Sánchez Fernández



an informa business

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Islamic Fintech

The implementation of new technologies is expected to boost the development of Islamic Finance by increasing accessibility to banking and other financial services in Islamic communities and democratizing access to investment opportunities. At the same time, new technologies will increase financing opportunities and facilitate asset management for *Sharia*-compliant businesses. This collection of essays from selected experts in the field comprise some of the most topical issues on Islamic Fintech, combining a business focus with legal insights.

The book takes as a point of departure the role that Islamic Fintech can play in promoting sustainability. The social vision of welfare improvement and justice is already embedded in *Sharia*'s economic rules, which makes Islamic Finance particularly well suited to bridge the gap between sustainability and funding. Although it is not without challenges for the industry, technology will help unleash its potential. With a holistic approach to Islamic Fintech, the contributing authors address the application of new technologies to Islamic Finance, including robo-advisory, crowdfunding and digital ledger technology (both in the issuance of bitcoin and the registration of securities in tokenized form) and in certain sectors such as *takaful* (*takaful*-tech) and health (e-health). Finally, they explore the challenges posed by anti-money laundering ('AML') in the specific realm of Islamic Fintech.

The book combines theoretical analysis with a practical focus, both through case studies and directly through the experiences of leading entrepreneurs. In addition, it provides insights on legal and regulatory aspects, which are key in a field that is still in its infancy and needs support from lawmakers and regulators. It is, thus, a reference for academics, legal practitioners, policymakers, entrepreneurs and the Islamic Finance community.

Sara Sánchez Fernández is Assistant Professor at IE Law School, IE University (Spain). She specializes in capital markets law from a cross-border perspective, as well as in Islamic Finance. Sara holds a PhD in Private International Law from Universidad Autónoma de Madrid (Spain).

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Islamic Fintech

Edited by Sara Sánchez Fernández

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Contents

Contributors vii
Foreword xi
Abbreviations xiii

1 **Role of Fintech to achieve the SDGs from an Islamic perspective** 1
HOUSSEM EDDINE BEDOUI AND WAIL AAMINOU

2 **Islamic Fintech and ESG goals: Key considerations for fulfilling *Maqasid* principles** 16
BLAKE GOUD, TANVIR A. UDDIN AND BAYU A. FIANTO

3 ***Takaful* and Fintech: Can Fintech save *takaful*? A case study** 36
GERMÁN RODRÍGUEZ-MORENO

4 **Robo-advisory: An opportunity for innovation in *Sharia*-compliant markets** 44
PABLO SOLER BACH

5 **Telemedicine and e-health in the Middle East** 52
SARMAD R. AHMAD

6 **Is a cryptocurrency a currency or a product/commodity? The case of bitcoin** 65
KALEEM ALAM

7 **DLT and capital-raising in Islamic Finance** 79
SARA SÁNCHEZ FERNÁNDEZ

8 **The role of Islamic crowdfunding in the new economy** 91
UMAR MUNSHI

9 **Crowdfunding in Spain under *Sharia* rules** 102
ANTONIO GABRIEL AGUILERA

10 **Anti-money laundering from the Islamic perspective in the digital era** 114
GONZALO RODRÍGUEZ MARÍN

Index 127

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Ethis launched Malaysia's first Islamic equity crowdfunding platform in mid-2020 and is currently preparing to launch Dubai's first property crowdfunding platform.

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Foreword

In the wake of the 21st century, the world has been enjoying the advancement of cyberspace in almost every sector of daily life, be it on a private, social, political, economic or a global sphere. The corporate and financial sectors are still dominated by traditional culture, in a race to cope up with gradual technological evolution.

Recently, the financial and non-financial corporate sectors are adopting multiple borderless mechanisms using sophisticated technologies suited for the contemporary financial movement of their products and services. This transformation helps to maximize comfortability, rational cost effectiveness and customer satisfaction, with the ultimate goal of advancing the industry to the new dynamism of Fintech.

Despite such opportunities in the sophisticated cyberspace (Fintech), which are to be optimized by the financial industry, there are still challenges that hinder the smooth way forward. Among those challenges are black hat hackers, misuse and fraud cultures, natural system crashes, rapid and repeated growth of devices, poor professionalism and skills, unskilled corporate governance, lack of confidence, non-etiquette and an insufficient support and cooperation from decision makers.

Most of these challenges arise through innovation in this new dimension, whose effects perhaps are only temporary. In this promising journey of the emerging era of Fintech, these challenges may not last long, shifted away by Fintech's skilled dynamism.

Islamic financial industries are not the exception in coping with the global emergence of Fintech in their products and services, but they do so within the rules of *Maqasid al-Sharia*.

Global capital market, share market, money market, easy-pay, social finance, digital currency, payment through apps or mobile banking are among those facilities systemized by Fintech with affordable mechanisms and less risk.

Financial authorities, regulators, decision makers, operators and customers are moving with greater prospects towards converting and adapting the traditional financial system into Fintech with promising benefits and better services. Such renaissance is not happening only among the developing states but as a rising global phenomenon.

Islamic financial markets are growing faster than its conventional counterparts, with an annual growth rate ranging from 15% to 20% per annum, with sustainable existence appreciated across today's world.

Islamic financial industries capitalize every digital opportunity available in system, products and services within the boundaries allowed by the rules of *Maqasid al-Sharia*, aiming at serving the customers with satisfaction compatible with possibly the best offerings of global practices. The Islamic Finance industry in the contemporary era foresees the emergence of Fintech as the pushing factor of products and services that bring innovation to a global platform with a furtherance legacy to position itself as an able alternative to the conventional counterparts with significant results and added benefits for all with a universal value.

Countries that are leading the advancement of Fintech for the Islamic Finance industry are Saudi Arabia, United Arab Emirates, Malaysia, Indonesia, Bahrain, Pakistan, Kuwait, Turkey, Qatar, Oman, Bangladesh, Brunei, Sudan, Iran, Egypt, Jordan, Gambia, Uganda, Ghana, Kenya, Nigeria, Bosnia, South Africa, UK, Singapore and the Philippines.

The political and financial authorities, corporate and professional entities, researchers and decision makers are among those who are earnestly pushing, supporting and innovating the technical know-how of Fintech in Islamic Finance. Cryptocurrencies, smart-payments, crowdfunding, capital markets, SRI *sukuks*, *waqf* cooperation, *zakat* management, online financial services and mobile banking are among those opportunities which are already in action through Fintech.

The publication of this book is a milestone of the contemporary Fintech within *Sharia* ethical values, by contributing several notable chapters on specialized issues of Fintech, both from an academic and practical perspective, namely: the role of Fintech in relation to SDGs and ESG goals, crowdfunding, *Sharia*-compliant robo-advisory in the wealth advisory industry, *takafultech*, anti-money laundering, cryptocurrencies – whether they are a product or a commodity – Spanish crowdfunding, DLT capital-raising and e-health.

It is thus a pleasure for me to acknowledge that this book is indeed a result of the effort of Dr Sara Sánchez Fernández (Assistant Professor, IE Law School-IE University) and intellectual researchers from different parts of the world as contributors, which is timely to meet the global market demand of researchers, academia, professionals, industrialists, financial authorities and students.

Thus, the book may be a useful reference in understanding the technical know-how of financial technology within the spirit of *Maqasid al-Sharia* and duly apply the model in the contemporary Islamic financial environment.

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Abbreviations

AAOIFI	Accounting and Auditing Organisation for Islamic Financial Institutions
AI	Artificial Intelligence
AML	anti-money laundering
API	application programming interface
AR	augmented reality
AUM	assets under management
BIS	Bank for International Settlements
B2B	business-to-business
B2C	business-to-consumer
CAGR	Compound Annual Growth Rate
CBM	Central Bank of Malaysia
CFTC	Commodity Futures Trading Commission
CNMV	*Comisión Nacional del Mercado de Valores*
CONSOB	*Commissione Nazionale per le Societa e la Borsa*
CSD	central securities depositary
CTF	counter-terrorism financing
DLT	Distributed Ledger Technology
EBA	European Banking Authority
ECB	European Central Bank
EIF	European Investment Funds
ENISA	European Union Agency for Network and Information Security
ESG	environmental, social and governance
ESMA	European Securities and Markets Authority
ETF	exchange traded fund
FATF	Financial Action Task Force
FCA	Financial Conduct Authority
FINMA	Swiss Financial Market Supervisory Authority
FSMA	Financial Services and Markets Authority
GCC	Gulf Cooperation Council
GDPR	General Data Protection Regulation
GIIN	Global Impact Investment Network
HKEX	Hong Kong Exchanges and Clearing Company

ICO	initial coin offering
IFSB	Islamic Financial Services Board
IMF	International Monetary Fund
IOMT	internet of medical things
IOSCO	International Organization of Securities Commissions
IOT	internet of things
IRR	Internal Rate of Return
IT	information technology
KYC	Know Your Customer
MEA	Middle East and Africa
MENA	Middle East and North Africa
MENAP	Middle East, North Africa, Afghanistan and Pakistan
OIC	Organization of Islamic Cooperation
PLS	profit-loss-sharing
PRI	Principles for Responsible Investment
P2P	peer-to-peer
R&D	research and development
SDG	Sustainable Development Goals
SEC	Securities and Exchange Commission
SME	small and medium-sized enterprises
SPV	special purpose vehicle
SRI	socially responsible investment
UAE	United Arab Emirates
UNPRI	United Nations Principles for Responsible Investment
VBI	value-based intermediation
VR	virtual reality
WWF	World Wildlife Fund

2 Islamic Fintech and ESG goals

Key considerations for fulfilling *Maqasid* principles

Blake Goud, Tanvir A. Uddin and Bayu A. Fianto

Introduction

The global financial crisis catalyzed a major re-evaluation of the relationship between society and the financial sector. Besides the immediate economic impacts from the crisis, it led to a breakdown of trust in institutions, including financial institutions that have been slow to rebuild. Many within the financial sector, including those who have joined the Principles for Responsible Investment ('PRI') (United Nations Global Compact 2015), recognize the challenges that confront shared humanity especially around climate change and inequality and are trying to find a solution by focusing on environmental, social and governance ('ESG') data. The rising share of asset managers and asset owners using ESG in their investment decision-making has contributed to a growth in responsible investment. Beyond the societal demand for alternatives, prolonged quantitative easing, low or negative interest rates and the thirst for higher yields have flooded investments into technology start-ups including Fintech companies to drive a new paradigm in financial services globally. With a greater faith in technology to disrupt old ways of working, Fintech is seen as more capable of delivering customer-centric solutions that democratize the incumbents' domination of how wealth is generated and ultimately invested.

Emerging trends in Fintech-enabled alternative finance, which includes channels and instruments emerging outside the traditional financial system, delivers an unprecedented opportunity to improve financial intermediation and increase access to finance. With widespread criticism of the mainstream Islamic banking and finance sector as either mimicking the conventional system, failing to achieve inclusive growth or both, industry stakeholders are turning to technology to show that finance can be done differently.

After justifying the overlap between responsible finance and *Maqasid al-Sharia*, we argue that the mainstream practice of Islamic banking and finance has been too one-eyed on formal compliance at the expense of substantive ethical outcomes. However, Islamic Fintech, despite considerable hype, cannot guarantee the realization of higher *Sharia* ethics without a clearly defined positive intention via an objective theory of change, strong long-term commitment from industry and regulatory leadership and ensuring objective measurement of its activities

to validate realization of said intention. Taking lessons from Islamic Fintech case studies, we provide a theoretical framework for considerations that are *a priori* essential for Islamic Fintech, as purveyors of alternative Islamic Finance, to achieve *Maqasid* outcomes. We further propose recommendations for Islamic financial institutions, Fintech companies, regulators and other stakeholders who are integrating or who are considering introducing Islamic Fintech-enabled alternative finance solutions. The methodology deployed to form our argument and conclusions is an evaluation of theoretical and empirical literature and case study analysis.

Conceptual and contextual background

Responsible finance and investment

While arguably responsible forms of finance and investment have existed since the advent of economic activity, it is only in the 2000s that it has received focused attention and widespread support. While impact investing, or the targeted use of investment resources for sustainable outcomes, is a core aspect of responsible finance, consumer protection, financial systems regulation and financial education have also been recognized as essential, taking on lessons from the excesses that led to the global financial crisis. According to the United Nations Principles for Responsible Investment ('UNPRI') (2016), responsible investment is an approach to investment that explicitly acknowledges ESG factors and the long-term health and stability of the market as a whole. The central premise is that investment activities steered by the financial sector can help reduce harm from the excesses of our current post-industrialized (e.g. divestment from fossil fuels) and direct positive economic activity (e.g. investing into renewable technologies). The Global Impact Investment Network ('GIIN') estimates that the market for impact investment is currently $502 billion (Global Impact Investing Network 2019b). The development of impact investment emerged from a recognition that not all investors are focused on achieving market-based returns. Some investors are exploring what leverage they have to sacrifice in financial returns in exchange for tangible social and environmental impacts.

Some fund managers are focusing in part or exclusively on impact investments, which differs from responsible investment by focusing on creating both a social or environmental impact alongside financial returns. Responsible investment is an approach that is most at home in the institutional markets. Institutional investors have a greater advantage to scale because they can more efficiently integrate ESG data into investment decision-making. Therefore, although it emerged from those concerned by the 'niche' appeal of socially responsible investment, responsible investment gained its foothold in the investment market on the strength of its positive financial impact (Clark, Feiner & Viehs 2015; Friede, Busch & Bassen 2015). The PRI, which were launched in April 2006, became a de facto metric for the size of the responsible investment industry. From 63 signatories managing $6.5 trillion in 2006, the PRI had reached 523 signatories managing $18 trillion

by April 2009 and currently has 2,372 signatories managing a collective $86 trillion in assets (UNPRI 2019).

Alternative finance and the role of Fintechs

In parallel with the ESG movement, new companies called Fintech that co[mbine] the delivery of financial services with technological solutions are addressi[ng] many challenges that relate to environmental, social and governance factors. [In] addition to their distinction as tech-centric, Fintechs are part of what has be[en] termed the alternative finance movement. World Bank Group (2019) defines alte[rnative] finance as financial channels and instruments that have emerged and pri[ncipally] function outside the traditional financial system such as regulated ban[ks] and capital markets. There are Fintechs improving the access to finance throu[gh] peer-to-peer financing to leverage the blockchain to improve accountability [in] supply chains.

What differentiates the Fintech movement concerning institutional capi[tal] markets-driven ESG is that the former aims to go beyond financial decisio[n-]making based on metrics, which are ultimately optimized with profit-drive[n] motives. Rather, many Fintechs aim to fundamentally disrupt the global financi[al] order where incumbents have abused their market power to collude with compa[nies] whose products undermine ESG outcomes. Seeing the potentially negativ[e] implications of Fintech's disruptive threat, financial institutions are increasingl[y] engaging with Fintech start-ups either as investors or as strategic partners. Galvi[n] et al. (2018) reported that Fintech firmly associated with almost 80% of financia[l] institutions. Globally, Fintechs are rising to become major financial players an[d] the capability to drive meaningful ESG outcomes.

Significance and challenges of Maqasid in Islamic banking and finance

Islamic banking and finance emerged as a rapidly growing business differing no[t] only in the way they do business but also in the way they integrate the *Sharia*-based values with banking operations and prospects. These *Sharia* values are expressed not only in their transactions but also in a broad range of roles in realizing *Maqasid al-Sharia* (*Sharia* objectives). *Maqasid al-Sharia* changes the holistic view of Islam because Muslims follow Islam as a complete and integrated code of life that complements individuals and society, in this world and the hereafter.

A deep understanding of *Maqasid al-Sharia* requires a strong commitment from every individual and organization to realize prosperity, brotherhood and social welfare. This will lead to a society where every member cooperates and even competes constructively because success in life is getting *falah* (highest happiness). Thus, maximizing profits alone cannot be an adequate goal for Muslim communities. Profit maximization must be directly congruent with ensuring health and spiritual awareness, fairness and fair play at all levels of human interaction. Only this kind of development is following *Maqasid al-Sharia* (Chapra 2008).

Hence, the restricted view of understanding the *Sharia* by only focusing on the legal forms of a contract needs to be changed. The 'substance' of the *Sharia* should be the focus when structuring a financial product because otherwise, critics will come from a stronger position in arguing Islamic banks are just an exercise in semantics. Their functions and operations will be perceived as no different from conventional banks, except in their use of legal strategies to disguise interest and circumvent *Sharia* prohibitions by following the letter but not the spirit of *Sharia* principles.

As mentioned above concerning the integration of ESG and *Sharia*, the measurement of performance of all financial institutions, including Islamic banks, is no longer dominated by the financial ratios alone. The concept of the triple bottom line bringing together economic, social and environmental considerations is applicable. For Islamic banks to successfully have *Maqasid*-aligned sustainable growth, their main activities must be focused on benefiting their shareholders as well as the wider stakeholders, including in their community and the environment (Antonio, Sanrego & Taufiq 2012).

Soualhi (2015) highlighted that triple bottom line concepts are in line with the concept of *Maqasid al-Sharia*, as noted by Ibn Qayyim Al-Jawziyah that the overall *Sharia* objective is to realize the comprehensive and holistic benefit to society. Efforts to develop an evaluation on Islamic banking performance measurements which are in line with the concept of *Maqasid al-Sharia* has been discussed by many others (Mohammed, Razak & Taib 2008). Results showed that the *Maqasid* index approach could be useful to describe the quality of performance of Islamic banking institutions in a way that would be more universal and able to appeal to a wider constituency (Antonio, Sanrego & Taufiq 2012).

Islamic banks made their first appearance in the 1970s. Since their first inception, the public and commentators have expected them to become analogous to an ancient financial organization based on profit-loss-sharing ('PLS') mechanisms, particularly *musharakah* and *mudarabah*. Prominent Muslim economists including Umer Chapra and others favour equity-based instruments and place greater social welfare responsibilities and religious commitments upon Islamic banks to realize the *Maqasid al-Sharia* (Chapra 2008). This includes expectations that through economic and financial transactions, Islamic banks will be able to deliver social justice while at the same time promoting economic growth and development.

Limitations and challenges of Islamic banking and finance

Despite its potential to deliver a better outcome for society, there should be a recognition that Islamic Finance will be unable to make the change entirely on their own. Islamic Finance has been challenged to close the gap between its *Maqasid*-related objectives and the practical realities of the financial industry. The tension has been particularly acute concerning banking regulations, which exasperate tensions between the risk-sharing approach of Islamic Finance and debt-based finance system and prudential mandates that regulators hold.

Not everything can be ascribed to regulations, however: Islamic ban... ness models borrow heavily from interest-based banking. Along with ... ness models, many Islamic banks have taken a conservative and conv... approach to adopt a strategic intent and very few have placed environme... tainability or social justice at the centre of their decision-making guida... same conventional mindset is built into the *Sharia* governance proces... is focused on form-based compliance rather than substantive alignme... *Maqasid* (Laldin & Furqani 2016). Warde (2010) stated that Islamic F... largely embedding the harmful excesses of wanton materialism rather th... truly transformational.

Islamic banks have struggled to offer cost-effective products in com... with their conventional counterparts in regulatory systems that contai... dictions for Islamic banks. The contradiction comes because Islamic b... *Sharia*-compliant contracts to deliver the same services to depositors and... ers as conventional banks. This forces them to prioritize staff capacity ... ment on expertise in the conventional system within the constraints c... compliance. Less capacity has been built among staff in striving towards ... related considerations, including environmental stewardship and the so... etal objectives most relevant to Islamic values.

Meanwhile, Islamic Finance's growth has slowed considerably in... five years. Muslims who had otherwise avoided interest-based financial... and those who were less price sensitive drove significant growth. T... enthusiasm for Islamic Finance was also supported by expanding liq... oil-exporting Organization of Islamic Cooperation ('OIC') countries... 2013 buoyed by high oil prices. After 2013, when commodity prices i... oil crashed, the growth rate slowed across core markets. Data from th... Financial Services Board starting in 2014 shows that the growth rates ... in mid-to-high single digits through the end of 2017. However, sever... converged together to drive growth rates down to 1% for the year enc... 2018 (Islamic Financial Services Board 2018). Slowing growth has ... many within the industry to seek out avenues for expanding the m... Islamic Finance.

Islamic banking and finance and its ESG potential

Meanwhile, despite philosophical overlaps, the Islamic Finance market... slow to adapt well-known ESG frameworks and enhance impact inv... This is primarily because of a lack of awareness about the financial be... ethical alignment between Islamic Finance and ESG (RFI Foundati... Further, the Islamic Development Bank, the most influential promoter c... Finance in the Muslim world, is directly linking its financing activities... United Nation's Sustainable Development Goals as a clear validati... overlap between Islamic Finance and ESG. Thomson Reuters (2015) ... that the market size among *Sharia*-compliant ESG investment funds ... billion and would rise to $28.3 billion by 2019. Moreover, the RFI Fo...

(2019) reported that the proportion of *Sharia*-compliant ESG funds (1.6% of $1.7 trillion market) is well below the conventional ESG market (27% of $317 trillion).

However, the recent growth in the *Sharia*-compliant ESG market has been expanded dramatically with regulatory support from Malaysia's central bank, Bank Negara. In 2017, Bank Negara released a Strategy Paper on value-based intermediation ('VBI') (Central Bank of Malaysia 2018). Guided by a community of practitioners made up of nine Islamic banks in Malaysia, Bank Negara issued Implementation Guidelines in October 2018 to help Islamic banks define their corporate value-intent, develop an internal VBI Investment and financing assessment framework and conduct a self-assessment to measure their effectiveness (Central Bank of Malaysia 2018). Regardless of the speed of uptake by Islamic Finance institutions and regulators of Muslim-majority countries, Islamic banks and Islamic business units are now influenced by engagement from global asset owners relating to their ESG practices. Ironically, the conventional sector is raising the prominence of responsible finance as a key strategic concern and Islamic financial institutions are now forced to play catch up with conventional institutions on their demonstration of the environmental and social impact of their activities (RFI Foundation 2019).

Looking forward, although they lag behind many of their conventional peers on responsible finance, Islamic financial institutions retain the advantage of being ethically oriented at their core. They can look to use their adoption of ESG as something that is not just done to stay on par with conventional competitors, but something aligned with Islamic values that contributes to their overall value proposition to customers. The advantage that Islamic Finance holds in comparison to the conventional sector is that the ethical principles cannot be compromised even for-profit motivations. Moreover, principles such as universal solidarity with fellow human beings and the environment actively mandate behavioural change which can help encourage uptake and acceptance by finance institution's customers, employees and shareholders.

Alternative Islamic Finance via Islamic Fintech

Whereas traditional banks and the capital markets have been slow to evolve and adapt to 21st-century challenges and opportunities, there is increased attention towards alternative finance. Invariably, Fintechs are driving the delivery of alternative finance both as disruptive, tech-enabled financing channels and as a reaction to the excesses of mainstream finance. Meanwhile, the inability to compete with their conventional counterparts coupled with a one-eyed focus on formal compliance through product development has limited the adoption of ESG financing frameworks within Islamic Banking Finance ('IBF'). Nowadays, numerous scholars and practitioners' efforts have been narrowly focused on re-imagining classical Islamic social instruments such as *waqf*, *zakah* and Islamic microfinance rather than a wholesale and scalable shift in the general approach to IBF.

The potential for Islamic Fintech

Within this lacuna a new generation of IBF players is emerging, principally Islamic Fintechs, which are attempting to directly align their activities with ESG outcomes and the *Maqasid*. In contrast to mainstream IBF, the alternative approach to Islamic Finance arises from two trends: rapid digitalization and the slowing growth of traditional forms of Islamic Finance. It aspires to add more than just the efficiency that digital technology can deliver by incorporating *Maqasid*-consistent practices from the broader 'responsible finance' industry, which includes socially responsible investing, ethical banking and ESG. In this paper, we focus our evaluation on Islamic Fintech in its capacity to achieve ESG outcomes.

This is not to say that responsible Islamic Finance does not and cannot exist. We are concerned with alternative Islamic Finance because it has the potential to respond to ESG challenges in a more agile manner. However, due to their small size, each will need to focus on a single issue. This will allow them the focus required to use efficiency gains from technology, and their lack of internal bureaucracy compared with highly regulated banks will help them to stand out and add value. Their fresh start as new companies can allow Islamic Fintechs to operate at the convergence of ESG outcomes from the outset.

As technological capabilities in the financial sector improve, especially relating to measuring and managing ESG risk, and Fintech companies develop propositions that allow them to partner with established brick-and-mortar banks, Islamic banks should be actively looking for ways they can benefit from technology. With the fast pace of development in Fintech and the more limited focus on sustainable finance and Fintech, Islamic banks may still find opportunities where they can 'leap-frog' over their conventional competitors with a smart combination of technology, ESG and a strong ethical proposition. As a result, the promise that Fintech companies can credibly offer of 'disrupting' the banks is especially appealing in the Islamic Finance context because it offers hope to escape the regulatory constraints and those constraints emanating from the choice to scale Islamic Finance through the banking business model.

Evaluation of alternative Islamic Fintech

Islamic Fintech's limitations with ESG outcomes

Although some Islamic Fintechs have been successful in bringing a social impact, they remain focused on realizing efficiency gains within the system as it exists today. The most comprehensive assessment of the Islamic Fintech industry reported that Malaysia, Indonesia and the United Arab Emirates ('UAE') became the most burgeoning Islamic Fintech community due to the effectiveness and the readiness of *Sharia* financial institutions to adopt digital-based services (Islamic Finance News 2017). However, after initial strong enthusiasm, we see that many Islamic Fintechs are struggling to deliver a significantly different proposition from what Islamic financial institutions offer with enough breadth and depth to generate a significant change in the industry as a whole.

The biggest challenge is that Islamic Fintechs frequently must choose to be more disruptive – and potentially risk losing industry support and adoption – or become more integrated into the industry while undermining the chance to fundamentally change how it works. The most ESG-oriented Islamic Fintechs can find themselves in a place of being ahead of the market while needing it to catch up to be able to achieve scale. If an Islamic Fintech has developed something that is useful for industry and can scale it efficiently, there should (in theory) be competition among the industry to be earlier adopters, but this is often lacking. From the perspective of a Fintech seeking to reach its next funding round, there will be an intense pressure towards conformity with the traditional approach to Islamic Finance that is less disruptive to its business model or its eventual impact.

Case study learnings from leading Islamic Fintechs

As an illustration, most of the Islamic Fintechs that have gained recognition for their alternative Islamic Finance have done so from a position independent of the mainstream marketplace. This has been necessary because of a lack of strategic vision paired with the right level of resourcing, coming from the top of large institutions to enable more disruptive technologies. In the section below, we explore how several emerging Islamic Fintechs who are charting a new course -- developing tech-enabled solutions that are directed towards a clear *Maqasid* goal -- derive insights for the collective industry. The Fintechs have been chosen based on their overt *Maqasid* focus and for utilizing alternative finance.

EthisCrowd

EthisCrowd is the world's first real estate Islamic crowdfunding platform, investing in entrepreneurial, business, trade and real estate activities in 'Emerging Asia' (Ethis 2019a). Based in Singapore, the company crowdfunds the construction of affordable and commercial housing, mostly in Indonesia, through private and institutional investors, as well as Islamic banks. EthisCrowd intentionally seeks to address the affordable housing gap, capitalizing on a booming Indonesian real estate market and an increasingly accessible pool of social and ethical small and medium-sized investors through real estate crowdfunding, which was estimated by Massolution to be a $3.5 billion industry in 2016, linking such investors directly with contractors and real estate developers (Ethis 2019b). Despite the significant impact that they are having, operational challenges make it exceedingly difficult to scale up. According to Ethis' founder, Umar Munshi, in addition to usual dealflow challenges, Ethis has to overcome a lack of education and awareness about participatory financing schemes (Munshi 2019). This awareness challenge arises because both investors and beneficiaries are more familiar with fixed and guaranteed income/interest-bearing products.

Moreover, Munshi commented that Ethis is not trying to transform the entire economy; they are focusing on a niche segment in affordable housing and trying to grow alternative financing mechanisms via crowdfunding. Additionally,

Ethis has been actively working with regulators in Southeast Asia and the Midd East to expand the alternative Islamic Finance sector. In November 2019, Et received regulatory approval to operate in Indonesia, making it the third mar where the platform can facilitate online capital formation. Earlier in 2019, Et also received the first Islamic equity crowdfunding licence in Malaysia and la followed that up by receiving the first property crowdfunding licence in Dub Ethis intends on pursuing regulatory approval in other jurisdictions on a rolli basis at it pursues the goal of becoming a global platform.

Blossom Finance

Blossom Finance is an investment platform raising funding for social impact pr jects using a SmartSukuk, which implements blockchain to expand the cost effe tiveness of issuance for projects raising between $50,000 and $50 million, whi is not feasible today (Blossom 2019). The first SmartSukuk was issued to provi financing to an Islamic microfinance cooperative, a unique type of Islamic micr finance provider in Indonesia. Through greater accountability and transparen based on blockchain technology, the *sukuk* tries to overcome highly predato lending ('loan sharking') (even where couched as Fintech-enabled), which is co trary to the objectives of responsible Fintech.

As Blossom expands its reach, it is focused on understanding local context t scaling impact along with its growth. Blossom does so through a partner with pas sionate locals who understand their local context and can help adapt the applica tion of capital into the local context to maximize its impact. Blossom begins wit negative screening per Islamic principles to ensure money is directed towards pro ductive business purposes rather than consumptive spending. The contract mus be clear and understood by the beneficiary and the underlying businesses bein financed must not have any harmful effect on society. In addition to the negativ screening, Blossom adds a positive screening to prioritize projects addressing on or more of the UN Sustainable Development Goals. One metric they are encour aging their partner network to adopt is a 'gold' or 'silver' star metric concerning impact measurement. A gold star would indicate where financing has helped someone at the poverty level earn an income exceeding the minimum wage, while a silver star would indicate an increase in income post-financing.

One of the challenges that Blossom has seen in their approach to Islamic Finance and Fintech is to focus on longer-term outcomes, where there is not a trade-off between achieving a higher ethical purpose and business success. One issue on which Blossom sees relevance is the preference within the Islamic Finance industry towards synthesized debt structures. The construction of these synthetic structures adds significant complexity in comparison with simpler forms of Islamic Finance, including the profit-sharing arrangements which the SmartSukuk embeds. Blossom says that their investors have been more receptive to profit-sharing instruments than the Islamic Finance industry altogether. Their promotion of profit-sharing instruments provides another benefit to stimulate the Islamic Finance industry to create more investable ...

also provides benefit on the social impact side since it finances with a simpler structure, and thus it avoids creating new debt.

Teek Taka

Teek Taka is a Fintech working to build an ethical trade finance platform to improve work conditions in Bangladeshi garment factories by incentivizing the owners to improve conditions in exchange for access to cheaper and faster financing (Teek Taka 2019). Bangladesh's garment industry is the world's second largest and provides vital job opportunities to millions of low-income workers, most of whom are women. Although progress has been made on work conditions since the 2013 Rana Plaza collapse, which killed 1,134 people, work conditions remain grim. Garment workers face exploitative conditions, characterized by poverty wages, poor health and safety and excessive work hours while factories lack the capital to make improvements. The social impact objective of Teek Taka is to improve labour conditions for low-income women in Bangladesh to ensure that the benefits of international trade are shared with some of the most disadvantaged people in the world. It is doing so within the principles of a just, responsible and free-market economy where Teek Taka seeks to create a fairer society by diminishing wealth inequality.

The key challenges that Teek Taka faces for scaling impact are regulatory constraints within Bangladesh and a lack of stakeholder buy-in. The lack of stakeholder buy-in is driven by the existing competitive nature between brands, suppliers and finance providers to forge new approaches and incentives to drive a change. As an early stage start-up, Teek Taka does not see any problem so far and is still formalizing an ethical decision-making framework to make operational decisions. The framework used for decision-making is a consequentialist framework focusing on the future effects of the possible courses of action and considering who will be directly or indirectly affected to reach the best outcomes. These decisions are made about duties and ethical obligations based on *Sharia* guidance which affects key decision-making in company strategy, employee management and product offering to the communities in which they operate.

Synthesis of case study learnings

What distinguishes the Islamic Fintechs that are ESG-focused, such as our case studies, is that technology is an enabler towards an alternative finance paradigm rather than narrowly focusing on operational and market disruptions. Their humble efforts in charting a new course for the Islamic Finance industry overall yields important lessons for other alternative Islamic Finance players.

Ethis shows how to build adoption and awareness by focusing on small project size, which allows for the demonstration of success in practice. They do this by finding booming markets where the projects can support the democratization of financing and a track record that shows credibility for regulatory engagement.

They still face a lack of education and awareness among those in the market abou how participatory, risk-sharing, financing products deliver value in practice.

Blossom shows how some of the efficiency-gain focused approaches can b welded together with examples that also show the feasibility of financing fo social impact. They pair traditional *Sharia* screens (sector negative screens) with positive screen linked to the SDGs. Like Ethis, they find markets with strong prospects and use local knowledge to adapt their approach to financing to local needs. Also, like Ethis they face a challenge in market preferences towards syntheti debt rather than equity-based and risk-sharing structures. They are overcomin this challenge by simply demonstrating that equity and risk-sharing structures ar a better fit for issuers and investors alike.

Unlike Ethis and Blossom, Teek Taka focuses less on direct change within th Islamic Finance sector and instead aims to drive change within a real econom sector (i.e. garment manufacturing). In doing so, they have aligned on an issu that brings together the compatibility of Islamic principles with an issue tha attracts many other types of ethically oriented activists. By focusing on an issue that has a broad advocacy base, Teek Taka can multiply its impact. They offer a solution that can bring value to local companies in Bangladesh by fulfilling objectives shared with these companies' customers who are trying to improve practices across their supply chains.

Each of these three Islamic Fintechs shows a unique approach that shows how technology can enable better outcomes by linking their entire purpose (technology and financing structure) to social impact that fulfils *Sharia* compliance as well as *Maqasid* alignment. They have all faced a challenge of a market where awareness and education are still focused on a business-as-usual approach that prioritizes compliance over *Maqasid* alignment. Yet each has found ways to show incremental progress and successes that meet current market expectations and show their ability to meet market expectations while still moving towards their bigger objectives.

Three ideas for the way forward for Islamic Fintech

Based on successful conventional alternative finance players and a review of shortcomings, several framework recommendations could be made to pave the way for a more impactful Islamic alternative finance sector.

Recommendation one: positive intention via an objective theory of change

Firstly, the market dynamics within Islamic Finance have not enabled technology to be widely and competitively adapted to integrate *Maqasid* into the core *raison d'etre* of the industry. One primary barrier has been sufficient recognition of the change that needs to come for the world to achieve sustainable development as articulated by the UN's Sustainable Development Goals. In contrast, these goals have been embedded across government policy and regulation in the

consciousness of many consumers and will be reinforced regularly through at least the next decade. The inevitability of future disruption from growing social, environmental and economic challenges needs to guide business strategy. Islamic financial institutions can be late adopters and become further marginalized or they can recognize what the current trajectory means for their future and find ways to seize the opportunity.

For Islamic Fintechs that choose to seize the opportunity, their first challenge will be understanding which of their decisions can affect their future and which ones are out of their control. This knowledge will allow a strategic redirection of their efforts under a coherent vision that outlines their strategic intent, as well as a 'theory of change' that explains how their decisions today support their ultimate intent. Having this fundamental story, which must be revised regularly as the world proves or refutes their theory of change, Islamic Fintechs can use it to gain buy-in for the initiatives that can help them transition to a more *Maqasid*-oriented future and operating framework.

This tension (a 'tragedy of the time horizon', to repurpose a phrase from Bank of England Governor Mark Carney) will also need to be managed (Climate Action in Financial Institution 2015). Thus, it is crucial that Islamic Fintechs develop a strategic intent and theory of change as we outlined for traditional Islamic financial institutions. This will provide Islamic Fintechs with the ability to manage short-term needs to maintain economic sustainability without losing their credibility. Islamic FinTechs can expect to gain credibility in differentiating themselves in the longer term when they can become a 'plug and play' option for Islamic banks by adopting 'alternative Islamic Finance'.

As an example of approaching operations with greater strategic intent, some Fintechs have worked to address the fundamental shortcomings of debt-based products by developing non-bank approaches that enable profit-and-loss sharing, which most critics of the status quo prefer. For example, Niyah Bank says it plans to offer small and medium-sized enterprise ('SME') financing where 'repayments are based on revenue sharing and profit-sharing – not interest' (Niyah 2019). If these Fintech companies were organized as traditional banks, they may face similar regulatory challenges that make their business model incompatible with PLS. However, they lack the similar institutional baggage that constrains the possible business models they could adopt, which would only attach to them if they become a 'bank' as they work to achieve scale. In the past, this strategy was the only economically attractive route to scale up in countries with high demand for Islamic Finance. However, today technology and the enabling environment set up through Fintech sandboxes provide more opportunity for experimentation.

Outside of these regulatory sandboxes, there have been a few other pathways charted by Fintech companies including the establishment of wholly digital banks under regulatory systems that allow them (such as the UK's Niyah Bank) to use capital markets and technology to raise financing more cost-efficiently for social impact projects (such as Blossom Finance). The long-term merits of each are difficult to assess as few Islamic Fintechs are scaling their operations and even fewer with a long track record. Nonetheless, their bold moves will blaze the trail for

others to follow. The imperative of Islamic Fintechs outlining their long-term strategic intent with the SDGs and the *Maqasid al-Sharia* provides a better way to align incentives for long-term industry development. It is designed to be a source of pre-commitment concerning their long-term objectives to mitigate conflicts they face between the short-term pressures of inertia (business-as-usual) and the long-term objectives.

Recommendation two; long-term, committed strategic vision from industry and government leaders

Although Islamic Fintechs have not yet delivered SDG and *Maqasid*-aligned outcomes, they are still the best source of hope to deliver change to the Islamic Finance industry and beyond. The types of Islamic Fintechs that we have highlighted here combine Islamic Finance, responsible finance and technology. This alternative Islamic Finance requires development from many sides. It is most likely to emerge where there is a strong 'tone from the top' in both the financial industry and regulatory communities, as well as within the emergent Fintech sector.

The tone from the top is essential to create change by setting out a strategy that can be injected into every element of a Fintech's business. The leadership support and drive towards the SDG and *Maqasid*-aligned objectives encourage not only the adoption of technology but a change in how a Fintech engages with other stakeholders, including financial institutions, around its economic, social and environmental impact. This will be reflected in developing a coherent value proposition to its shareholders, customers, partners and competitors.

The type of leadership required in Islamic Fintech companies does not only benefit them internally because regulators have encouraged a similar tone-from-the-top attitude towards economic, social and environmental objectives in their regulation of other institutions. As an example, Bank Negara Malaysia Deputy Governor Abdul Rasheed Ghaffour, when addressing a roundtable of bank and *takaful* executives, explained that *Sharia* embeds inherent features that make it natural for Islamic financial institutions to play a catalytic role in advancing a sustainability agenda. While considering profit, financial institutions should not avoid the element of being socially and environmentally responsible (Central Bank of Malaysia 2019).

The speaker brings the perspective of a regulator to underpin the seriousness of the message. His message communicates the value of considering environmental and social sustainability within the context of institutions that are ultimately required to maintain their economic sustainability to meet regulators' expectations for financial stability.

The leadership qualities required to adopt an SDG and *Maqasid*-aligned business model are essential for a Fintech's success, but adopting or instituting a leadership mindset on its own from the top is not sufficient to change the institution. The preceding recommendation for outlining a strategic intent is interlinked and pairing that intent together with having good leadership creates a positive reinforcing cycle.

If a strategic intent is embedded to follow market expectations or to emulate the messaging of another successful Islamic Fintech, it is unlikely to be successful. The intent will be implemented only as far as it does not conflict with another business objective and will remain a useful marketing tool, not an asset and objective to drive systemic change. Similarly, a good leader with a positive vision who develops the strategic intent alone and expects others to follow will make others too reliant on his leadership.

The process will not create a strategic intent for the Islamic Fintech that reshapes business-as-usual unless the leader recognizes the need for full buy-in, not only acceptance. This requires the leader to challenge her team as they explore what they value and what is possible for a single Fintech to do. The process requires a leadership strong enough to seek broad input that gives everyone ownership and accountability for the objective expressed in the strategic intent.

For institutions to become examples for others and sources of systemic change, they must be resilient so that they could succeed even if they lost the leader's vision. This provides the essential link between strategic intent – grasped and supported by every part of an Islamic Fintech's operations – and leadership, expressed through enabling team-wide buy-in to encourage the responsibility for taking action back to each member of her team.

Recommendation three: objective measurement to validate and ensure 'on track' direction

The split incentives that are represented between short and long-term outcomes leave significant ground for a form of 'greenwashing' of SDG and *Maqasid* alignment. Because of imperfect information, it is difficult to assess the authenticity and real-world effectiveness of an institution's long-term intent. An objectively verifiable Islamic Fintech's achievement of ESG outcomes will make it easier to gain attention and possibly funding. It can also help rebut scepticism about even the most well-intentioned Fintech. The wide varieties of activities that could qualify as SDG or *Maqasid*-aligned mean that the metrics will most likely not be standardized and the focus will have to be more on reporting methods and traceability. In some ways, the consistency of the follow-through is more important than the specific ways in which it is measured. Consistency will build credibility, which can help like-minded Islamic financial institutions and Islamic Fintechs match and make the needed collaborations towards a shared objective.

The Financial Services Authority of Indonesia has launched a registration system for Fintech start-ups, marking a formal recognition of the sector. A similar global registry under the auspices of a neutral organization such as the Islamic Development Bank, arguably, the most prominent champion of the SDGs in the Muslim world, could similarly be set up. Without a certified registry, widespread Fintech acceptance by regulators will be limited. Although technology provides an opportunity to move markets, we must question the potential of Fintech to change the fundamentals of the economy and society. Thus, objective standards provide a benchmark to make this crucial assessment, especially as we have been

concerned about the limited transparency and ineptitude of mainstream Islamic Finance.

There have been other such efforts established within the impact investment sector which can guide standards-setting. One of the most notable has been the GIIN Impact Reporting and Investment Standards ('IRIS'). According to the GIIN (2019a), the IRIS Catalogue of Metrics was developed in 2008 to allow impact investors to define, track and report social and environmental performance. Moreover, it has been supplemented with other sector and industry-specific metrics in a new IRIS+ which embeds the original Catalogue of Metrics as one component. Furthermore, an overlapping initiative is the Impact Management Project ('IMP'). The IMP brings a broader objective more aligned with the 'strategic intent' we have outlined by encouraging the creation of a global consensus on how to measure and manage impact (Global Impact Investing Network 2019a). Because IRIS+ and IMP approach from a universal perspective, they may provide a reference point that is useful for those seeking to link SDG and *Maqasid* objectives.

These two efforts allow for shortening the process of identifying what is possible and offer a shortcut that allows those in Islamic Fintechs to take what others are already doing around the world. Empowered with this information, each Islamic Fintech can evaluate which of the possible desired impacts are most closely aligned with the *Maqasid*. Therefore, for Islamic Fintechs to realize *Maqasid* and ESG outcomes, it is crucial to not only translate long-term intent into short-term metrics but also ensure that reporting remains consistent across time.

Indonesia – the jurisdiction to follow closely

Across the global landscape, Indonesia has held the most potential to achieve ESG outcomes through a deep Islamic Fintech ecosystem. The potential for alternative Islamic Finance via Islamic Fintech is considerable because Indonesia is the largest Muslim country. Indonesia's total population in 2020 reached 273.642.820, with 87% Muslim citizens (World Population Review 2020). Moreover, Coordinating Ministry for Economic Affairs of the Republic of Indonesia (2018) reported that Indonesia's financial inclusion rate remains low where only 55.7% of adults own an account and 70.3% have used a product or service offered by a formal financial institution. Moreover, Islamic Finance remains nascent in Indonesia compared to other jurisdictions. Indonesia's first Islamic bank was only established in 1992 and the sector comprises only 5.95% of total banking sector assets (Financial Services Authority 2019). Furthermore, the Islamic Financial Services Board (2018) reported that Indonesia Islamic banking assets are only 1.8% of global Islamic banking assets. Thus, there is greater opportunity for alternative Islamic Finance to establish a firm footing. Finally, the government has a deeper strategic faith compared to other large Muslim nations such as Bangladesh, as per Bank Indonesia's 2002 Blueprint which noted the financial stability benefits of growing Islamic Finance. Islamic Finance demonstrated its resiliency to economic crises when Bank Muamalat Indonesia was able to withstand the Asian

Financial Crisis of 1997–98 while conventional banks suffered deep losses. More recently, Indonesia established a National Committee for the Islamic Economy (*Komite Nasional Keuangan Syariah*/KNKS) in 2017, which is directly chaired by the Indonesian president. The KNKS is mandated to help encourage the development of Islamic economics, including Islamic banking.

Overall, Fintech in Indonesia has great potential because it can provide solutions for urgent needs that cannot be provided by traditional financial institutions. Also, the explosion in cellular penetration (70% of the population use mobile phones to access the web) in this country has created a fertile land for the rapid improvement of Fintech industry. It is therefore unsurprising when the Dubai Islamic Economy Development Centre reported that Indonesia is the home for 31 of 93 start-ups that have been registered with the country's Islamic Fintech association (Dubai Islamic Economy Development Centre 2018). KPMG found that the total investment in Indonesia from 167 Fintech companies is US$182.3 million (KPMG 2019). In 2018, the transaction value in the Fintech market was US$22.4 million and the transaction value is expected to grow 16.3% annually (Fintechnews 2018). Crowdfund Insider Ronald Yusuf, the co-founder of Ethis and CEO of Ethis Indonesia, says that Fintech is booming in Indonesia. He explained that Ethis would be able to promote the business cycle in Indonesia through Fintech adoption.

The government has also issued facilitative policies related to Fintech to support its growth. For example, Bank Indonesia has issued Bank Indonesia Regulation No. 16/8/PBI/2014 on the amendment to Bank Indonesia Regulation No. 11/12/PBI/2009 on electronic money, and the Financial Services Authority ('OJK') also issued regulation of the Financial Services Authority No. 77/POJK. 01/2016 on information technology-based lending and lending services. Although regulators have imposed licensing requirements, there are still many illegal Fintechs operating in the market. OJK has the same requirements for conventional and Islamic Fintech companies. Islamic Fintech is subject to an additional requirement of a *fatwa* issued by the National Sharia Council ('DSN') under the Indonesian Ulema Council ('MUI') to ensure companies operate under agreed-upon Islamic principles. One of the requirements to ensure consistent and prescribed practice on *Sharia* issues is for Islamic Fintechs to have their own *Sharia* approval boards.

Therefore, not only is Indonesia a large market with considerable unmet demand, through considerable Fintech innovation and government support, it has great potential to achieve ESG and *Maqasid* outcomes. In doing so, it will soon set the benchmark for alternative Islamic Finance across the world.

Conclusion

The pace and scope of change in modern financial systems are unprecedented due to the introduction of technology and competition from technology-native Fintechs that are not bound by the legacy systems and culture of major financial institutions. However, among many Fintechs, the adoption of technology is further embedding many of the same fundamental issues in Fintechs that led to

the evaporation of trust in financial institutions after the financial crisis. Many Fintechs, especially those with a growth-at-all-costs mindset, are risking the same scandals driven by greed and lack of respect for their customers that has plagued the mainstream financial system.

Within Islamic Finance, there is an overarching ethical system embedded in the operation of the industry that has constrained some of the excesses of the financial industry altogether. Leverage restrictions curtailed some of the issues associated with over-borrowing that has individual, company and systemic impacts. Nonetheless, the Islamic Finance industry also faces a problem of focusing on a limited review to allow anything that is not prohibited by *Sharia*, even many practices that lead to impacts that contradict the broader objectives as per the *Maqasid al-Sharia*. The risk from only completing a negative sector-based screening relating to Islamic prohibitions and following formalistic, hybrid variations of classical Islamic contracts is that it enables the same negative outcomes that these prohibitions were designed to avoid.

As the field of Islamic Fintech develops, it has in some cases followed the same growth-at-all-costs mindset of conventional Fintech with purportedly similar outcomes. The use of technology, rather than disrupting the traditional business models of financial institutions (conventional or Islamic), continues to embed a strategy that does not progress the world towards the achievement of the United Nations Sustainable Development Goals. Within Islamic Fintech, this approach that creates a digital version of the Islamic financial industry is at risk of falling short on both the sustainable development goals and the *Maqasid*. While not every Fintech is falling into the same trap of only focusing on the efficiency of the financial system at the expense of the inequities of the financial system, we must recognize that technology is not a neutral force when applied in many fields, from social engagement to politics to finance. Without a proper application, its ability to reinforce existing inequities is greater than its ability to disrupt those same inequities.

We argue that *a priori*, alternative Islamic Finance holds great potential to address the shortcomings of the mainstream Islamic Finance industry but this will not be automatic nor guaranteed. For this reason, in this chapter we have outlined a way forward to improve the ability of Islamic Fintech that relies upon transparency about their intention and its alignment with the SDGs and *Maqasid al-Sharia*. This positive intention is necessary because of the fundamental power of technology to reinforce rather than disrupt existing inequities. However, the positive intention is not enough on its own to make Islamic Fintech more successful in achieving social impact.

The intention translates into action through the actions and influence of those who orient their leadership around it. On its own, even the best conceived strategic intent aligned with the SDGs and *Maqasid al-Sharia* will be reduced to a marketing tool if it is not embedded within the everyday operations of a Fintech that adopts it. Leadership applied in this context is not only about dictating a strategy or defining the intent on its own. A good leader motivates her team to develop a strategic intent that everyone involved with a Fintech will get behind and will

carry forward with self and organization-wide accountability that makes realized outcomes less dependent on the leader alone.

Finally, to address the risk of greenwashing (or 'impact-washing'), which undermines the integrity of any positive intention, Islamic Fintechs must position their appeal in terms of objectively measurable social impact. There has been uneven progress in making this measurement both objective and comparable, but it is moving in the right direction and pairing intent, strategic leadership and objective measurement remain the most important ways to reinforce sincere efforts by Islamic Fintechs towards the achievement of the SDGs and alignment with the *Maqasid*.

As we have seen in our case study review of three Islamic Fintechs that do have a positive intention and a commitment to social impact, there is a consistent response that the commitment to social impact is not averse to business success. As the Millennial generation moves into their prime working age, the social impact focus may have moved far away from being perceived as a drag on business performance to being instrumental to the appeal of customers. As climate change, global inequality and freedoms press more firmly on the social and political conscience, alternative Islamic Finance must move closer to *Maqasid* outcomes through ESG frameworks to maintain its relevance for a more connected and increasingly vocal consumer base.

The adoption of Fintech within the Islamic Finance context is still at a nascent stage and the recommendations we provide based on the limited experience to date will help address some of the major cross-cutting issues related to Fintech. Further research will be needed to elucidate in more detail issues relating to individual sectors and countries within the broader global Islamic Finance industry.

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