INCEIF
THE GLOBAL UNIVERSITY OF ISLAMIC FINANCE

Harnessing Value-based Intermediation (VBI):

The Role of Development Financial Institutions (DFIs)

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Foreword

As Malaysia moves forward in its journey towards global sustainable development, it is imperative that the financial system plays its role in delivering long-lasting socio-economic prosperity. Being a developing nation, the developmental and complementary roles of Development Financial Institutions (DFIs) are key to facilitate targeted sectors such as agriculture, infrastructure, trading and manufacturing, renewable energy and energy efficiency, as well as targeted segments such as micro, small and medium enterprises (MSMEs). As a result, further exploration of such roles is needed for the continued progress and evolution of DFIs and thus, support greater financing facilities for new growth areas in the future.

I would like to congratulate INCEIF, a university set up by Bank Negara Malaysia dedicated to Islamic Finance, on its collaborative efforts to promote impactful sustainable financing through the publication of this industry research report.

It is timely that this report delves into the current interest on Value-based Intermediation (VBI) practices among DFIs in Malaysia with reference to global benchmarks. The financial sector, regulators, policy makers and consumers would benefit from the findings of this report and use it as a reference for a comprehensive overview on the role of DFIs in Malaysia to promote sustainable financing.

I hope this report could guide us towards a more sustainable and inclusive financial sector.

YB. Dato' Ir. Haji Amiruddin Hamzah
Deputy Finance Minister, Malaysia

Foreword

For a long time, responsible investing was a niche strategy within finance. Increasingly however, investors are waking up to the fact that they can do good as well as achieve financial returns with more transparent, ethical and sustainable decisions. Sustainability will be the way of life for future generations, and we are already seeing it being embraced enthusiastically across different communities. As a consequence of the 2030 Sustainable Development Agenda and the Paris Agreement, there has been a rise in demand for sustainable finance which calls for institutions and organisations to work together towards a single and shared reform set of goals.

In general, this report provides in-depth insights and a thorough outline of sustainable finance. In particular, it examines the effectiveness and potential of Malaysian Development Financial Institutions (DFIs) in the context of Bank Negara Malaysia's Value-based Intermediation (VBI) initiative. The core contribution of this report lies in its key benchmarking of global best practices and strategic recommendations for DFIs to improve their competitive position with regards to sustainable financing in specific key sectors and segments in Malaysia.

I believe this report is valuable work, not just to INCEIF as an academic institution, but also to the financial sector and its key players in creating an ecosystem that caters for sustainable and inclusive financial services.

Together, we can chart our future in sustainability and play a role in building a sustainability-minded generation.

Prof. Dato' Dr. Azmi Omar
President and Chief Executive Officer, INCEIF

Preface

On behalf of the Research Management Centre at INCEIF, I am honoured to unveil this industry research report which investigates the role of Malaysian DFIs as institutions that can promote the sustainability agenda.

The publication of this report would not be possible without the significant contribution of key stakeholders that have provided desirable insight to further enlighten this report.

I would like to express my gratitude to Bank Pembangunan Malaysia Berhad (BPMB), Bank Perusahaan Kecil dan Sederhana Malaysia Berhad (SME Bank), Credit Guarantee Corporation Berhad (CGC), Bank Simpanan Nasional (BSN), Bank Pertanian Malaysia Berhad (Agrobank), Bank Kerjasama Rakyat Malaysia Berhad, Export-Import Bank of Malaysia Berhad (EXIM Bank), and Malaysian Industrial Development Finance Berhad (MIDF), for the engagement opportunities given to this research.

This has allowed our team gain a deeper and more meaningful understanding of the current practices, key challenges and potential of Malaysian DFIs. The findings have been integrated in the report's proposed recommendations for regulators, policy makers and financial institutions to consider in order to enhance the country's sustainable finance ecosystem.

Assoc. Prof. Dr. Baharom Abdul Hamid
Director, Research Management Centre, INCEIF

Researchers' Note

Historically, Development Financial Institutions (DFIs) in Malaysia were established in the 1960s and 1970s to play their role as specialised financial institutions with specific mandates to develop targeted sectors and segments (i.e. agriculture, infrastructure, small and medium enterprises (SMEs), export-oriented and high-technology industries). Over the years, DFIs have contributed to Malaysia's economic transformation and assisted in improving the livelihood of the population.

Today, it is crucial for DFIs to go beyond the comforts of early practices and evolve. In 2018, Bank Negara Malaysia, The World Bank and DFIs collaborated to develop a Performance Measurement Framework (PMF) for DFIs to measure the socio-economic impact of DFI's operations by moving beyond financing growth indicators and integrating developmental key performance indicators.

Focusing on the values beyond financing, this research report explores the role of selected DFIs with regards to their appetite for Value-based Intermediation (VBI) practices. The following are the key objectives in developing this report:

- To identify good industry practices as benchmarks to improve industry's competitive position with respect to sustainable financing practices and strategies;
- To identify key areas for policymakers and financial institutions to consider to enhance the country's sustainable finance ecosystem; and
- To highlight opportunities and challenges, and propose strategic recommendations.

With these objectives in mind, this research is designed by first taking a broad overview of sustainable finance globally and locally. It is then narrowed down to the context of DFIs in Malaysia with reference to global benchmarks, which forms the core of this report. The report concludes with the way forward for Malaysian DFIs.

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Global Outlook on Sustainable Agenda

1

1.1 Towards a **Sustainable Planet**

1.1 Towards a Sustainable Planet

Sustainable Development Agenda

Paris Agreement

- The Paris Agreement in 2015 was signed by almost all nations around the world which convened to fight climate change by keeping the global temperature increase to below 2-degree Celsius above pre-industrial levels and by limiting the increase only up to 1.5-degree Celsius.
- The key outcome of Paris Agreement is the Nationally Determined Contributions (NDCs) which outlines each country's commitment in reducing national emissions. Malaysia is committed to reduce its Greenhouse Gas (GHG) emissions by 45% in 2030 from the base year 2005. This consists of an unconditional reduction of 35% and an additional 10% reduction which could be receipt of climate finance, technology transfer and capacity building from developed countries.

United Nations Sustainable Development Agenda

- In 2015, countries adopted the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals. Sustainable development calls for concerted efforts towards building an inclusive, sustainable and resilient future for people and planet.
- For sustainable development to be achieved, it is crucial to harmonize three core elements: economic growth, social inclusion and environmental protection. These elements are interconnected and vital for the well-being of individuals and societies.

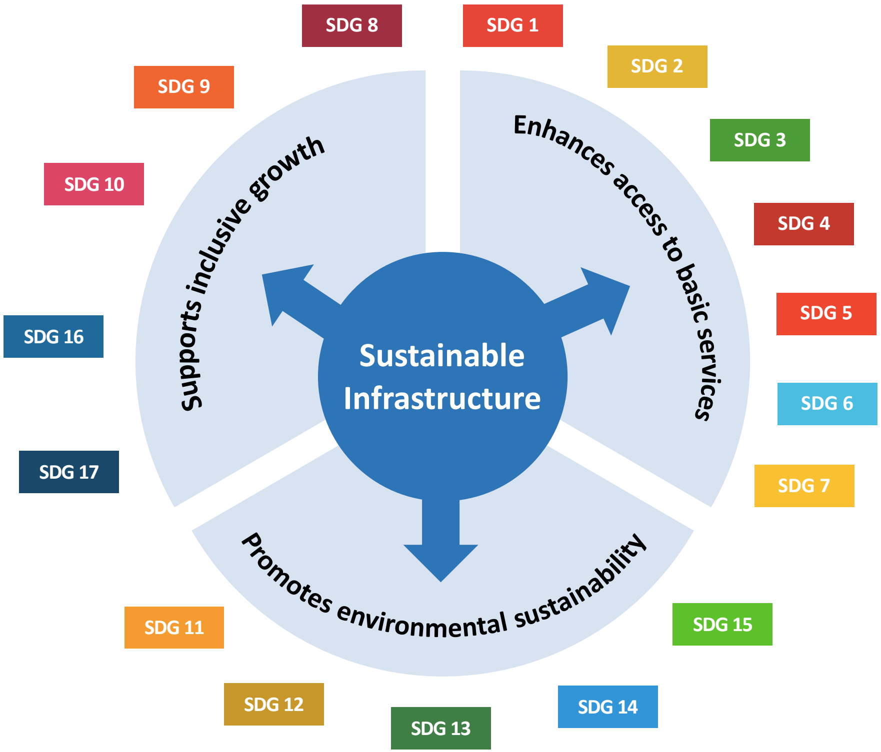
Infrastructure for Sustainable Development

Definition of sustainable infrastructure

1 **Socially sustainable**. Socially sustainable infrastructure refers to inclusivity and the respect for human rights. Infrastructure can assist the needs of those who suffer from poverty. This can be achieved by improving access, additional supporting mechanisms and reducing climate change vulnerability.

2 **Economically sustainable.** Economically sustainable infrastructure facilities business opportunities and promotes job creation, which enhances national output. It helps to reduce governments fiscal burdens, by building the local suppliers' and developers' capabilities. It may also provide opportunities to build capacity for local developers.

3 **Environmentally sustainable**. Environmentally sustainable infrastructure preserves natural environment, by minimizing carbon emissions during construction and operation. It also contributes towards the transition to a low-carbon economy, which would be resilient to climate change risks and addresses local environmental challenges, especially when it comes to water provision and air quality.



Source: Bhattacharya et. al. (2016). "Delivering on Sustainable Infrastructure for Better Development and Better Climate"

1.2 Global Trends in Sustainable Finance

1.2 Global Trends in Sustainable Finance

Role of Financial Sector in Sustainability

The financial sector can be a catalyst of development through its role in fostering sustainability agenda across various sectors and segments. To date, there are a number of initiatives in the financial sector that push sustainability as a required variable when it comes to the extension of financing to clients and as a tool for investors to support sustainable businesses.

The **United Nations Environment Program – Finance Initiative (UNEP-FI)** is created to promote sustainable finance as a partnership between United Nations Environment and the global financial sector, with policy work being one of its strong focus areas. At country level, this is done by facilitating dialogue between practitioners and policy makers; whereas at international level, financial sector involvement is promoted in certain processes or negotiations.

The **Principles for Responsible Investment (PRI)** is a global network of investors who collectively agree to implement its six principles developed by investors into practice. The voluntary set of six investment principles offers a list of possible actions for ESG issues to be incorporated into investment practice. The PRI is independent and supported by the United Nations.

The **Equator Principles (EPs)** is a risk management framework for financial institutions (FIs) to determine, evaluate and manage risks related to the environment and society in projects. The EPs mainly functions to provide a minimum standard for due diligence and to support responsible risk decision-making process. To date, 96 FIs in 37 countries have adopted the EPs.

The **Sustainable Banking Network (SBN)** is a community of banking associations and financial regulators from emerging markets which as of date consists of 37-member countries that are committed to promote sustainable finance development into their respective national context based on international good practices. The International Finance Corporation (IFC) supports the SBN members with technical assistance and connects SBN with its global partners.

The **Task Force on Climate Related Financial Disclosures (TCFD)** functions to develop reliable, informative and effective recommendations for voluntary disclosures that are in regards to the climate and thus, to provide them to lenders, insurers and investors. The TCFD's 31 members were chosen by the Financial Stability Board (FSB) to include both users and preparers of disclosures from across G20 constituents which cover a broad range of financial markets and economic sectors.

The **Biodiversity Finance Initiative (BIOFIN)** is a global collaborative partnership managed by the UNDP. It seeks to develop evidence based on Biodiversity Plans using finance and economics, and thus, support countries reaching biodiversity targets with financial solutions. Currently 30 countries participate in BIOFIN.

The Major Investment Areas for the Sustainable Development Goals (SDGs)

Investment gap based on estimated current investment and total investment required (annualized $ billion)

Power	370 – 690	Climate Change Mitigation	380 - 680
Transport	50 – 470	Climate Change Adoption	60 – 100
Telecommunication	70 – 240	Eco-systems/Biodiversity	70 – 210
Water and Sanitation	-260	Health	-140
Food Security & Agriculture	-260	Education	-250

Average private sector participation in current investment

	Developing countries	Developed countries
Power	40 – 50 %	80 – 100 %
Transport	30 – 40 %	60 – 80 %
Telecommunication	40 – 80 %	60 – 100 %
Water and Sanitation	0 – 20 %	20 – 80 %
Food Security & Agriculture	-75 %	-90 %
Climate Change Mitigation	-40 %	-90 %
Climate Change Adoption	0 – 20 %	0 – 20 %
Eco-systems/Biodiversity	–	–
Health	-20 %	-40%
Education	-15 %	0 – 20 %

Source: UNCTAD (2014). "World Investment Report 2014"

Examples of Investment on Five Selected SDGs

2 ZERO HUNGER

Sompon Japan Nipponkoa Holdings, Inc. aims to reduce climate risks to agriculture in South East Asia by offering agricultural insurance products across the region. For instance, to relieve the losses borne by rice farmers as crops are damaged due to drought in northeast Thailand, it launched weather index insurance in the region in 2010.

11 SUSTAINABLE CITIES AND COMMUNITIES

Mastercard is a Lead Partner of the Smart Cities Council, which is an industry coalition formed to promote the development and innovation of smart cities, and thus, as a partner of this initiative, Mastercard will provide the necessary tools and resources to city leaders as they plan, finance and employ cutting-edge smart city technologies.

13 CLIMATE ACTION

AXA has shown its commitment to divest "from companies most exposed to coal-related activities" and to increase its green investment to more than €3 billion by 2020, which mainly consists of investments in clean technology private equity, impact investment, green infrastructure and green bonds.

15 LIFE ON LAND

HSBC introduced a Forest Land and Forest Products Sector Policy covering issues of environmental, community and climate in 2004. In 2014, HSBC issued the revised policies and began to engage its customers in such sectors by giving advice on how they can achieve new deadlines to attain independent certification of their operations.

17 PARTNERSHIPS FOR THE GOALS

Insurance sector initiatives and **membership organizations** have recommended to develop a set of Insurance Development Goals based on a global consultation by the **PSI Initiative** and the **UNEP Inquiry** on the ways for companies and regulators could be better contributors of development.

Source: KPMG International and the UN Global Compact . (2015). ""SDG Industry Matrix"

1.3

Islamic Finance and the SDGs

1.3 Islamic Finance and the SDGs

Sharī'ah and the Sustainable Development Goals

Sharī'ah View on Sustainability

There are more than 750 verses of the holy Quran that relate to the inviolable rule to preserve and protect the environment and conserve resources. The Quran emphasizes that the resources on earth are created for the benefits of mankind.

In exploring these resources, humans are required to be responsible and ensure that the orderliness and balance on the earth are maintained. Consequently, protecting and preserving the environment is an obeyance that humans have been charged with to sustain the beauty of life and the ecosystem.

"And the heaven He raised and imposed the balance. That you not transgress within the balance."
(*Surah Ar-Rahman, verses 7-8*)

Legal maxims that are closely related to ESG issues

"Warding Off Evil Takes Precedence Over Fetching of Benefit" (Dar'u al-mafāsid muqaddam 'ala jalbi al-masālih)

- Benefits or returns is not as important as knowing the harm that such business would cause to the society. This is the central yardstick needed before forging ahead with any business activity. Therefore, to eschew the infliction of harm, there is a need to ensure that the orders and balances (*mīzān*) embedded with the creation of the earth are not truncated.

"Harm Shall Not Be Inflicted nor Reciprocated" (Lā dhorara wa lā dhirār)

- ***Wrong Shall Be Undone*** (*Ad-dhorar yuzaal*): Any harm done through business activities must be undone or removed from the society and environment.
- ***Harm Shall Be Eliminated as Much as Possible*** (*Ad-dhorar yudfa' bi-qadr al-imkān*): Maximum effort should be carried out to eliminate any harm.
- ***Harm Shall Not Be Eliminated by Another Harm*** (*Ad-dhorar lā yuzāl bi-mithlihi*): One harm should not be removed by causing another harm.
- ***A Greater Harm Shall Be Eliminated by a Lesser Harm*** (*Ad-dhorar al-ashadd yuzāl bi-ad-dhorar al-akhaff*): This corollary is very essential, especially for ESG trade-offs.
- ***Private Harm Shall Be Tolerated to Dispel Public Harm*** *(utahamalu al-dhararu al-khaasu li-dafi al-dharari al-aam):* Elimination of public harm is given priority over individual harm.

Convergence of Maqāsid Sharī'ah and the SDGs

The purpose of Islamic finance is **to promote an economic concept that extends beyond being part of financial system but as component of value-based social system**. The concept of Sharī'ah as a basis of the Islamic financial system has ample injunctions which highlight the importance of preserving the environment and forms of life on planet while ensuring the proper utilization of natural resources.

There is a convergence of SDGs that displays equal concern for people as well as the planet with the goals (Maqāsid) of Sharī'ah. **The focal point of Maqāsid as well as SDGs is sustainable and inclusive development.** To this end, the approach and framework of SDGs is closely compatible with the underlying ethos of Maqāsid al-Sharī'ah. There is proximity in what the Sharī'ah aims at and what SDGs do. Their principles are in consonance. The principles which underpin the SDGs are largely captured within the Islamic traditions.

For example, the social goals of the SDGs that tends towards ensuring health and safety, human rights, good labour practices and decent works are aligned with the broader objectives of the Sharī'ah and its principles. The social goals are meant to solve social issues of the society. The Sharī'ah allows for numerous tools to solve social issues which can be used in the mainstream. For example, the waqf, zakāh and sadaqah institutions if fully explored can go a long way towards solving issues that relate to the financing of programs that seek to address various social issues.

The core purpose of Sharī'ah can be summarised as the **facilitation of ease and removal of hardship for human beings**. All that may affect adversely either the sustenance or dignified survival of human are to be countered in the Maqāsid-based action plan.

Another fundamental objectives of the Sharī'ah is to develop humans spiritually and intellectually. Consequently, human capital development is a means for protecting the intellectual element of the *Maqāsid.*

Sharī'ah also prohibits the deliberate devastation of resources and extravagance. The Sharī'ah reminds us that human beings should utilize the scarce resources of the planet as trustees, protecting the well-being of all and protect the environment including birds, animals and insects, and maintaining the balance of life on earth.

Value Propositions of Islamic Finance

The preservation of wealth: core values of Islamic financial institutions (IFIs)	Towards Transactional Maqāsid
Wealth protection	❖ Binding aspects of wealth protection.
Wealth generation and consumption	❖ Encouragement to produce wealth in permissible ways. ❖ Prohibition of harmful production and unlawful acquisitions. ❖ Importance of cooperation between producing parties. ❖ Moderate consumption while avoiding overconsumption / overspending.
Wealth circulation	❖ Wealth is to be circulated, not accumulated or treasured.
Wealth redistribution	❖ Redistributing wealth to the poor and those in need. ❖ Closing the social gaps between classes. ❖ Promoting the concept of *takaful* in the society.
Linking wealth to faith, justice and ethics	❖ Connecting wealth with the economy to faith. ❖ Prohibition of harmful production and unlawful acquisitions.

Derived Value Propositions	Value Propositions	Potential in Islamic Finance	Examples of Measurement
Performance, stability and resiliency	Wealth generation and protection	To develop sustainable operations of IFIs in the long run.	Financial measures in annual reports (i.e. profitability, financial sustainability, etc.)
Corporate and Sharī'ah governance	Wealth generation and ethics	❖ To enhance transparency and investors' confidence. ❖ To mitigate risks (Sharī'ah, fiduciary, and operational).	❖ Best practices in corporate governance (i.e. Governance Metrics International). ❖ Guidelines in the Sharī'ah governance framework (i.e. AAOIFI, IFSB, etc.)
Productive financing	Wealth generation and consumption	To expand the economic growth with productive sectors that have high potential (i.e. infrastructure, manufacturing, etc.)	Financial measures (the portion of financing to productive sectors in relation to consumption sectors).
Environment friendly	Wealth generation and consumption	To improve reputational advantage of IFIs with the trend towards environment-friendly activities.	The conduct of Corporate Social Responsibility (CSR), policies, procedures, and disclosures related to improving the environment.
Social inclusion and responsibility	Wealth circulation	To take advantage from a huge potential in SME and microenterprise segments.	❖ Financial measures (the portion of financing portfolio by region, size, sector and social benefits). ❖ The CSR conduct, policies, procedures and disclosures related to enhancing the benefits of the society.
Profit and loss sharing	Wealth circulation	To achieve a more efficient allocation of resources.	Financial measures (the portion of profit-loss-sharing products, etc.)
Redistribution	Wealth redistribution	To increase social return and thus generate a more sustainable return for IFIs in the long run.	❖ Financial measures (distribution of funds through charity, *zakat*, and *Qard al-Hasan*). ❖ Presence of *Bancatakaful*, etc.
Awareness and education in Islamic finance	Linking wealth to faith	❖ To enhance industry's best practices with talent development in Islamic finance. ❖ To improve relationships with customers. through awareness program in Islamic finance.	❖ Financial measures (i.e. research expenses, education grant, training, etc.) ❖ Budget allocation for campaigns, conferences, research, etc.

Islamic Banking and Islamic Capital Market on Sustainable Finance

Enhancing Economic Impact

- Investment account platform (IAP) in Malaysia facilitates creation of new asset class and promotes entrepreneurship.
- Al Baraka Banking Group took certain steps to implement and measure the economic impact to their client from their privilege partner program.

Empowering SMEs

- National Commercial Bank (NCB) provides financing to women without any charge, returns or guarantees with convenient repayment periods. The financing is given on the basis of group approach.
- The Islami Bank Bangladesh Limited through their Rural Development Scheme issue financing by delivering goods to ensure that the financing is channeled to income generating activities.

Green Finance

- Malaysia has issued the first green SRI Tadau sukuk to fund the solar photovoltaic (PV) plants with a total capacity of 50 Mwac.
- Bank Muamalat Indonesia (BMI) manages the financing of the electricity, gas and water sectors, including a mini hydro power plant, with total outstanding accounting for 6.1% of total financing as of December 2015.

Social Development

- A group of commercial banks, including Eskan Bank, Ahli United Bank, Bahrain Islamic Bank, Kuwait Finance House and Al Salam Bank provide affordable house financing with the house purchaser contributing 10% of the house price as deposit.
- SRI Ihsan sukuk issued by Khazanah Nasional Malaysia for education program that covered 83 trust schools and over 65,000 students across 10 states.

1.4 Sustainable Finance in **Emerging Countries**

1.4 Sustainable Finance in Emerging Countries

Based on Sustainable Banking Network's (SBN) Progression Matrix as of June 2017, **Bangladesh, Brazil, China, and Indonesia** are examples of countries that have comprehensive implementation actions towards sustainable finance development and have started to report the results and impacts.

Developing a Sustainable Banking Framework in Bangladesh

Following the Policy Guidelines for Green Banking, the Environmental and Social Risk Management (ESRM) Guidelines was established in 2017 to encourage banks and financial institutions to incorporate Environment and Social (E&S) risks and integrate appropriate risk mitigation measures in overall credit management.

Achieving a Green Economy in Brazil

Brazil has placed emphasis on developing broad coalitions as well as close coordination between government policy, financial regulators, public financial and market sectors to support sustainable finance and thus, achieve a green economy. Some of the recent developments are in the areas of ESRM and Green Bond Market.

China's Green Financial System

With the objective to establish a green financial system to support green industrial policy, China has launched a comprehensive public policy framework as guidance and following this, China has focused on reallocating resources towards green activities through various channels (i.e. capital markets, banks).

Indonesia's Roadmap for Sustainable Finance

This roadmap sets forth the detailed work plan on the sustainable finance program for the financial services industry as governed under the authority of OJK (Indonesian Financial Service Authority), namely the banking, capital market and non-bank financial service sectors.

Developing a Sustainable Banking Framework in Bangladesh

2011 - 2013

Bangladesh Bank released its **Policy Guidelines for Green Banking** for banks and financial institutions (FIs) to promote green banking and financing. Commercial banks were to implement the guidelines over **three phases**:

Phase 1	Phase 2	Phase 3
Develop green banking policies and strategies with banks' dedication through their governance systems and budgets.	*Formulate specific policies and goals for sectors that are environmentally sensitive and develop environmental risk management (ERM) guidelines for banks to assess and monitor projects and working capital loans.*	*Publish independent Green Annual Reports in accordance with the Global Reporting Initiative (GRI), given a system of environmental management is in place.*

2017

Replacing the 2012 Guidelines on ERM, Bangladesh Bank updated its framework and issued the **Guidelines on Environmental and Social Risk Management (ESRM)** for the FIs in Bangladesh. The document provides a complete guide for the processes, governance structure, and assessment template for the FIs. The following flow chart illustrates the typical steps taken while conducting **Environmental and Social Due Diligence (ESDD)**, which serves as a review to any potential E&S risks related to potential client's business activities:

Does the project involve activities listed under **Exclusion list?**

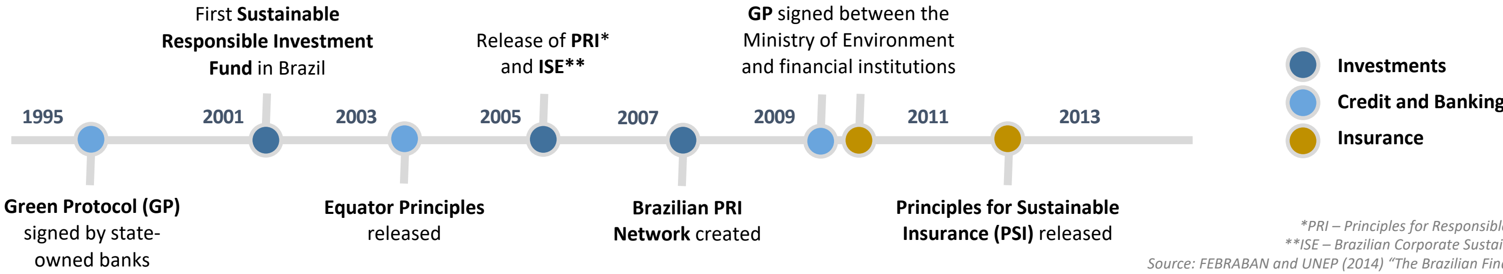
YES → **Loan is rejected**

NO → Categorize the project as per **DoE categorization** and understand the typical E&S issues associated with the industry sector → Carry out the **ESDD** and complete the relevant checklist, which will automatically generate a risk rating – **High, Medium, Low** → Prepare a time bound action plan (**ESAP**) and relevant covenants for **High** and **Medium** risk transactions → Depending on the risk category, escalate the transaction in line with the **escalation matrix** for loan approval and disbursal → Monitor and review the progress of **ESAP** (if any) through project life cycle and document the findings as per the **Supervision** checklist → Prepare a report on the bank's sustainability performance and ESG performance of the portfolio companies for internal and external stakeholders

Source: Bangladesh Bank Sustainable Finance Department, (2017) "Guidelines on Environmental & Social Risk Management (ESRM) for Banks and Financial Institutions in Bangladesh"

Achieving a Green Economy in Brazil

The Brazilian financial industry has reached important milestones over last few decades regarding the integration of socio-environmental aspects into everyday business decisions. In recent years, the government strives for a well-defined national approach to build and foster **a green economy** through the role of its financial sector.



**PRI – Principles for Responsible Investment;*
***ISE – Brazilian Corporate Sustainability Index*
Source: FEBRABAN and UNEP (2014) "The Brazilian Financial System and the Green Economy: Alignment with Sustainable Development"

2014 and onwards

Brazil's steps toward a sustainable financial system

Environmental and Social Risk Management

In 2014, **The Central Bank of Brazil (Banco Central do Brasil – BACEN)** required banks and other financial institutions (FIs) to put socio-environmental factors into their risk management systems. BACEN also published guidelines to implement Social and Environmental Responsibility Policies (SERP) regulations for FIs. In the same year, **the Brazilian Federation of Banks (FEBRABAN)** released a self-regulation on Social and Environmental Responsibility (SARB14) for the policy framework implementation. Following that, in 2017, the release of the resolution requires FIs to implement a structure for continuous and integrated risk management.

Green Bond Market

In 2016, **FEBRABAN** and **Brazilian Business Council for Sustainable Development (CEBDS)** collaborated to issue voluntary recommendations for the growth of the green bond market. These recommendations are based on global best practices tailored to the context of Brazil's circumstances. Since the release of the guidelines, the number of Brazilian issues has doubled.

China's Green Financial System

2014 - 2015

After the release of the **14 Recommendations on Establishing China's Green Financial System** by The Green Finance Task Force, which was initiated by the People's Bank of China (PBoC) and the UN Environment Inquiry, most of the proposals made are included in the **Integrated Reform Plan for Promoting Ecological Progress** in September 2015.

Subsequently, the **theme of ecological civilization** is included in the nation's **13th Five Year Plan (2015-2020).**

2016 - till now

In August 2016, PBoC and six other ministerial agencies jointly launched the first comprehensive green finance policy framework in the world known as the **Guidelines for Establishing the Green Financial System.**

Key Goals of the Guidelines

Provide a **clear definition of Green Finance**, which refers to "financial services provided for economic activities that are supportive of environment improvement, climate change mitigation and more efficient resource utilization".	Intend to **support and incentivize green investment** by including a series of policy incentives.	Stress the importance of unified rules and regulations for the issuance of **green bonds.**	Push forward the **development of green insurance** as well as the development of the different kinds of carbon finance products and the markets for environmental rights such as emission rights, water rights, and energy use rights.	Call for the **support of local governments** and promote further **international cooperation** on green finance.

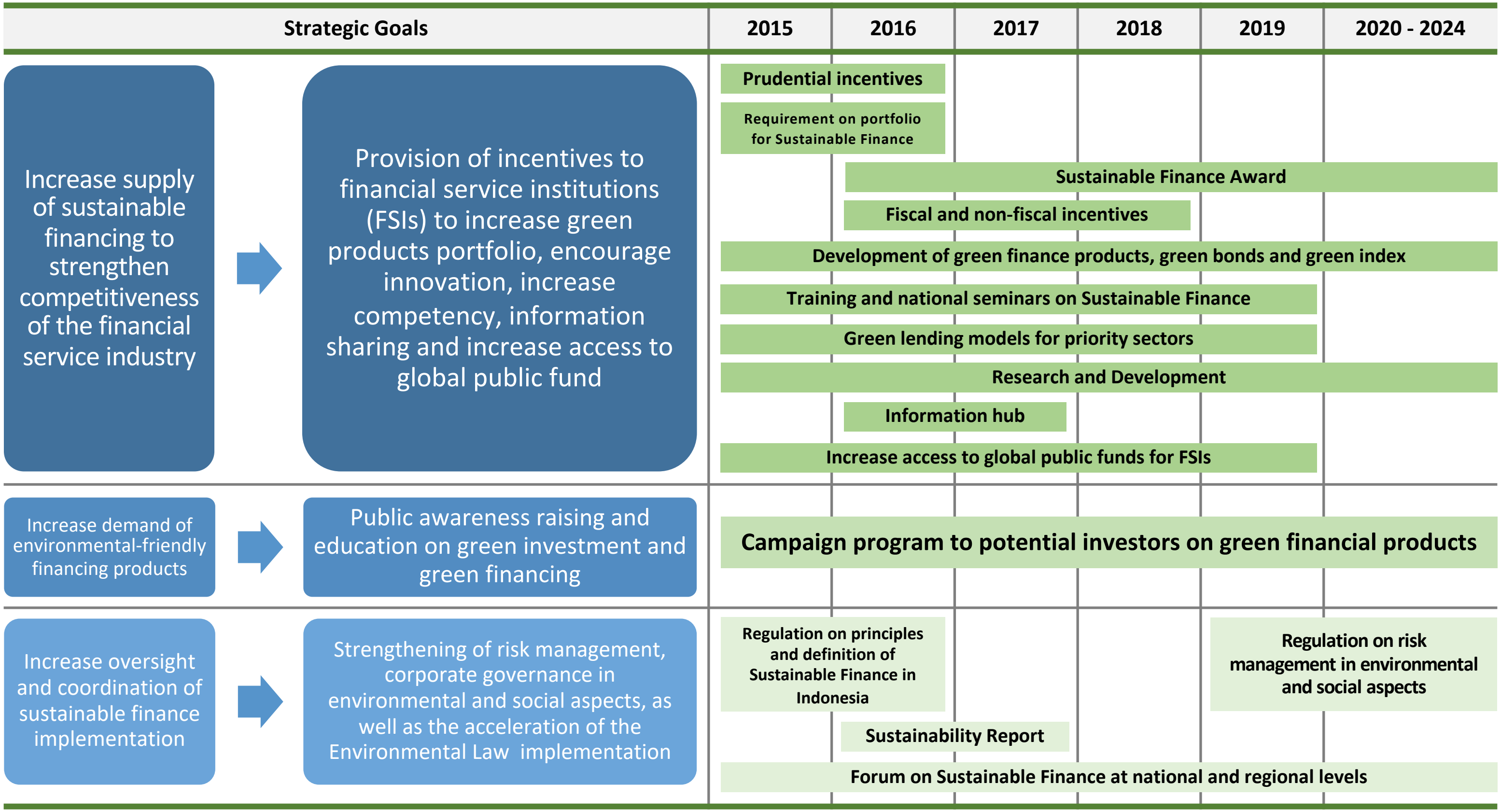
Sample progress after the release of the Guidelines:

- The State Council made a decision to set up pilot zones in Zhejiang, Jiangxi, Guangdong, Guizhou and Xinjiang to promote green finance in June 14, 2017
- The PBoC and China Securities Regulatory Commission (CSRC) released new guidelines for green bond verifiers and verification activities in December 2017
- The Asset Management Association of China issued official guidelines for green investment in November 2018

Source: International Institute of Green Finance and the United Nations Environment Programme. (2017). "Establishing China's Green Financial System: Progress Report 2017"

Roadmap for Sustainable Finance in Indonesia 2015-2024

In December 2014, Indonesia Financial Services Authority (Otoritas Jasa Keuangan – OJK) launched a comprehensive **Sustainable Finance Roadmap**, to enable the financial sector to align with the *National Long Term Development Plan (2005-2025)* and the *National Action Plan for the Reduction of Greenhouse Gas Emissions.*



Adopted from: Indonesia Financial Services Authority (2014). "Roadmap for Sustainable Finance in Indonesia"

Issues and Challenges for Sustainable Finance in Emerging Countries

Towards Sustainable Finance

Lack of awareness and appetite among the players towards sustainable finance. The stakeholders are still very much concerned on the profit bottom line.

Lack of tools and expertise within the financial institutions to conduct the sustainability assessment towards the clients before extending financing facility.

Lack of support, incentives and rewards towards sustainable business which gives them less interest in moving towards sustainable agenda.

Contextualization of global sustainable development goals towards national priorities and agenda.

Complexity of measuring the risk and impact created by the business and meeting the reporting standard.

2

Sustainable Development Agenda in **Malaysia**

2.1 Regulatory Framework and Policy on Sustainable Development in Malaysia

2.1 Regulatory Framework and Policy on Sustainable Development in Malaysia

INTERNATIONAL LEVEL

UNFCCC

Malaysia's commitment to the Paris Agreement

Malaysia's commitment to realizing the UNSDGs

NATIONAL LEVEL

CURRENT INITIATIVES*

- Budget 2019 on Green Initiatives
- The Mid-Term Review of the Eleventh Malaysia Plan (11MP) 2016 – 2020
- Roadmap towards Zero Single-Use Plastics 2018 – 2030
- Development of Renewable Energy Transition Roadmap (RETR) 2035
- Green Financing Taskforce
- Development of a Climate Change Act

PAST AND ONGOING INTIATIVES*

- The Eleventh Malaysia Plan (11MP) 2016 – 2020
- SME Masterplan 2012 – 2020
- The New Economic Model (NEM) 2011 – 2020
- The Financial Inclusion Framework 2011 – 2020
- Malaysia Social Enterprise Blueprint 2015 – 2018

**Further details of each initiative can be referred to in the Appendix*

Malaysia's Commitment to the Paris Agreement

In November 2017, Malaysia participated in the 23rd Conference of the Parties in Bonn, Germany to table several plans and policies in meeting its target **to lower Greenhouse Gas (GHG) emissions by 45% by the year 2030 based on the nation's 2005 GDP**. Malaysia also committed **to maintain a minimum of 50% level of forest and tree conservation**. This agenda encourages all parties to share the common obligation of **preventing average temperatures rising above 2 degrees Celsius**. The following are **initiatives / programmes laid out at the conference** to inform Malaysia's commitment to the agreement:

Green Technology Master Plan 2017-2030

By implementing the Green Catalyst Projects, which would reduce 40% carbon intensity by 2020, Malaysia aims to transform its nation into a low carbon and resource efficient economy.

Energy Efficiency Action Plan

By the year 2030, Malaysia aims to reduce 13.113 million tonnes of CO_2 emissions.

Transportation Sector

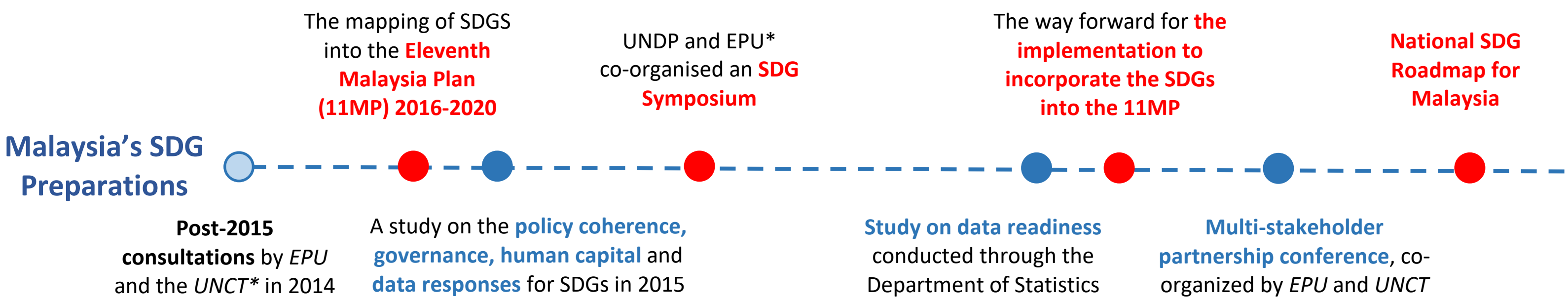
In 2017, 9.9 million cars were successfully removed after the launch of the Mass Rapid Transit (MRT) phase one and it is expected that additional 62-89 million cars will be removed between 2020-2030.

Low Carbon Cities Framework

A carbon reduction blueprint is to be introduced within the local authorities and developers in regards to the decision-making for greener solutions.

Malaysia's Commitment to realizing the UNSDGs

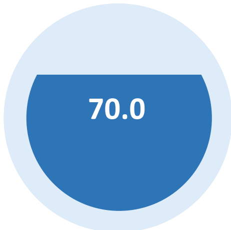
Malaysia's journey towards sustainable development began in the 1970s, but it started making preparations for the achievement of the SDGs in 2014, which is almost two years before the goals came into effect. In mid-2016, a pragmatic approach was taken. Malaysia decided to implement the SDGs in three phases, which coincides with the five-year Malaysia plan periods, and also incorporate the SDGs into the National Development Framework.



**EPU – Economic Unit Planning; UNCT – United Nations Country Team*
Source: Economic Planning Unit (2017) "Malaysia Sustainable Development Goals Voluntary National Review 2017 "

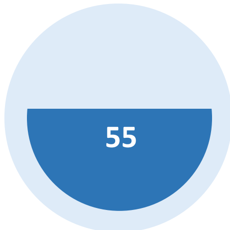
Malaysia's Commitment to realizing the UNSDGs: Progress

SDG Index Score



out of 100 outcomes

SDG Global Rank



out of 156 countries

According to the *SDG Index and Dashboards Report* 2018, Malaysia's overall Index score suggests that **it is, on average, 70% on the way to the best possible outcome across the 17 Goals.** Thus, given its score, Malaysia is ranked 55 globally.

Based on its overall performance in regards to each SDG, **Malaysia has only performed the best for Goal 1 and Goal 8.**

Source: Bertelsmann Stiftung and Sustainable Development Solutions Network (2018). "SDG Index and Dashboards Report 2018"

Note: The color scheme illustrates how far Malaysia is from achieving a particular goal, with green being the role model, yellow - compatible, orange - insufficient, red – highly insufficient, and grey – critically insufficient.

Malaysia's Commitment to Realizing the UNSDGs: Key Development Achievements

ABSOLUTE POVERTY & HUNGER SDG 1 SDG 2	*Decrease of absolute poverty from 49.3% (1970) to 0.6% (2014); 90% decrease of under-nutrition between 1990 and 2014.*
DISEASES & MORTALITY RATES SDG 3	*Child and maternal mortality rates are almost at the level of developed countries; endemic smallpox and polio were eradicated; reductions in water-borne diseases; the spread of HIV/AIDS and malaria were reversed; 95% of public health service subsidized (2015).*
EDUCATION SDG 4 SDG 5	*97.2% enrollment rates for primary school and 90% for secondary school (for both gender) in 2016; 48% enrollment rates for higher education in 2012, which is 70% higher than in 2002.*
BASIC AMENITIES SDG 6 SDG 7	*More than 95% coverage for treated water and sanitation facilities, and 98.2% coverage of 24-hour electricity supply at national level in 2015; 1.5 times increase in renewable energy installed capacity (2016).*
INFRASTRUCTURE SDG 9 SDG 11	*81.5% national broadband penetration with 91.2% coverage in populated areas (2016); growth in road networks were up to 58% with improved connectivity across Malaysia.*
JUSTICE & STRONG INSTITUTIONS SDG 16	*In Corruption Perception Index, Malaysia was ranked 55 out of 176 countries; in Online Service sub-index of the UN e-Government Development Index, it was ranked 40 out of 193 countries (2016).*
SCP* & CLIMATE CHANGE SDG 12 SDG 13	*RM429 million of green government procurement since 2013; reduction of economy's carbon intensity by 33% since 2009.*
ECONOMY AND EMPLOYMENT SDG 8 SDG 5	*Maintained 6.2% per annum economic growth for 50 years. Full employment since 1992. Female labour force participation rate increased to 54.1% (2015).*
INCOME INEQUALITIES SDG 10	*Reduced as indicated by lower Gini Coefficient from 0.513 (1970) to 0.401 (2014). Less than 1% poverty rate for male and female-headed households.*
ENVIRONMENTAL ENDOWMENT SDG 14 SDG 15	*Sustained 55.2% forest cover, 12.1% as terrestrial protected areas and 3.36% as marine protected areas. Participation in international transboundary conservation efforts: Heart of Borneo initiatives for forests and Coral Triangle Initiatives for marine areas.*
GLOBAL ROLES SDG 17	*Shared development experience with 31,000 participants from 142 countries through Malaysian Technical Cooperation Programme (2016); Strong partner when it comes to implementing ASEAN Economic Community.*

**SCP –Sustainable Consumption and Production*

Source: Economic Planning Unit (2017) "Malaysia Sustainable Development Goals Voluntary National Review 2017 "

2.2

Value-Based Intermediation (VBI)

2.2 Value-Based Intermediation (VBI)

The goal of the VBI is to reorient Islamic finance business models towards achieving the objectives of the Sharī'ah that produce positive and sustainable impact to the community, economy and environment through practices, conduct, offerings and processes.

BNM facilitates the implementation of VBI by establishing a series of Guidance:

VBI

VBI Financing and Investment Impact Assessment Framework (VBIAF)

Facilitates the implementation of an impact-based risk management system for assessing the financing and investment activities.

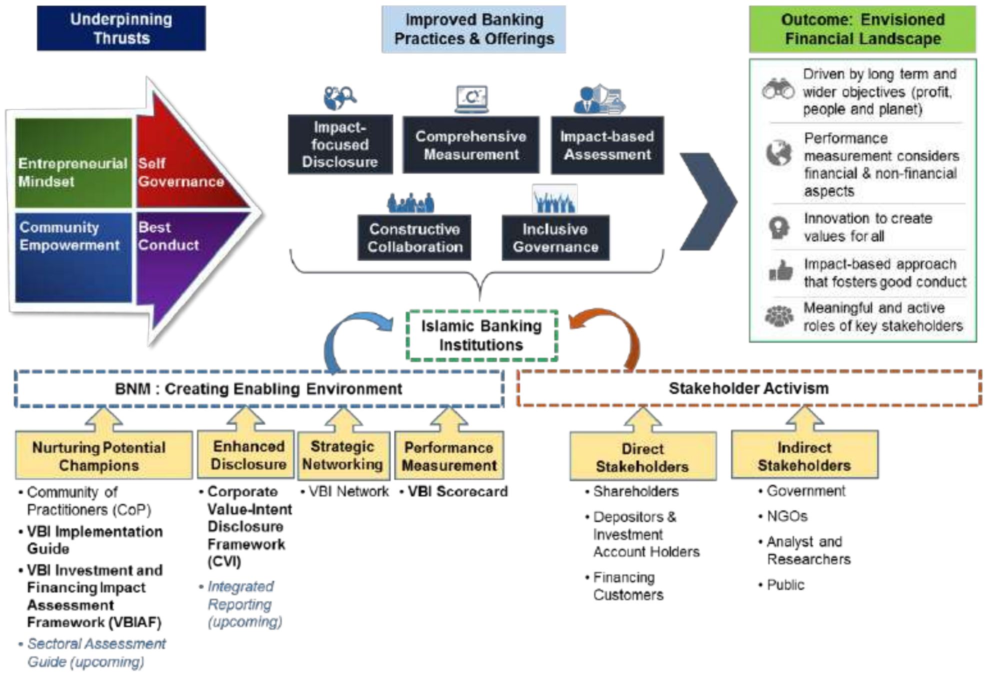
Implementation Guide

Provides guidance on practical value-based banking practices.

VBI Scorecard

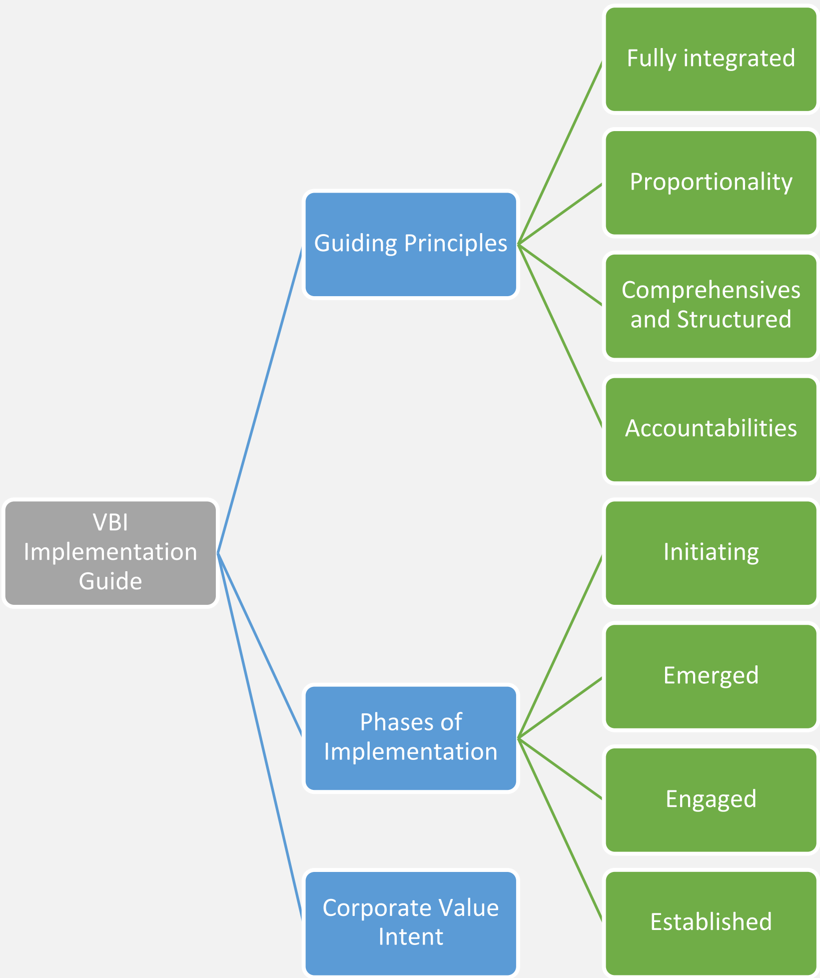
Provides an overview that covers purposes, key components of assessment and proposed measurement methodology.

Overall Framework of Value-based Intermediation



Adopted from: Bank Negara Malaysia et. al. (2018). "Value-based Intermediation Financing and Investment Impact Assessment Framework Consultative Document"

VBI Implementation Guide



VBI Scorecard

VBI Scorecard is a strategic management tool to capture an Islamic banking institution's commitment, implementation strategies, practices and key performance indicators regarding the advancement of the VBI agenda.

The adoption of the VBI Scorecard by Islamic banking institutions (IBIs) will be in a staggered manner:

Phase 1 (Internal Use): VBI Scorecard is used to facilitate strategic planning process and self-assessment of performance and progression in working towards the VBI agenda.

Phase 2 (External Use): After capturing data and information in the VBI scorecard, they will be publicly available for wider stakeholders to analyse and compare performance of IBIs. The members of the CoP will determine the implementation of Phase 2 at a later stage, depending on how ready the industry players are and the feedback from stakeholders.

2.3 **Key Enablers** for Sustainable Finance in Malaysia

2.3 Key Enablers for Sustainable Finance in Malaysia

Regulatory requirements and Sustainable Certifications

- Available mandatory regulatory requirements on key sustainable issues for the industry.
- Voluntarily certification to promote sustainable business in different sectors.
- *Examples:*
  Permits and license, Environmental Impact Assessment (EIA) requirements by DOE for high impact sectors, Minimum wages regulation, Occupational Safety and Health Act, Land Acquisition Act, Malaysian Sustainable Palm Oil (MSPO)

Industry Association

- Provide information on the industry practices and accommodate issues and challenges faced by the market players to be addressed to the relevant bodies.
- *Examples:*

NGOs and Civil Society

- As a consultant and advocates for the DFIs in achieving the sustainable finance agenda pertaining environmental and social issues.
- *Examples:*

CSO-SDG Alliance

3

The Role of DFI in Sustainable Development

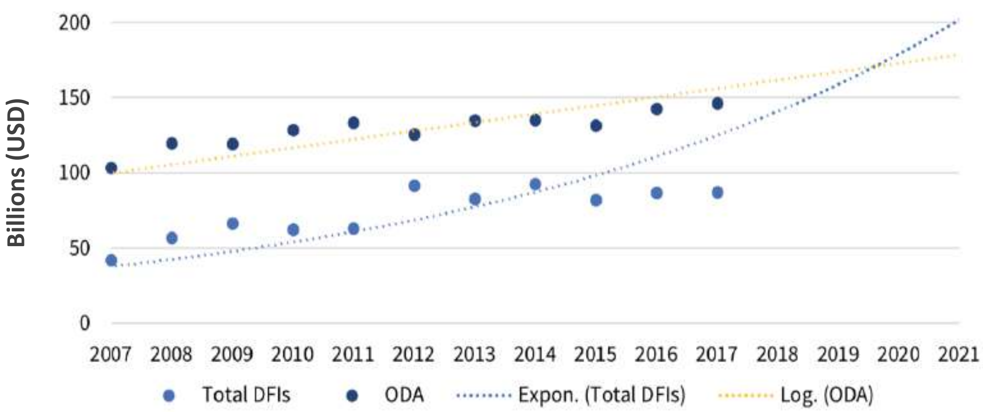
3.1

DFI as a **Potential Game Changer**

3.1 DFI as a Potential Game Changer

National and international DFIs are often established and owned by national governments as specialised development banks to help the development of private sector that are undeserved by commercial bank in developing countries. In Malaysia, the Government have set up DFIs to deliver **specific mandate** and support **the identified strategic sectors** of the economy that are considered to have significant role in achieving socio-economic development goal of Malaysia.

DFI Growth Potential



Adopted from: Runde, D.F. and Milner, A. (2019) "Development Finance Institutions: Plateaued Growth, Increasing Need". Centre for Strategic and International Studies (CSIS)

Since 2000, DFIs have grown from almost $12 billion in annual investments to USD 87 billion in 2017.

DFIs will continue to become more important for global development as their growth over the last few decades seem to suggest their commitment levels would surpass Official Development Assistance (ODA) sooner rather than later.

Nature and Functions of DFIs

Bank Negara Malaysia (BNM) has outlined that the focus of DFIs to ensure that DFIs continue to play **complementary roles to the existing financial institutions** in providing financial service in undeserved sectors as follows:

As development institutions	DFIs should continue to meet the socioeconomic and developmental goals set by the Government.
As specialized institutions	DFIs should enhance their range of facilities through innovation product and service to sustain growth in the specialised areas. Emphasis should also be given in providing value-added advisory, consultancy and technical assistance supported by strong research capabilities.
As financial intermediaries	DFIs should not be involved in sectors that are matured and are able to obtain financing from the banking system or the capital market. DFIs should complement the banking sector through extension of credit in the following:

- Priority and/or new growth areas specified and identified by the Government, such as, information technology and high technology ventures, infrastructure development, services and agriculture.
- Sectors which banking institutions are not equipped with the expertise to appraise, including projects involving complex industrial and agricultural technology.
- Sectors or projects which require lenders to assume venture-type risks which should not be funded from depositors' funds.
- Projects requiring longer term funding which are not normally provided by the banking institutions.

Source: Bank Negara Malaysia (2001). "Financial Sector Masterplan 2001 – 2010"

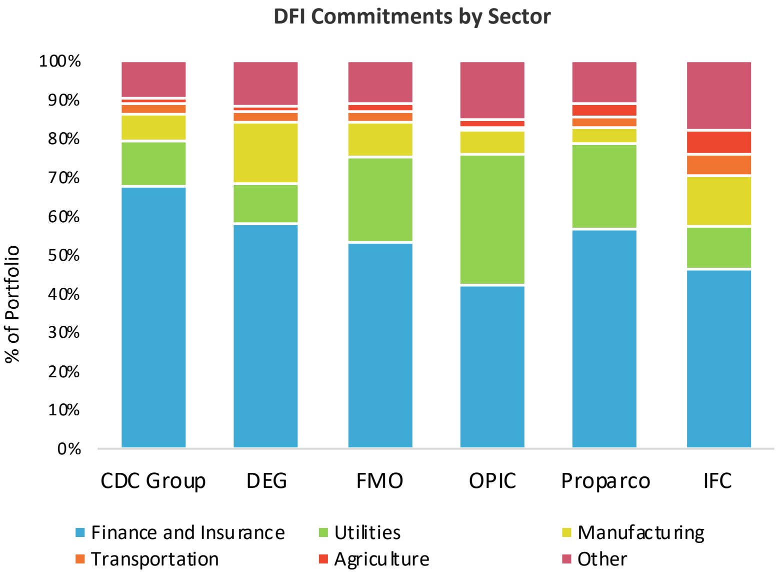
Multilateral and Bilateral DFIs

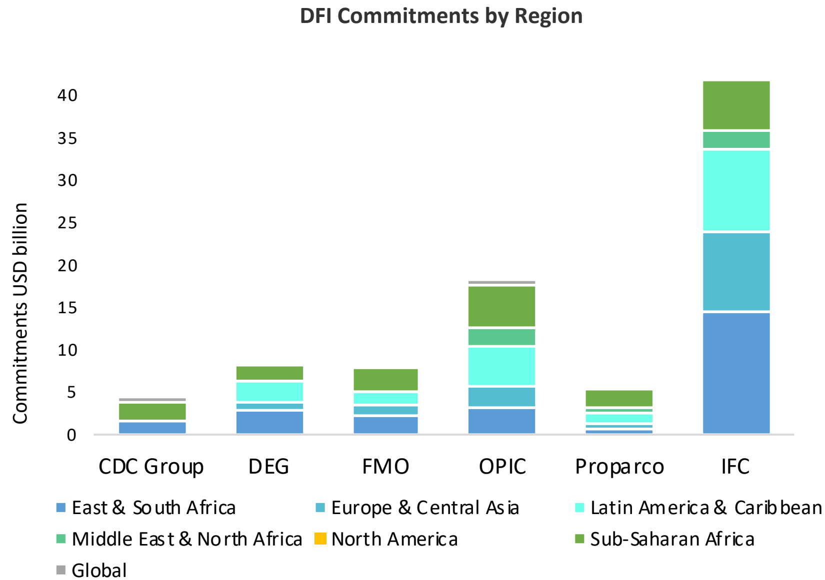
DFIs can be structured as either **multilateral or bilateral organizations** aiming to invest in commercially sustainable projects, often jointly with private investors.

Bilateral DFIs
Serve to implement government's foreign development and cooperation policy

Either independent institutions or part of larger bilateral development banks.

Commitments by Five Largest Bilateral DFIs and the IFC (a multilateral DFI) by Sector and Region





Source: Charles Kenny, Jared Kalow, Ben Leo, and Vijaya Ramachandran. (2018). "Comparing Five Bilateral Development Finance Institutions and the IFC." CGD Policy Paper.

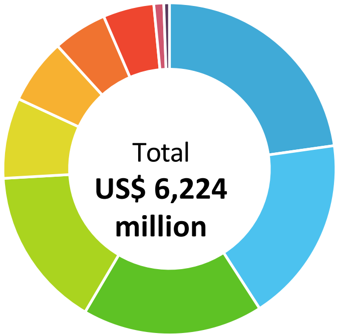
Multilateral DFIs

Act as private sector arms of international finance institutions established multiple countries

Shareholders are generally national governments but could also include other international or private institutions.

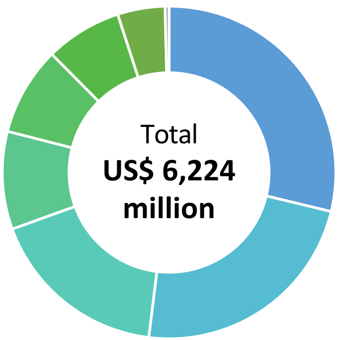
Multilateral Development Bank (MDB) Climate Financing According to Sector and Region

MDB Adaptation Finance in 2016 Per Sector



- 23% Crop and food production **US$ 1,417 million**
- 18% Water and wastewater systems **US$ 1,129 million**
- 18% Energy, transport and other built environment and infrastructure **US$ 1,093 million**
- 16% Coastal and riverine infrastructure **US$ 973 million**
- 8% Other agricultural and ecological resources **US$ 488 million**
- 6% Institutional capacity support or technical assistance **US$ 395 million**
- 5% Cross-cutting sectors **US$ 328 million**
- 5% Financial services **US$ 308 million**
- 1% Industry, extractive industries, manufacturing and trade **US$ 60 million**
- 1% Information and communications technology **US$ 34 million**

MDB Adaptation Finance in 2016 Per Region



- 29% East Asia and the Pacific **US$ 1.791 million**
- 23% South Asia **US$ 1,442 million**
- 18% Latin America and the Caribbean **US$ 1,091 million**
- 10% Sub-Saharan Africa **US$ 592 million**
- 9% Middle East and North Africa **US$ 536 million**
- 7% Non-EU Europe and Central Asia **US$ 462 million**
- 5% EU-12 **US$ 286 million**
- 0.4% Multi-regional **US$ 24 million**

Adopted from: African Development Bank (AfDB), the Asian Development Bank (ADB), the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), the Inter-American Development Bank Group (IDBG) and the World Bank Group (WBG). (2016). "2016 Joint Report on Multilateral Development Banks' (MDBs) Climate Finance"

Harnessing Development Outcome of DFIs

The common financial performance parameters will not be sufficient to measure all the contributions of DFIs to the economy and growth of the nation. **The additionalities that DFIs create** should also be taken into consideration in evaluating the performance of DFI.

DFI can be regarded to be well-off when its involvement create high value addition and mitigate market failures

Shaping project structure and delivery in a way that will foster employment, create new jobs, increase income levels and welfare of identified sectors, and generate multiple economic spill-overs.

Attracting private investor participation or financing in new growth markets or sectors through innovative financial structures.

Contributing to good structure of public policies as well as their implementation in order to create an enabling environment where the economic segments can grow.

The measurement framework of DFIs must be used as reference for developmental goals in creating significant incentives for strategic alignment to realise greater development impact.

Assessments of Development Impact

Social and Economic Impact of Standard Chartered

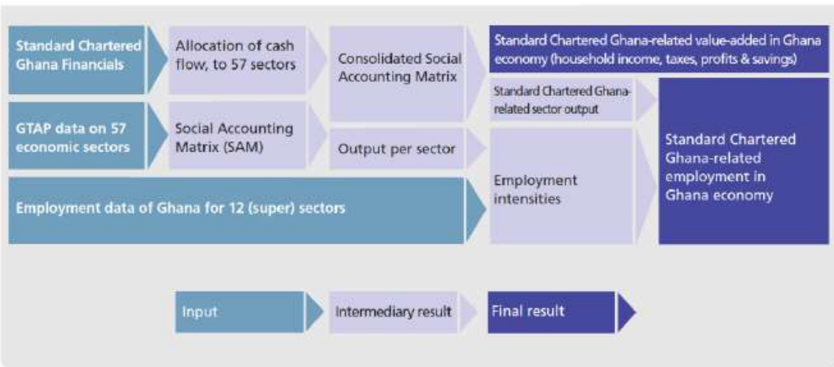
Standard Chartered

Through a series of independent studies, Standard Chartered aims to review the social and economic impact of the bank across its markets. The conducted studies that have been done thus far are focused on the development impact in Ghana, Indonesia, and East Africa (Kenya, Tanzania and Uganda).

METHODOLOGY — **A combination of quantitative and qualitative assessments**

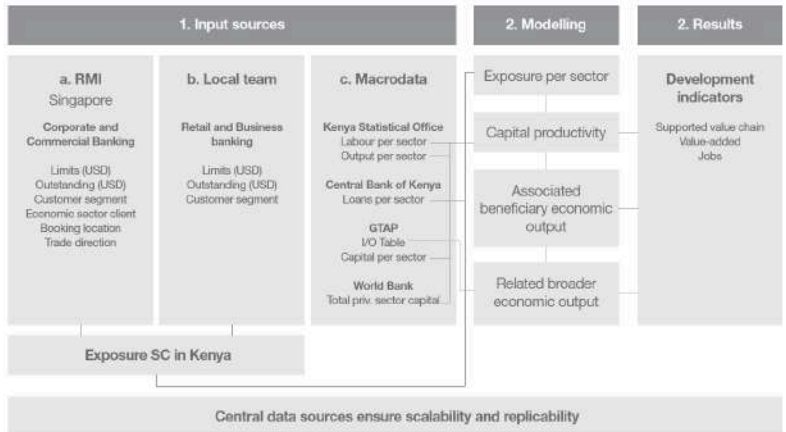
Ghana Study	Indonesia Study	East Africa Study
Social accounting matrix (SaM): a well-established tool used to quantify the direct, indirect and induced impacts (or the multiplier effect) of the bank's activities from respective regions.		**Leontif's input-output model:** to measure effects at the bank's end-beneficiary (direct effects), as well as the economic ripple effects of the end-beneficiary on the broader economy (indirect effects).

Overview of the modelling approach (Ghana)



Adopted from: Ethan B. Kapstein and René Kim (2010) "The Social and Economic Impact of Standard Chartered Ghana"

Overview of data sources, modelling and results (Kenya)



Adopted from: Steward Redqueen. (2017). "Standard Chartered's Socio-Economic Impact in East Africa"

Development Effectiveness Framework of the Islamic Corporation for the Development of the Private Sector (ICD)

Islamic Corporation for the Development of the Private Sector

In its *Annual Development Effectiveness Report 2018*, ICD has taken further actions to improve it Development Effectiveness Agenda (DEA) at global and local levels.

GLOBAL LEVEL:
A more focused approach to measure development impact and identify attribution is introduced

LOCAL LEVEL:
Partnership with local FIs to assist them in building a monitoring and evaluation (M&E) system aligned with the Paris declaration's five principles

Impact evaluation method	Development impact grading system	MDBs* Harmonization Framework for Additionality	SDG Dashboard	M&E Technical Assistance

The developed model of the impact grading system is based on the benchmarks and metrics of other DFIs. Its **objectives** are to:

- Estimate the development impact of investment and advisory projects submitted for approval.
- Provide evidence for effectiveness and accountability.
- Assign ratings of project's expected performance based on how well the project is contributing to ICD's goals.

The ICD's **Development Impact Scoring System (DISS)** is based on five outcome categories.

THE FIVE OUTCOME CATEGORIES

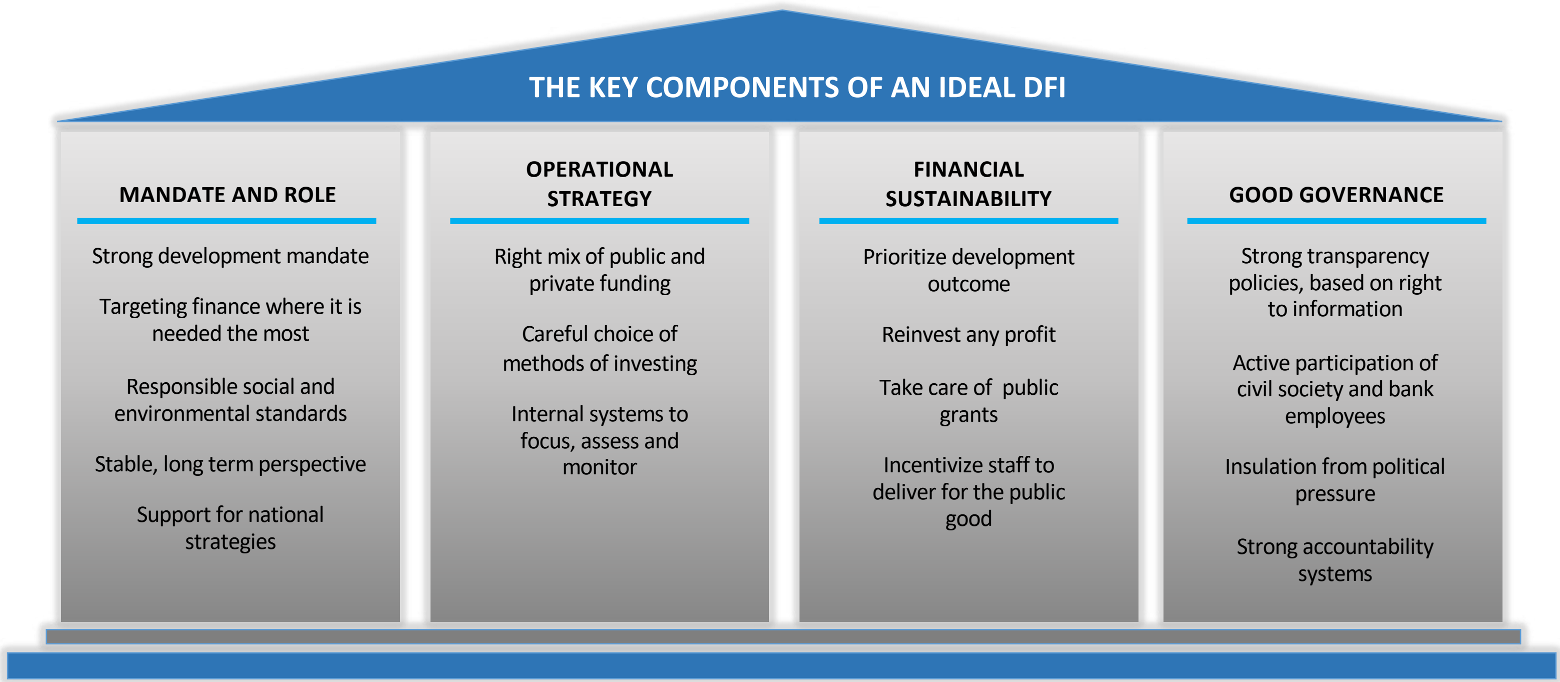
Strategic alignment with ICD's mandate (ICD's goals are related to job creation, SME sector development and Islamic finance development)
Fragility context of the member country (based one OECD's classification)
Development effects and contribution to the SDGs using the Harmonized Indicators for Private Sector Operations (HIPSO)
Financial and economic performance results (i.e. ROA, ROE, IRR)
ICD's additionality (following the MDBs Harmonized Framework for Additionality)

Note: MDBs – Multilateral Development Banks

3.2 Key Components of an Ideal DFI

3.2 Key Components of an Ideal DFI

The key factors for DFIs to become successful are
Good governance and **Financial sustainability**



Adopted: European Network on Debt and Development (2017). "Public development banks: towards a better model".

3.3

SDG Integration for DFIs

3.3 SDG Integration for DFIs

DFIs have been prominent players in developing environmental, social, and governance (ESG) standards in private sector. With its capacity, DFIs are able to invest in long term setting where private sectors are often reluctant to commit due to its riskiness.

SDG integration throughout the financing and investment cycle

Sourcing and due diligence	Investment selection and structuring	Investment management	Exit
Screening financing and investments for their potential to advance SDG.	Setting financing and investment impact targets anchored on SDG targets. Modelling future impact against SDG targets. Educating portfolio company management teams about the SDGs.	Co-creating impact measurement and management plans with portfolio companies. Measuring, reporting on, and managing impact toward the SDGs.	Measuring and reporting progress made toward the SDGs.

Source: Global Impact Investing Network (GIIN) (2018) "Financing the Sustainable Development Goals: Impact Investing in Action"

Good Practices of DFIs in Sustainable Financing

Sustainable finance integrates finance (investing and lending) with economic, social and environmental factors. The main role of financial system is to manage funding using the most productive way. Finance can be a key player in allocating money for investment purpose to sustainable projects and companies, hence accelerating the transition to a low carbon environment and circular economy.

The **Bank Rakyat Indonesia (BRI)** plays an important role in helping the government in agribusiness development and cooperatives. Uniquely, BRI has a microfinance window, 'BRI-Unit Desa' that provides financial services to economically active poor and micro-enterprises, particularly in rural areas. There are three different credit schemes for different groups or business sizes: Level 1, Level 2, Level 3.

Development Bank of Japan (DBJ) provides a second-party opinion the update DBJ Sustainability Bond Framework 2018 and environmental and social credential framework in collaboration with sustainalitics. The DBJ's management team has engaged Sustainalitics to understand the impact of their business processes.

China Development Bank (CBD) has actively participated in the planning and implementation of China's five-year plan and engaged with various government agencies in formulation of national plan for strategic targeted sectors. The identified projects/ sectors include watershed, urban environmental improvement, clean energy, industrial pollution control. As of end June 2015, the outstanding green loan of CDB amounted RMB1.5 trillion.

As of 2018, **Bank for Agriculture and Agricultural Cooperatives (BAAC)** has provided the financial and non-financial services to increase the welfare of people in rural areas through its rural network consisting of 75 provincial offices and 962 branches throughout the country. BAAC was able to reach millions of farm household as its target customers while maintaining its financial stability and sustainability.

Development Bank of the Philippines (DBP) received two awards during the Association of Development Financing Institutions in Asian and Pacific (ADFIAP) development Awards 2018 held in India for their Infrastructure and Environmental Development Energy Efficient Street Lighting project. Besides that, in 2017 DBP had institutionalised Environmental, Social and Climate Change consideration in project evaluation, and monitoring its credit process through the Environmental Development Project.

Good Practices of DFIs in Sustainable Financing

Since 1952, the **Brazilian Development Bank (BNDES)** has been the main player in providing financing for development in Brazil. The bank has established Social and Environmental policy in granting financial assistance. The policy considers Social and Environmental issue for the analysis of financing to projects and companies particularly in great impact sectors such as cattle farming and electric power.

PROPARCO offers a comprehensive range of financial products and services such as loans, equity investments, guarantees, and structure finance, targeting specific needs of private investors in developing countries. The balance sheet and total commitment of PROPARCO amounted €1.0 billion and €500 million respectively in 2007. PROPARCO will invest more for further growth Sindicatum sustainable resources in Asia.

Turkish Bank has been known as one of the most liquid banks in Turkey. The bank has hit the headline as successful independent member of major UK in its payment schemes such as Bacs and Faster Payment. The bank issued its first sustainability bond in May 2016 aiming to wider its sustainability strategy and position as the key player regionally and globally. Turkish bank intended its sustainability bond focusing on climate change mitigation, alleviation of social issues such as health and education problems.

Sustainability has been the main business strategy of **Kreditanstalt fuer Wiederaufbau (KfW)** and it is incorporated into the Group's strategic management.

- Organization: sustainable management
- Guidelines and values: sustainability principles and basic positions
- Integrity and compliance with market standards as commitments
- Corporate governance and supervision
- Environmental and social impact assessments
- Stakeholder dialogue
- KfW sustainability portal

4

DFIs in Malaysia and the Sector Mandate

4.1 Outlook of DFIs in Malaysia

4.1 Outlook of DFIs in Malaysia

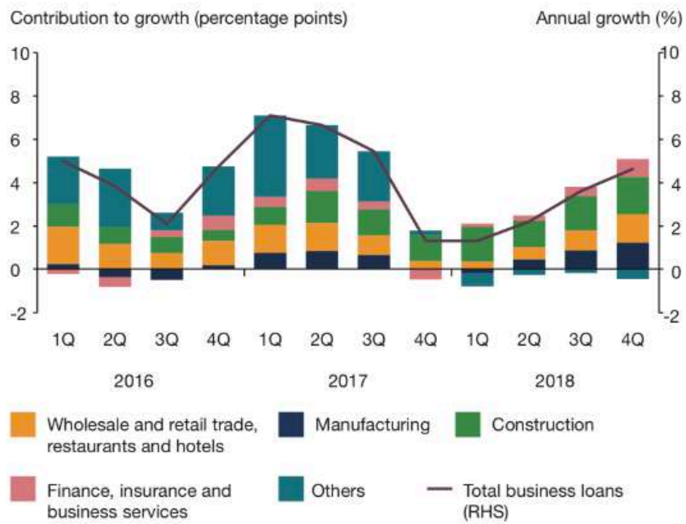
> The first DFIs in Malaysia were established in the 1960s and 1970s as specialised financial institutions with specific mandates to develop strategic sectors, spanning agriculture, infrastructure, small and medium enterprises, export-oriented and high-technology industries.

- Nor Shamsiah Mohd Yunus,
Governor of Bank Negara Malaysia (BNM)
From The World Bank and BNM Forum "*DFIs of the Future: Maximising Development Impact*"

Selected DFIs have been placed under the purview of Bank Negara Malaysia (BNM) with the enactment of the Development Financial Institutions Act 2002 (DFIA). BNM monitors these DFIs' activities and financial performance to ensure that they prudently perform their mandated roles supported by strong corporate governance and good practices.

Outstanding Business Loans by Sector
(comprises outstanding loans from the banking system and DFIs)

Business loans increased steadily in the past year



Adopted from: Bank Negara Malaysia. (2018). "Annual Report 2018"

DFIs Outlook in Malaysia:
Performance Measurement Framework (PMF)

The new performance measurement framework for DFIs, a collaboration between BNM, The World Bank and DFIs in 2018, aims **to capture the broader contributions of DFIs** by integrating developmental key performance indicators (KPIs) rather than just focusing on financing growth indicators to measure how DFI's operations produce socio-economic impact.

The New Performance Framework

1 Development Impact

Desired additionalities from DFIs' operations

Financial: Financing and investment to support strategic sectors and financial inclusion

Design: Positive economic spill-overs e.g. generate new employment, increase income and tax revenues

Demonstration: Crowding in private investments in new growth markets through innovative financial solutions

Policy: Active contribution to sound design and implementation of public policies

Note: **Additionalities** refer to the positive impact attributable to DFIs beyond that which is delivered under a fully commercial or profit-driven environment

2 Social Costs and Benefits

Effectiveness in using public resources to deliver mandates

Subsidy Dependence Index (SDI)* quantifies the level of dependency on government's financial assistance

Output Index (OI)* measures the level of effectiveness in channelling funds to strategic sectors

Net Subsidy Cost (NSC) estimates the social cost of the financial assistance given by the government

3 Effectiveness and Efficiency

Operational effectiveness and efficiency

Cost	Productivity

** Both SDI and OI are intended to promote financial sustainability and minimise credit market distortions*

Adopted from: Bank Negara Malaysia (2018). "Financial Stability and Payment Systems Report 2018"

Preliminary Developmental Outcomes based on Selected Schemes by DFIs

Financial Additionality	
74%	Percentage of DFI financing portfolios to underserved segment (**2016 – 2017**)
3,024	Start-ups received agriculture financing (**2015 – 2017**)
Design Additionality	
570 jobs RM6.75 B	Jobs created and revenue increase as reported by 44 survey respondents who obtained total RM 2.2 billion financing for cross-border ventures (**2010 – 2017**)
502 SMEs	SMEs with improved profitability, sales growth, technology use and export-market penetration due to intensified value-added assistances provided (**2016 – 2017**)
Demonstration Additionality	
7.8%	Loan syndication portfolio against total financing – a proxy for crowding-in of private investments – in **2017**, (2016: 4.6%)

Adopted from: Bank Negara Malaysia (2018). "Financial Stability and Payment Systems Report 2018"

DFIs Mandates in Malaysian Economy

BPMB Malaysia Development Bank

Provide medium to long term financing to **infrastructure, maritime, technology and oil & gas** sectors.

BANK RAKYAT

Raise the social and economic status of rural communities, provide opportunities for self-improvement and to build a better future for their families as well as their communities for the stability and prosperity of our nation.

AGRO BANK Sentiasa di sisi Anda

Provide financial access and credit to the development and **growth of the agriculture community** in Malaysia.

midf

Help the clients to prosper, as well as to support nation's economic growth by providing superior products and services in **investment banking, development finance, asset management and mezzanine financing.**

BSN

Strengthen the savings habit among Malaysians, BSN continues to broaden its role by providing access and multi-channel banking facilities to all segments of the community in Malaysia.

KUMPULAN SME BANK Perniagaan. Kemajuan. Untuk selamanya.

Support the Government's aspirations in enhancing and **strengthening the participation of Bumiputera in manufacturing and services industries** and involvement in domestic and global trade.

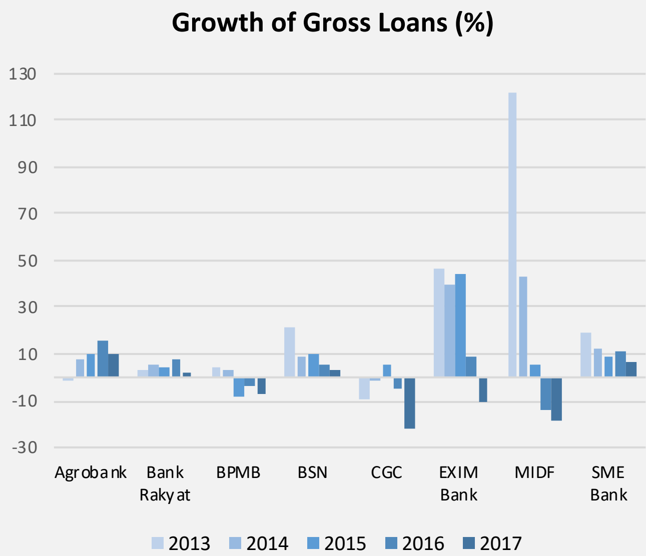
CGC

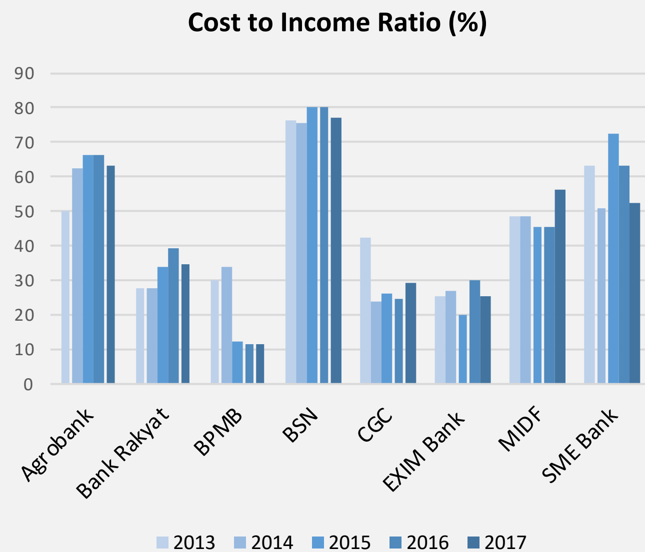
Support the Malaysia's economic development agenda **by assisting marginal but potentially viable small and medium scale enterprises (SMEs).**

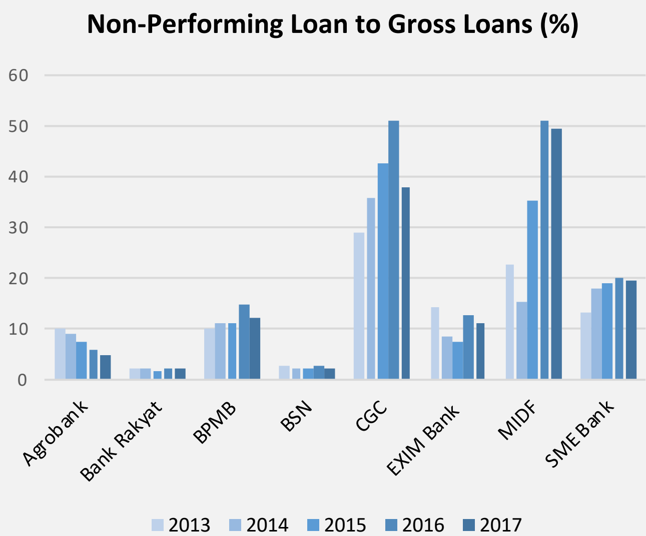
EXIM BANK MALAYSIA

Provide credit facilities to **finance and support exports and imports** of goods, services and overseas projects with emphasis on non-traditional markets as well as the provision of export credit insurance services, export financing insurance, overseas investments insurance and guarantee facilities.

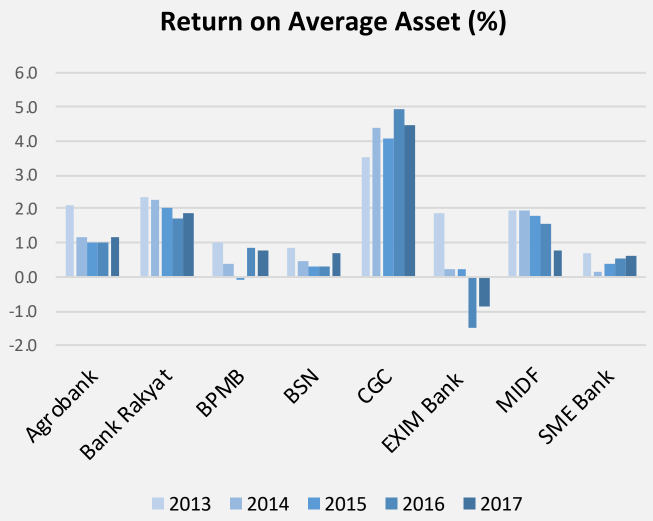
Performance of DFIs in Malaysia

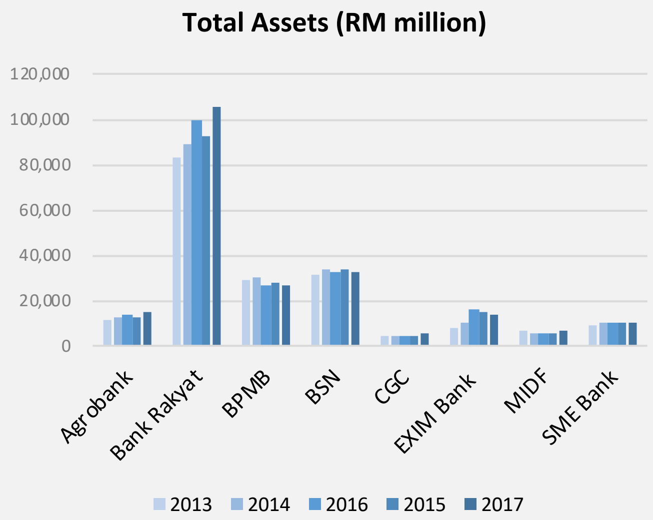


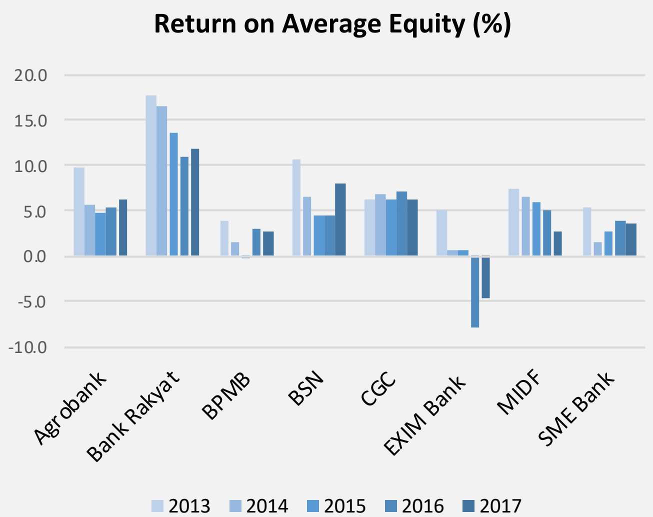




Data Source: FitchConnect







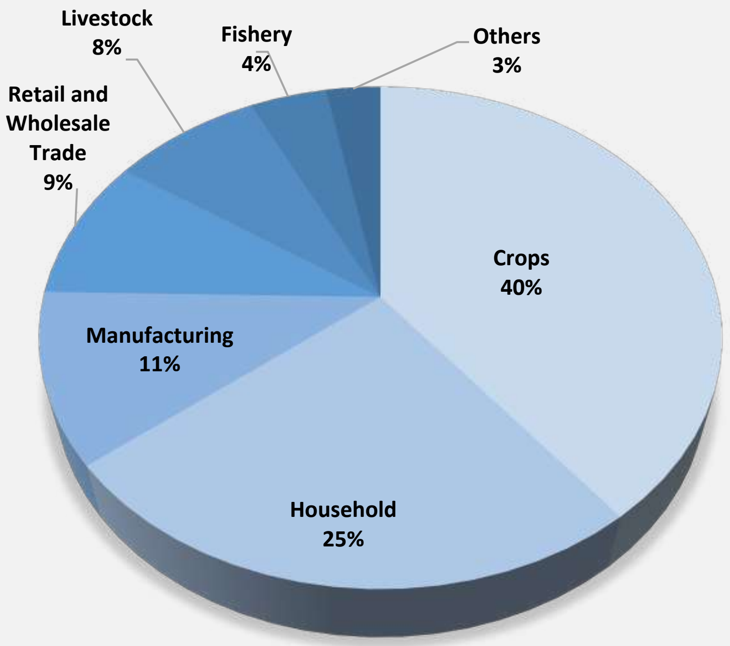
Data Source: FitchConnect

4.2

The **Sectors** and **Segments** Focus of DFIs

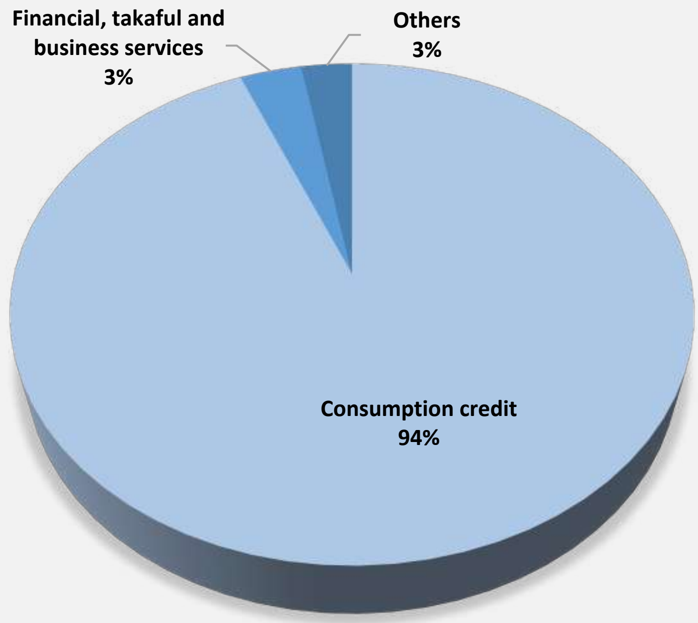
4.2 The Sectors and Segments Focus of DFIs

AGRO BANK
Sentiasa di sisi Anda



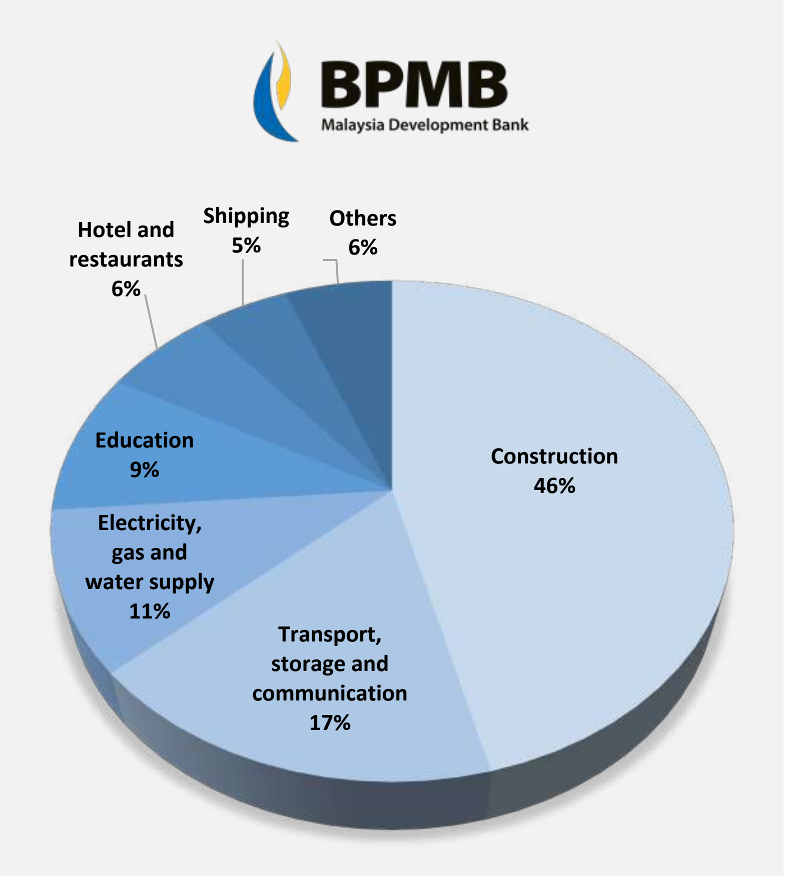
Note: Data is based on the bank's 2017 financing and advances by sector.
Source: Agrobank's Annual Report 2017: Creating Values Beyond Banking

BANKRAKYAT
Bank Pilihan Anda

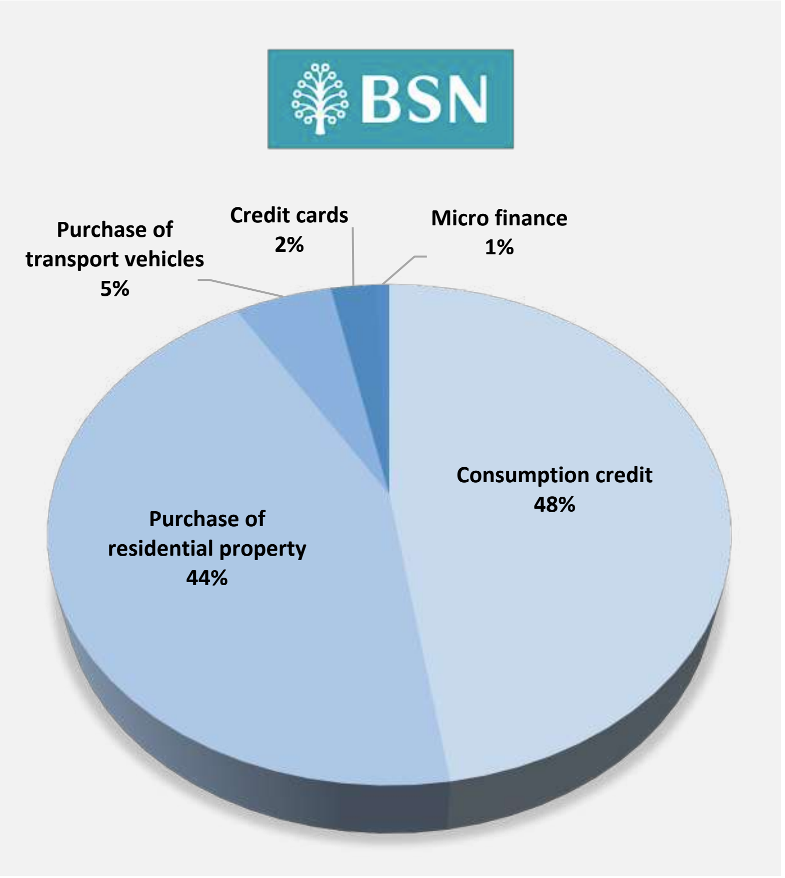


Note: Data is based on the bank's 2017 financing and advances by economic sector.
Source: Bank Rakyat's Annual Report 2017: For the Benefit of All

4.2 The Sectors and Segments Focus of DFIs

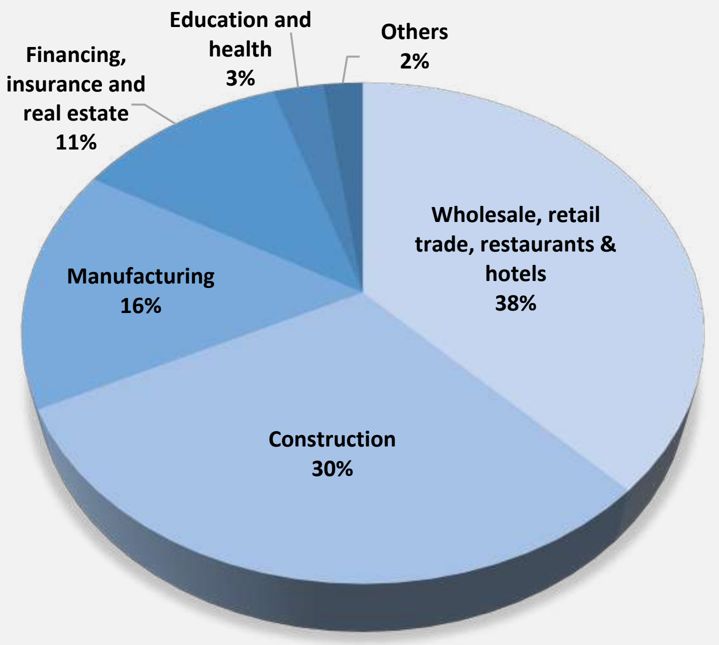


Note: Data is based on the bank's 2017 loans, financing and advances by industry
Source: BPMB's Annual Report 2017: Moving Forward with Improved Fundamentals

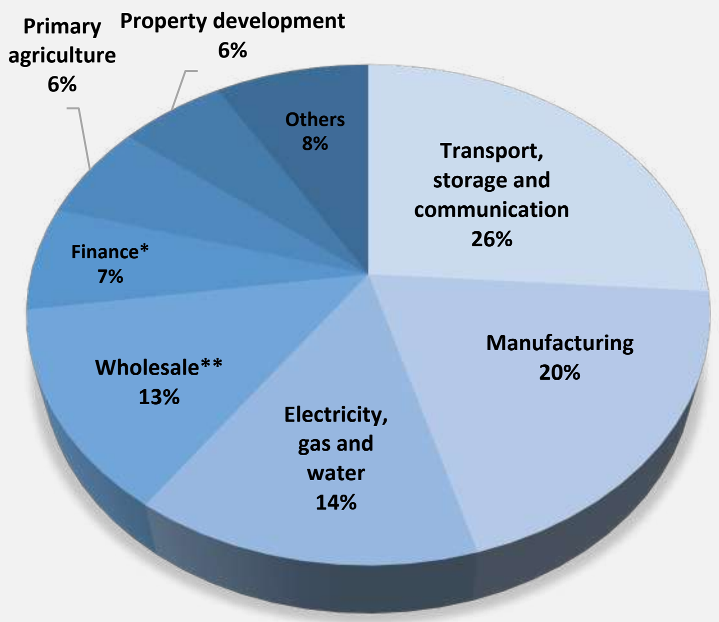


Note: Data is based on the bank's 2017 advances and financing by sector
Source: BSN's Annual Report 2017: Going Further to Serve You Better

4.2 The Sectors and Segments Focus of DFIs

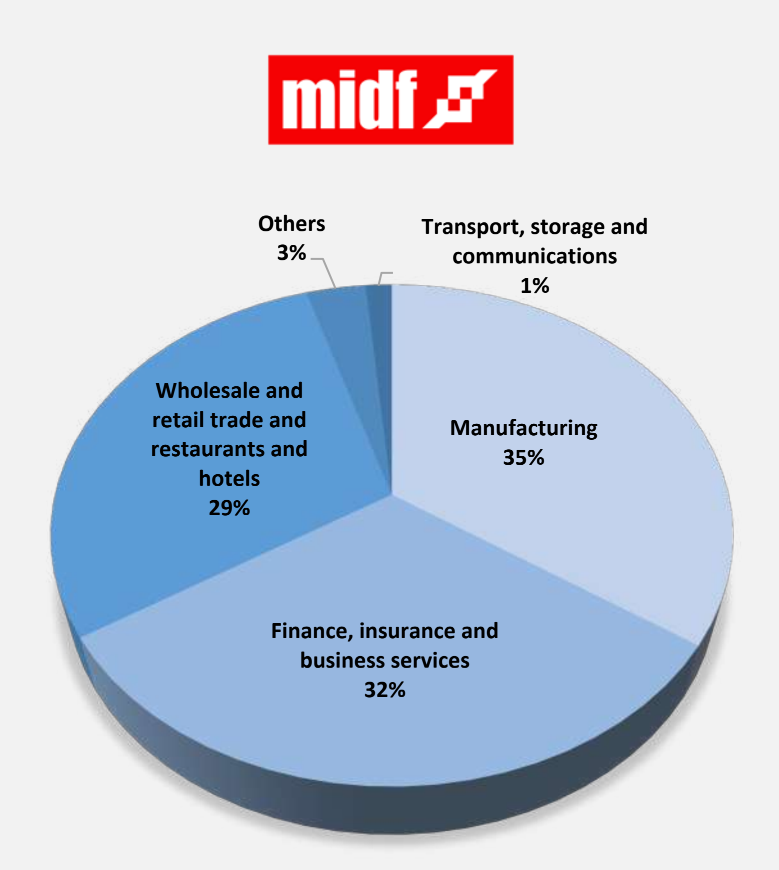


Note: Data is based on the bank's 2017 loans, advances and financing by economic sectors
Source: CGC's Annual Report 2017: Intensifying Engagement, Accelerating Financial Inclusion

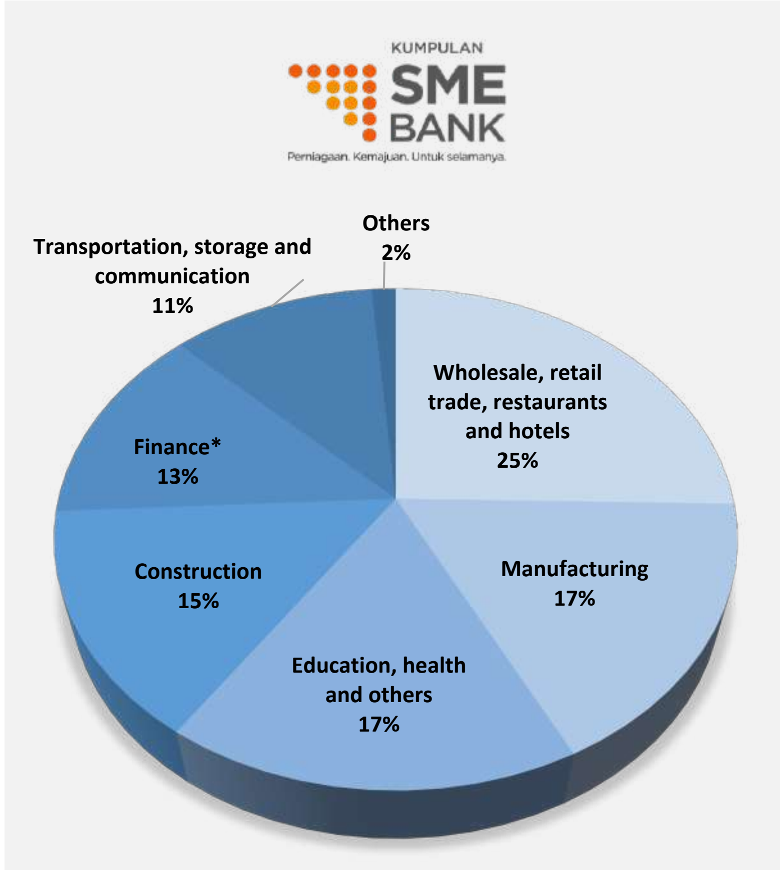


*Finance – shorthand for finance, insurance, real estate and business activities
** Wholesale and Retail – shorthand for "Wholesale, retail trade, restaurants and hotels"
Note: Data is based on the bank's 2017 loans, advances and financing by sector
Source: Exim Bank's Annual Report 2017: Rise to the Challenge

4.2 The Sectors and Segments Focus of DFIs



Note: Data is based on the bank's 2017 loans, advances and financing by economic sectors
Source: MIDF's Financial Statements FYE 31 December 2017



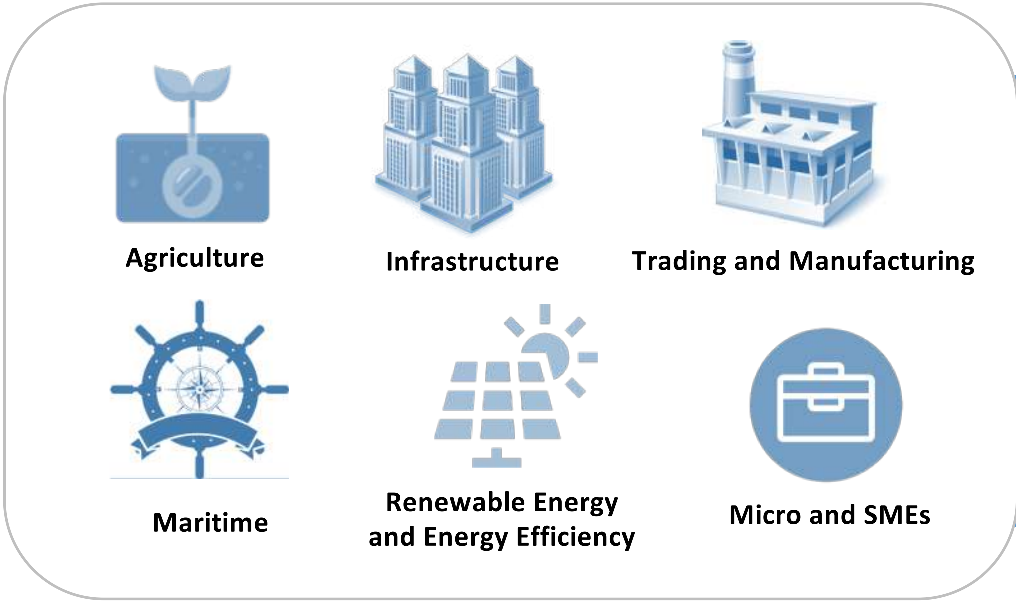
**Finance – shorthand for finance, insurance, and real estate*
Note: Data is based on the bank's 2017 gross loans, advances and financing by industry
Source: SME Bank's 2017 Financial Statements

4.3 **Targeted** Sectors and Segments

4.3 Targeted Sectors and Segments

> The strategic role of DFIs make them well placed to contribute to the development priorities of the nation....

- Nor Shamsiah Mohd Yunus, Governor of Bank Negara Malaysia (BNM)
From The World Bank and BNM Forum "*DFIs of the Future: Maximising Development Impact*", Kuala Lumpur, 9 August 2018.



DFIs' policies and objectives are consistent with the Government's initiatives and policy direction in developing and promoting the identified targeted sectors to support the national economic development agenda.

However,
Innovation is lacking in developing diversified financial products that are tailored to meet the specific needs of targeted sectors and segments.

1. Infrastructure

The development of infrastructure, recognized as a huge catalyst of economic growth, is expected to continue as a driving force of further growth. This is reflected in the 11th Malaysia Plan, The Construction Industry Transformation Program 2016-2020 and the recent 2019 Budget. The above expectation was spurred by the positive performance of the construction industry in the period between 2015 and 2017. It recorded a growth rate of 7.2%. While the **value of gross output** in 2015 was RM177.9 billion, this increased to **RM204.4 billion** in **2017**.

Moreover, 2017 saw a growth rate of 1.5% in terms of the number of persons employed in the industry, an increase from 1,290,474 to 1,330,266 persons. Overall, in **2017**, the **value of construction work done** was **RM138.5 billion**. Continuing its strong performance, **2018** marked another year in which growth is recorded where the **value of construction work done** increased to **RM145.5 billion**. This represents a **growth rate** of **5.1%**.

The value of construction work done in Q4 2018 grew moderately at 4.1% (Q3 2018: 5.2%) to record RM36.5 billion

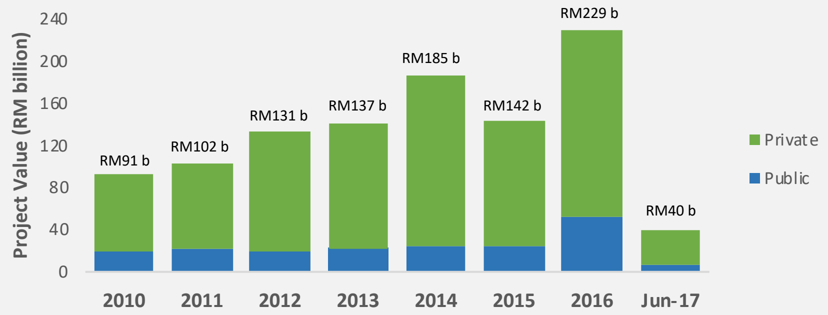
	Growth	Share
Civil Engineering	14.3%	42.6%
Special Trade	8.2%	4.8%
Non-residential Buildings	2.5%	28.4%
Residential Buildings	-9.2%	24.2%

Source: Department of Statistics Malaysia. (2018). "Quarterly Construction Statistics, Fourth Quarter 2018"

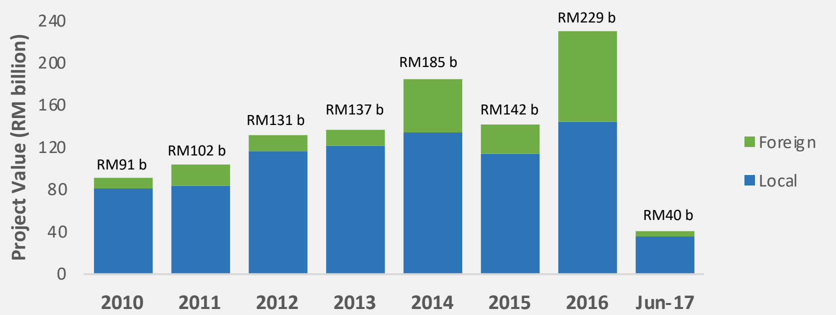
With the exception of 2015, from 2010 to 2016, the total value of projects has witnessed a steady year on year increase, which is a testament to the progress of the construction industry. The private sector dominates the local scene of construction projects by consistently accounting for more than three quarters of the project value in a year beginning from 2010 to June 2017. As for the public sector, it accounts for less than a quarter of the project value during the same duration.

For the period between 2010 and June 2017, local contractors maintain their strong position as the major players in the construction industry by being awarded the bulk of overall construction projects. While foreign contractors only account for around 11% to 37% of the total projects awarded, it is expected that this trend will change. Initiatives by the Government to increase foreign direct investment is set to positively affect the presence of foreign contractors in the nation.

Projects by Sector



Projects by Local and Foreign Contractor



Source: Construction Industry Development Board (CIDB) Malaysia. (2017). "Main Statistics on Construction Projects Awarded as of June 2017"

Infrastructure

Challenges faced by businesses

Uncertainty and high risks

The infrastructure sector in Malaysia is often faced with uncertainty and risks, partly due to its vulnerabilities to macroeconomic and socio-economic situations. Project abandonment or delays are not uncommon. Since many infrastructure projects are dependent on government budget, events like the general elections or policy changes can adversely affect the sector's prospects.

High raw material costs

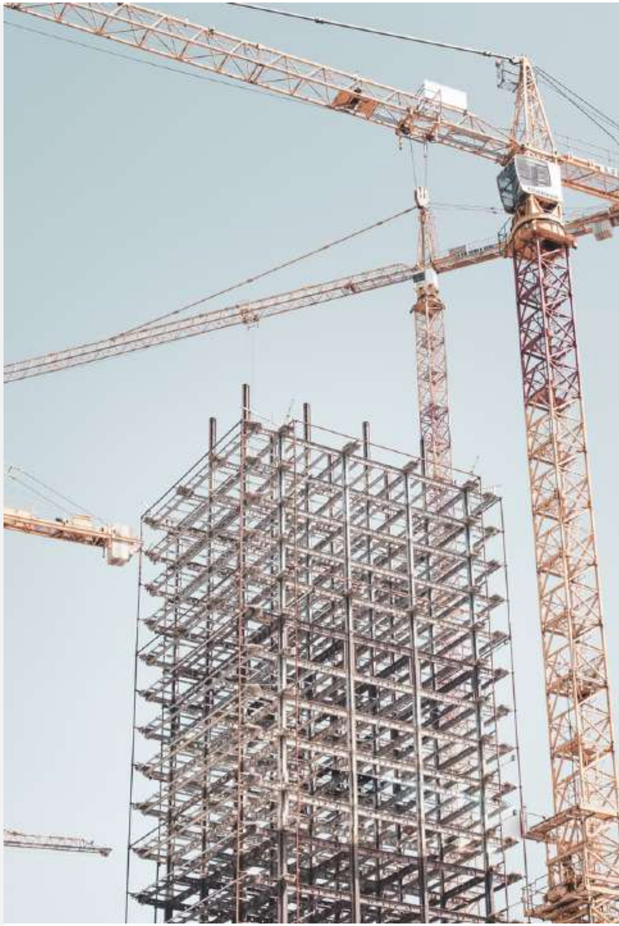
As Malaysia imports the raw materials for construction such as steel bars, tiles and marbles, the sector is sensitive to exchange rate and price fluctuations. It is also dependent on foreign countries' external trade policies.

Skilled labour shortage

In Malaysia, there are currently 15,000 projects ongoing with about 1.2 million workers employed. Given Malaysia's low unemployment rate at 3.4%, the sector finds difficulties in finding skilled workers and relies a lot on employing migrant workers to get by.

Behind on technology advancement

Malaysia has not yet fully adopted latest technologies, such as industrialized building systems (IBS), automation and prefabrication due to factors such as a lack of regulations, high cost and limited skilled experts or equipment.



Infrastructure

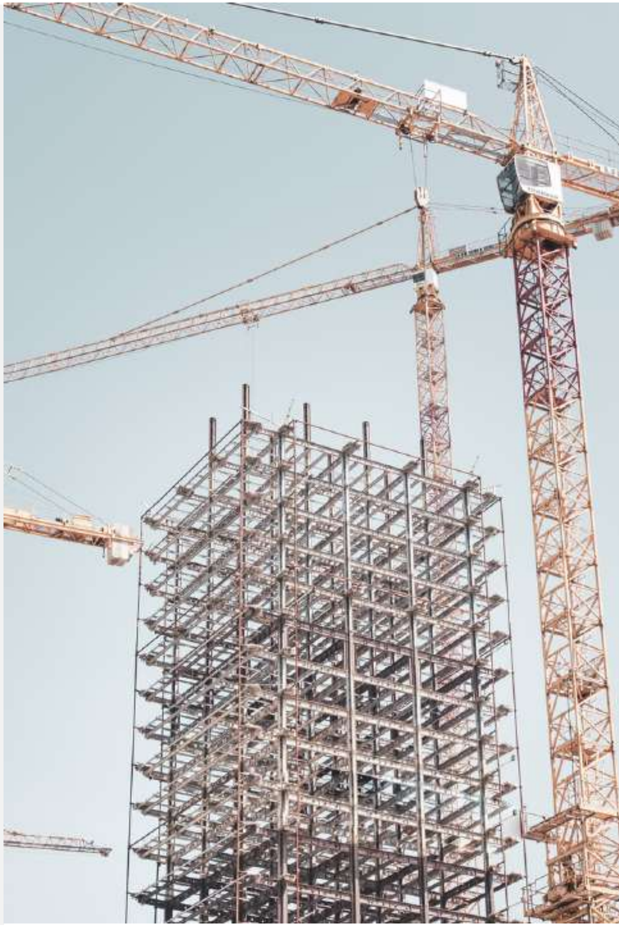
Challenges faced by financiers

High environmental and social costs

In 2018, the Malaysian construction sector recorded the highest death toll count. According to statistics, out of the 650 work-place fatalities in all industries, a total of 187 were from the construction sector. The high incidence of fatalities in this industry is likely due to a number of factors such as laborers working at a high altitudes without proper protection, being hit by falling objects, accidents due to lifting using mobile or tower cranes, scaffolding failures and elevated working platform failures. These accidents will often disrupt construction, increasing costs resulting from compensation and may even lead to project abandonment. Construction projects are also known to create negative environmental impacts such as pollution, damage natural resources or wildlife habitats.

Inefficient implementation of Private-Public Partnerships (PPP)

Due to the nature of infrastructure and limited fiscal budget from the government, infrastructure spending mainly comes from PPP initiatives. However, PPP initiatives are relatively new in Malaysia, and there are a lack of government policies and guidelines on its implementation. As a result, this may lead to a higher likelihood of projects defaulting or completing at a much higher costs.



2. Maritime

Maritime transport in Malaysia, which goes beyond ships and the services they provide, is part of a larger ecosystem of the maritime transport chain. Each component in the ecosystem is interconnected and ensures the continuous efficiency and competitiveness of the Malaysian shipping industry.

Maritime Profile of Malaysia as of 2017

Population
31.624 Millions

GDP
314 707 Millions current US$

Coast/area ratio
28 m/km2

Merchandise trade
412 272 Millions current US$

Fleet – National flag
9,841 Thousands DWT

Ship building
35 635 GT

Container port throughput
24 719 000 TEU

Fleet - ownership
18 392 Thousands DWT

*Source: United Nation Conference on Trade and Development (*UNCTAD). "Maritime Profile: Malaysia." *UNCTADstat*, 11 July 2019, unctadstat.unctad.org/CountryProfile/MaritimeProfile/en-GB/458/index.html.

Maritime

Challenges faced by businesses

Underdevelopment of local capabilities
Maritime industry is labor intensive, requiring many classes of human resource such as shop floor workers, seamen, engineers, managers, researchers and ship designers. Local supply of such talents are very limited, which makes it challenging to find qualified personnel.

Bearish environment in the offshore oil and gas industry
Shipping depends on trade, and currently the low growth in world trade and cutbacks in offshore exploration and production activities in the oil and gas industry has dampened the Malaysian maritime industry for the past few years.

Lack of financing support
Maritime industry players often complain of banks' lukewarm financial support or stringent financial conditions. Banks also do not understand the complexity of the maritime industry, and thus are unable to cater to their clients' needs.

Lack of economies of scale
Malaysia's yards are small, thus bearing low capacity and unable to compete with larger international competitors. Foreign vessels are also much bigger, which grants them economies of scale. This enables foreign companies to offer transport at lower cost, which provides intense competition to Malaysian shipping companies.

Challenges faced by financiers

Fluctuating industry returns

Overcapacity is a common issue faced by the maritime industry. Overcapacity causes downward pressure on freight rates, which is further exacerbated by intense competition. Fluctuating industry returns may send the wrong signals to industry players. Instead of removing vessels or cutting down capacities, they might look into purchasing more efficient vessels which could leads to overcapacity.

Bankers do not have the industry knowledge to manage risks appropriately

Relationship managers do not properly understand the products and services catered towards this industry as they lack business knowledge and skills in the maritime industry. Hence, they are unable to provide advisory and consultative services according to their clients. The lack of business knowledge could also lead to a poor assessment of risk or price deals.

3. Agriculture

The ending of hunger and malnutrition, particularly for children, is one goal which the SDGs aim to achieve by 2030. This entails the promotion of sustainable agricultural activities, the support of small-scale farmers and the provision of equal access to land, technology and markets.

In 2017, the agriculture sector contributed 8.2% of the Gross Domestic Product (GDP), representing RM96 billion. In addition, this sector led to the significant creation of jobs in the same year where 14 million people were employed in this sector.

EMPLOYMENT CONTRIBUTED BY AGRICULTURE ('000 people)

	Overall Employment	Agriculture Employment	Male	Female
2017	**14,450.0**	**1,631.6**	**1,259.7**	**371.9**
2016	**14,163.7**	**1,609.9**	**1,238.0**	**371.9**

Source: Department of Statistics Malaysia (2018). "Selected Agricultural Indicators, Malaysia, 2018" Department of Statistics Malaysia, Official Portal.

The Self Sufficiency Ratio (SSR) may be employed to measure the extent to which a country relies on its own production resources (Food and Agriculture Organization of the United Nations). A higher ratio represents greater self-sufficiency of a country.

Empirical evidence from a recent study conducted by the Malaysian Statistics Department shows that 16 out of 33 selected agricultural commodities recorded a SSR of over 100% in 2017.

Efforts to increase the SSR of the remaining half of the 33 agricultural commodities are underway. For example, a SSR of 80% in rice, an increase from the current SSR of 70%, is targeted by the Government to be accomplished by 2022.

The selected agricultural commodities that showed SSR of more than 100%

Starfruit, Papaya, Jackfruit, Sweet corn, Pineapple, Banana, Watermelon

Chicken/ Duck egg

Spinach, Lady’s finger, Long bean, Brinjal, Cucumber, Tomato

Cuttlefish, Shrimp

Source: Department of Statistics Malaysia (2018). “Supply and Utilization Accounts Selected Agricultural Commodities, Malaysia 2013-2017” Department of Statistics Malaysia, Official Portal.

Challenges faced by businesses

Low labour productivity and talent
Working in agriculture is often considered as an unattractive career prospect in Malaysia. Among those who are involved, many are still in the B40 group and the average age of the workforce is 60. This leads to a high reliance on cheap and low-skilled foreign labour and middlemen to handle transportation and logistics.

Poor linkages of activities between producers and manufacturers
Producers of agro-food often face issues during post-production as the weak circulation of information between producers and manufacturers causes a mismatch of supply and demand. Some manufacturers may depend on imported produce even though there is a local substitute for them, which puts local producers at a disadvantage.

Rising costs of materials to maintain crop
Unlike agricultural commodities like oil palm, the lifespan of food crops is much shorter and thus, require more materials like fertilisers and pesticides to maintain them. However, most of the materials are imported and with the weak ringgit over recent years, they are getting increasingly expensive.

Low technology adoption and innovative farming methods
Compared to other ASEAN countries, Malaysia is falling behind in technological awareness and investment for more modern farming methods which has affect productivity.

Limited financing and small investment from the private sector
Small businesses often find it hard to receive access to credit to further enhance their levels of productivity.

Challenges faced by financiers

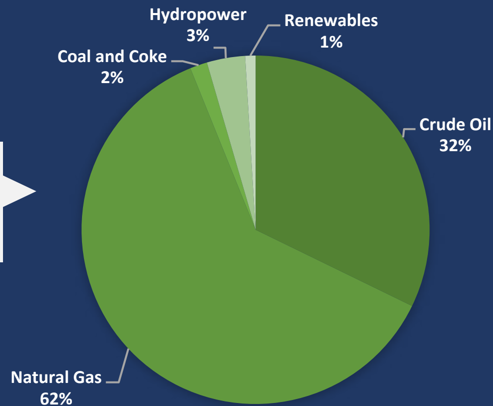
High risks but low return
While the plantations subsector (i.e. palm oil, rubber) of agriculture fares rather well due to the support given by prominent Government Linked Companies (GLCs), the agro-food subsector in particular faces very low productivity and rising costs. Due to its risky state and potentially low return, it a trade-off that banks and investors from the private sector are unwilling to take.

Issues of serving clients of small players
The agriculture sector in Malaysia mainly comprise of small players (i.e. MSMEs) who usually have no credit history and reside in rural areas. Thus, institutions find it difficult to perform credit assessment on such clients and they may incur more costs than gaining benefits from reaching out to them as potential clients.

4. Renewable Energy & Energy Efficiency

2018 saw the Government make a pledge to develop green technology and promote renewable energy (RE) in an effort to spur a sustainable economic growth. By 2025, the target is to have renewable energy representing 20% of the overall energy consumption in Malaysia, a significant increase from the mere 1% it represented in the year 2015.

Energy Primary Production



Source: Energy Commission (2017). "Malaysia Energy Statistics Handbook 2017"

Considering the unique geographical location of Malaysia where there is abundance of sunshine all year round, solar energy becomes the obvious choice as the main renewable energy contributor. This is driven by the fact that Solar Photovoltaic (PV) generates the most power with a maximum capacity of 322,200 MWh representing 45% of power generation from RE installations. Moreover, statistics from the Sustainable Energy Development Authority (SEDA) show that solar PV represents the largest contributor for the annual power generation for RE installations.

Annual Power Generation (MWh) of Commissioned RE Installations

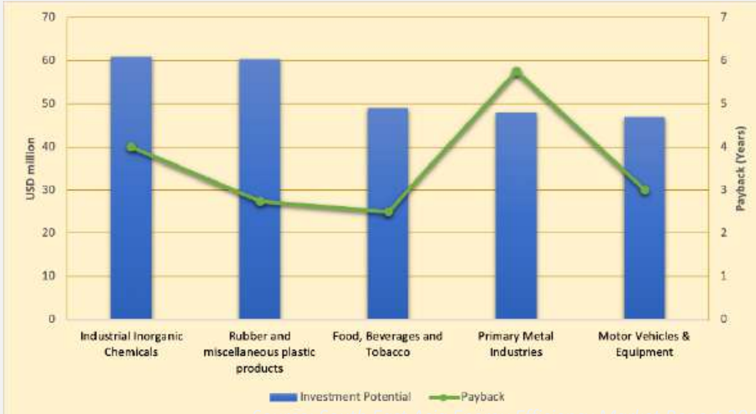
Year	Biogas	Biogas (Landfill/ Agri Waste)	Biomass	Biomass (Solid Waste)	Small Hydro	Solar PV	Geothermal
2018	10,349	152,348	178,966	4,094	46,588	322,200	0
2017	16,320	198,985	247,543	19,304	74,831	426,701	0
2016	17,143	70,486	151,385	36,752	47,798	316,831	0
2015	16,989	41,122	192,372	18,090	55,406	263,886	0
2014	19,772	31,844	226,196	4,348	67,568	184,286	0
2013	12,963	9,804	209,408	11,144	79,082	50,757	0
2012	98	7,465	101,310	3,235	25,630	5,319	0

Source: Sustainable Energy Development Authority (SEDA). "RE Generation." SEDA, www.seda.gov.my/statistics-monitoring/re-generation/.

With regards to energy efficiency (EE), it is estimated that the Energy Service Companies (ESCOs) will see a rapid growth following a new strategy by the Government, beginning with the public sector, in connection with this. This strategy is first manifested in the implementation of Energy Performance Contracts (EPCs) with ESCOs in at least 25 headquarters of various Ministries. This is definitely a welcome move as the total potential investment of EE projects in Malaysia amounts to USD 1,473 million for industrial and commercial sectors (refer to the *South East Asia Energy Efficiency Market Report 2011*).

Owing to the size and quantity of energy-intensive commercial buildings, comprising offices, hotels and retail malls, the commercial sector has almost double the market size of the industrial sector.

Malaysia's Top 5 Industries by Investment Potential for Energy Efficiency



Malaysia's Investment Potential for Energy Efficiency in Commercial Sectors

	Office	Hotels	Retail Malls
Market Size (in mil USD)	70	510	327
Payback (in years)	9.8	6.8	15.8

Source: ReEx Capital Asia (2011). "South East Asia Energy Efficiency Market Report 2011"

Challenges faced by businesses

Renewable Energy (RE)

High cost of installation and feasibility study

The initial cost in Malaysia is still high compared to the European market where the cost is RM4,000 per KWp. In Malaysia, the cost is approximately RM7,000 per KWp for households and RM5000 to RM6000 per KWp for commercial building. Additionally, Power system study (PSS) is expensive, with the cost ranging from RM20,000 to RM60,000.

NEM rate are not attractive for the market players

Credit for excess electricity to net-metering consumers will be based on prevailing displaced costs for the supply voltage at the point of common coupling. The gap between current tariff of NEM and FiT is too far.

Energy efficiency (RE)

Financial constraints

Banks are not keen on funding EE projects. Process and procedure of EPC are still not vibrant from the banks side. Return on EPC depends on potential building and owner participation. Banks proposed fixed payments, while companies prefer flexible payments.

Profit sharing measurement issue between ESCO and premise owner

The reduction in electricity usage could be due to factors aside from EE retrofitting. For example, it could due to change of production by a factory resulting in reduction of power consumption. Hence, the current measurement of profit sharing is based on electricity bill alone may not be sufficient and other measurements need to also be considered.

Challenges faced by financiers

Unattractive rate of return

Due to the risk and durations of RE and EE projects, the rate of returns are commonly low, or the projects are simply not financially feasible.

Renewable Energy (RE)

RE projects would span over a long time making an unattractive financing or investment option. Though it may grow in the future, the Malaysian demand for RE is currently limited.

Energy efficiency (RE)

Small-scale EE projects lead to high costs of financing. Furthermore, they are also unconventional and have unpredictable cashflows. Thus, it would be a challenge for banks to standardize the loan terms and project evaluation.

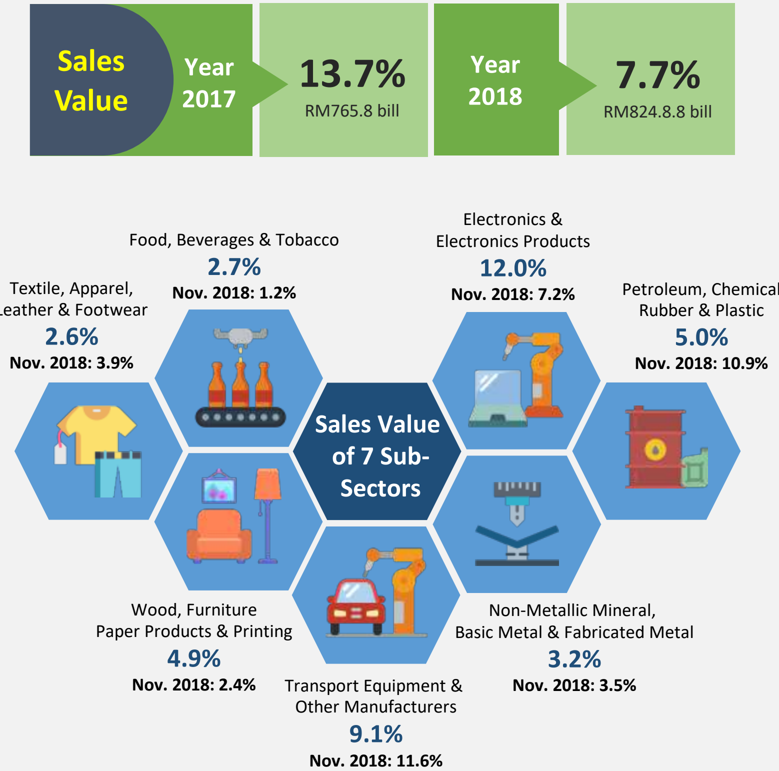
Lack of technical expertise

Because of high initial costs and the typical bankers lack of expertise in understanding the sectors, most commercial banks are not interested in providing financing to RE and EE projects. Furthermore, most of financiers are not familiar with the viability of RE and EE technologies.

5. Trading & Manufacturing

As Malaysia strives to ensure quality growth for the wellbeing of the people and setting itself the target of achieving the goal of achieving high-income nation status by 2020, the country's manufacturing sectors continues to be given a boost under the strategic thrusts of the Eleventh Malaysia Plan (11MP). In 2018, the government intensified its efforts to energise the sector by attracting a healthy share of investment despite a prevalent economic slowdown, building stronger and robust building blocks through the nation's favourable investment environment including developed infrastructure and connectivity, proactive policies and trainable pool of talents.

The year in review saw manufacturing sales grew by 7.7 %, an upsurge amounting to RM824.8 billion as compared to RM765.8 billion reported in the past year. The significant growth in sales value was driven by higher domestic and private consumption of Electrical and Electronics Products (12.0%); Transport Equipment and other Manufactures Products (9.1%); and Petroleum, Chemical, Rubber and Plastic Products (5.0%).



Note: % growth refers to YOY changes
Source: Department of Statistics, Malaysia (2018). "Monthly Manufacturing Statistics, Malaysia, December 2018"

Challenges faced by businesses

Low awareness and adoption of Industry 4.0
Although manufacturers are generally aware of the need to embrace automation and smart concepts to boost productivity, the actual case of technological adoption by smaller players paints a sombre picture. Expensive machinery costs coupled with low economies of scale to generate high return on investment have dampened willingness to jump on the Industry 4.0 bandwagon. Other barriers include limited market size and inadequate resources in R&D to incentivise them to automate.

Inefficiency and high costs of logistics and trade facilitation
Poor logistics support has caused Malaysia to fall behind some of the ASEAN countries such as Indonesia and Singapore, due to higher cost related to custom clearance and land transportation as well as poor handling of logistics in persevering the quantity and quality of product delivered across the supply chain.

Lack the capacity to compete globally
Increased competition is not necessarily a negative traits for local players as it pushes their business to advance. However, they are mainly hindered by shortcomings in terms of product diversification, marketing strategy and production capacity to fulfil the demand of both local and global market, resulting in weak global trade linkages.

Workforce shortage and skill gaps
Manufacturers often find it hard to secure talent in technical skills exacerbated by misperceptions of manufacturing jobs. Additionally, high dependency and easy access to low-skilled foreign labour has further discouraged them from hiring local talents and investing in automation to keep up with industry 4.0.

Rising cost of doing business
Business performance is being put under significant pressure due to the increased prices, and reduced availability, of raw materials. The difficulties to secure financing also plays a part for them in sustaining or expanding their export or domestic market.

Challenges faced by financiers

Considerable scale and complexity of digitalisation in conducting trade finance
The digitalisation of the trade-finance industry is still very much a work in progress. Clearly, a considerable amount of work needs to be done to integrate the process, for instance, banks will have to consider the operational impact on documentation teams across various products and branches.

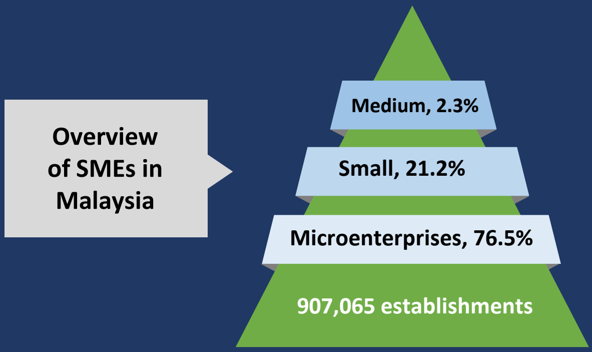
Limited Islamic trade financing product
Access to conventional trade finance is a continuous challenge faced by the country. Hence, it is imperative for financiers to provide more Sharī'ah-compliant trade finance solutions in support of the multi-billion dollar halal export industry that has increasing participation of SMEs.

Increase capital requirements for banks
Financial regulations have witnessed some new rules being implemented since the last financial crisis, but not necessarily for the most efficient outcomes. Re-calibration of capital charges have led to low-risk trade finance products being treated at par with much more complex financial products, increasing bank's capital requirement and impacting bank-intermediated trade finance.

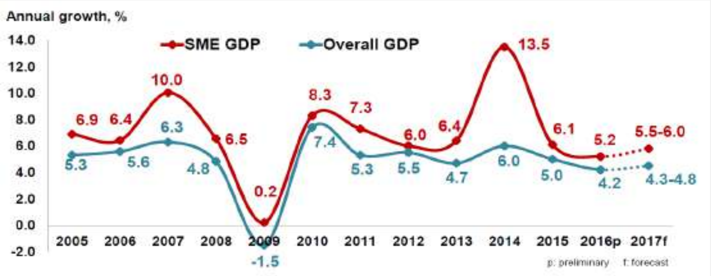
Limited accessibility to credit registries
Financiers often find it hard to gain access to quality credit information that are usually available through credit registries, in order to accurately assess traders creditworthiness.

5. Micro, Small & Medium Enterprise

MSMEs are the backbone for many economies across the world, and Malaysia is no exception with 98.5% of the total registered business establishments comprised of SMEs. Thus, it is important that SMEs are groomed to be more competitive and productive, as to meet their true potential. Being a large part of the economy, SMEs are responsible for the livelihood of many. In 2015, SMEs provided 65.3% of Malaysian employment.

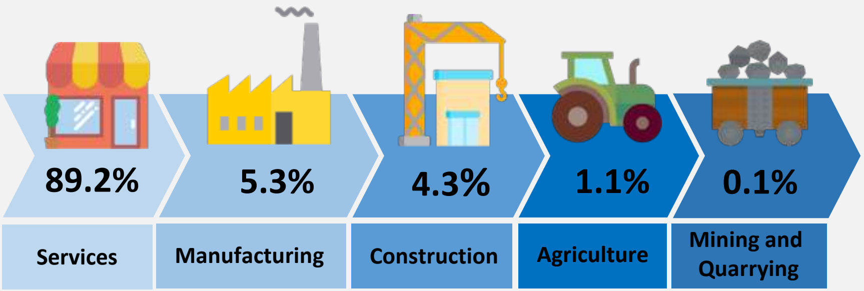


Annual GDP Growth



Source: Department of Statistics Malaysia; Adopted from: SME Corp (2016). "Economic Census 2016: Profile of SMEs"

As shown in the graph above, the real GDP growth of SMEs has consistently outperformed the overall economy with the average annual growth rate of SMEs at 6.6% compared to 5.2% for the overall GDP in the growth period of 2011 - 2017. The contribution of SMEs to overall GDP has also increased from 32.2% in 2010 to 37.1% in 2017.



Source: SME Corporation Malaysia. "SME Statistics: Economic Census 2016 – Profile of SMEs." SME Corporation Malaysia, www.smecorp.gov.my/index.php/en/policies/2015-12-21-09-09-49/sme-statistics.

SME GDP by Economic Sector

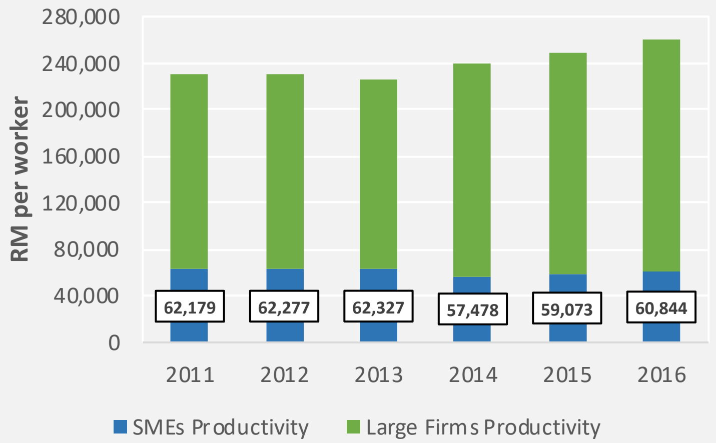
SME GDP by Economic Sector	SME Contribution to GDP			SME GDP Growth
	2010	2017	Increase/ decrease in share	CAGR 2010-2017 (%)
	Share (%)			
Overall	**32.2**	**37.1**	**+4.9**	**6.6**
Agriculture	4.3	4.1	-0.2	2.9
Mining & Quarrying	0.05	0.2	+0.15	9.1
Manufacturing	7.2	8.0	+0.8	6.4
Construction	0.9	2.2	+1.3	9.7
Services	19.6	22.1	+2.5	7.0

Source: Department of Statistics Malaysia; Adopted from: SME Corp (2018). "SME Annual Report 2017/18"

In terms of performance by economic sectors, the increase in share of SMEs to GDP in the growth period of 2011 - 2017 was largely contributed by the construction and services sector. This is reflected by the above average annual growth rates posted by the SME construction sector at 9.7% and SME services sector at 7.0%; compared to the overall SME GDP average growth rate of 6.6%.

However, Malaysian SMEs' full potential has yet to be unlocked. As shown in the diagram however, in terms of monetary value produced by a worker, SMEs productivity has been stagnant throughout the years.

The relative productivity of large firms to SMEs have increased from is 2.7 times in 2011 to 3.3 times in 2016. In particular, the relative productivity of large firms to SMEs in the services sector is 4.5 times. This suggests significant room for improvement where SMEs can further contribute towards growth. DFIs can help SMEs mitigate the problem of low productivity by providing innovative lending contracts.



Source: Department of Statistics Malaysia; ; Adopted from: SME Corp (2018). "SME Annual Report 2017/18"

Challenges faced by businesses

Limited access to financing
Due to the lack of credit data and financial track records, MSMEs are often given financing with high interest or profit rate, or no financing at all. Due to their "thin-files" MSME clients also have to go through complicated loan process.

Limited access to market
It is often difficult for low profile MSMEs to penetrate a competitive and saturated market. This could be due to reasons such as geographical segregations or MSMEs' products not being innovative enough to distinguish themselves in the local market, let alone in the global arena.

Lack of knowledge and skills
MSMEs often struggle in areas of business management, marketing, record and bookkeeping, strategic and financial planning. The lack of professional business management skills may result in limited capacity to grow, and may also limit MSMEs' existing and potential productivity.

Minimum technology adoption and innovation
Automation and modernisation in business would improve efficiency and productivity. Unfortunately, for many MSMEs, several tasks and operations are still being done manually. Hence, MSMEs are not able to capture the opportunities for a competitive edge over other rivals.

Challenges faced by financiers

Serving clients with no credit history
Regular banks' credit underwriting will not work against clients with no credit history. Relying only on traditional credit assessment would bring about a loop problem as MSMEs need to borrow to build a credit history which they are unable because of lacking in credit history.

Higher risks
MSME financing simply brings higher risks due to their higher tendency to default. Banks have limited track record or evidence to rely on and little data to forecast from. MSMEs also, more often than not, are unable to provide collaterals.

Reaching out to potential clients
MSMEs, especially microentrepreneurs usually live in out-of-reach rural areas. The travelling can be costly and client onboarding and application process will be time consuming, especially if it is being done manually.

Understanding the needs of MSMEs
MSMEs are heterogenous. One MSME client will not have the same business conditions and potential as others. Financial institutions' regular cutting across framework will not work the same way for every MSME client.

Selected Initiatives of DFIs in Malaysia

4.4 Selected Initiatives of DFIs in Malaysia

Bank Pembangunan Malaysia Berhad – Sustainable Development Financing Fund (SDFF)

Bank Simpanan Nasional – Agents Banking

SME Bank – Sustainability Beyond Financing and CEDAR

Credit Guarantee Corporation – CGC Developmental Programme and imSME Platform

Bank Rakyat – Pawnbroking Services and Credit Card-i Muslimah

EXIM Bank – Strategy 2025: Aspiring to be an Islamic DFI and SME Strategy

Agrobank – Micro Financing Programs and Partnership with Key Agricultural Associations in Malaysia

Malaysian Industrial Development Finance - SME Automation Financing and Industrial Revolution 4.0

Bank Pembangunan Malaysia Berhad – Sustainable Development Financing Fund (SDFF)

Bank Pembangunan Malaysia Berhad (BPMB) was established in 1973 as a development financial institution wholly owned by the Malaysian Government. BPMB is mandated to provide medium to long term financing to infrastructure, maritime, technology and oil & gas sectors. In continuing its mandate, BPMB's approval has recorded RM3.13 billion in 2018, comprising of financing, investment, sukuk and bank guarantees.

On 7 March 2019, BPMB has launched RM3 billion Industry Digitalisation Transformation Fund (IDTF) to push Malaysia towards Industry 4.0. The IDTF will be managed by BPMB to accelerate the adoption of new technology including robotics, big data and artificial intelligence. The IDTF will be used to provide financing with 2% interest subsidy for all Malaysian companies that interested to adopt digital technology in their businesses. Finance Minister, Mr. Lim Guan Eng, in his keynote speech during the launching event, said that "The fund aims to create the right ecosystem to make Malaysia as a preferred location for high tech manufacturing". He added that BPMB will collaborate with Malaysia Digital Economy Corp Sdn. Bhd. to assess financing application under this fund in order to make sure the funds are channeled to the right sector.

On 13 March 2019, BPMB has also launched RM1 billion Sustainable Development Financing Fund (SDFF) to support the nation's sustainable development. SDFF is to incentivize more companies adopting sustainable practices in their business strategies and operations. This fund is part of Malaysia's effort to achieve the Agenda 2030. The fund will provide financing rate subsidy of 2% to companies that demonstrate continuous contribution to the 17 Sustainable Development Goals (SDGs) under the United Nations Development Programme (UNDP).

On 2 May 2019, RM500 million Public Transport Fund (PTF) was launched by BPMB to provide financing with 2% interest subsidy for public transport operations, taxi, and bus companies in order to expand public transportation network in Malaysia.

The above funds comprise the three funds totaling RM4.5 billion which has been mandated by the Ministry of Finance to BPMB in Budget 2019.

In line with its developmental role, BPMB is required to measure "Additionalities". BPMS is currently institutionalizing a framework to measure developmental impact in line with Bank Negara Malaysia's Performance Measurement Framework. This goes well with the funds that BPMB needs to manage.

SME Bank – Sustainability Beyond Financing and CEDAR

As a development financial institution established in 2005 and wholly-owned by the Ministry of Finance, **SME Bank** is mandated to support the Malaysian SMEs in fulfilling the government's economic and development initiatives and goals. With a well-defined mandate, SME Bank focuses on addressing significant areas where both financing and beyond financing services are needed.

Believing that SMEs are the backbone of Malaysia's economic growth, SME Bank has taken the "beyond financing" approach by empowering their clients through continuing strategic training and coaching in order to equip them with the essential up-to-date business know-how. In time, they are expected to progress and sustain their business and eventually able to penetrate both the local and global markets. Fully committed to this cause, the Centre for Entrepreneur Development and Research (CEDAR), a wholly-owned subsidiary of SME Bank, was established in 2013 to deliver this task. CEDAR offers research-based and tailor-made programmes and intervention services that include training, business coaching, function-based facilitation, entrepreneur mentoring and industry talks.

A notable public engagement programme by CEDAR is the MindLab Series, with the main objective to inculcate a competitive attitude and positive mind-set among entrepreneurs while exposing them to the current knowledge and skills while at the same time instilling confidence which are essential attributes in managing and increasing their wealth. In 2018, The MindLab Series discussed the Industry 4.0 themes, namely "Embrace Industry 4.0-Rediscover Growth" and "Industry 4.0-Are You Ready to Brace the Impact?", in collaboration with the Ministry of International Trade and Industry of Malaysia (MITI).

CEDAR's entrepreneurship programmes are both fee-based and non-fee based. In 2018, the fee-based programmes attracted 2,290 participants over 9 sessions, while the non-fee based programmes recorded a total of 5,012 participants over 34 sessions, which is overwhelming as compared to 1,583 participants over 244 sessions in 2017.

Moving forward, in the coming years starting 2019, CEDAR is committed to bring to the market a line of new and innovative programmes such as the Professional Certification in Business Coaching (PCBC) for aspiring business coaches and managers; SME Bank Business Strategic Series (SBSS) for internal clients and Financial Management and Leadership workshops (in collaboration with the Ministry of Entrepreneur Development) for business owners and those who want to enhance and upgrade their business skills. CEDAR has 17 in-house Certified Business Coaches that facilitate SME Bank's clients to take their business to the next level.

In its endeavour to become a tech-driven entrepreneur development outfit, CEDAR is also proudly introducing a business coaching and mentoring programme utilizing the world class **GrowthWheel®** method. GrowthWheel is a visual toolbox and online platform used by business advisors, incubators, and entrepreneurship educators to help businesses make decisions and take action. With CEDAR business coaching utilizing GrowthWheel, entrepreneurs will have attractive business concept, lasting customer relations, profitable operations and a strong organization which can take their business to greater heights.

Bank Rakyat – Pawnbroking Services and Credit Card-i Muslimah

Bank Rakyat was established in 1954 under the Cooperative Ordinance 1948. As an agency under the Ministry of Entrepreneur Development (MED), Bank Rakyat is mandated to promote the social and economic status of rural communities and provide opportunities for self-improvement through a wide range and innovative financial products and facilities. Bank Rakyat has transformed its conventional financial system to Syariah financial based system in 2003. To date, Bank Rakyat is the biggest cooperative bank in Malaysia with a total asset of RM106.62 billion in 2018, an increase of 1.4% from 2017.

Among financial products and services offered by Bank Rakyat, Pawn Broking-i (Ar-Rahnu X'change) has been the most successful product. The product was initially introduced in 1993 in collaboration with the Malaysian Islamic Economic Development Foundation (YaPEIM). Bank Rakyat has been well known as one of the pioneer operators of Islamic Pawn Broking and received the GIFA 2017 Market Leadership Award (Pawnbroking Services). The Pawn Financing-i aims to provide an Islamic alternative to conventional pawnbroking. The product allows the customer to access fast and easy cash without any processing fees. For the customers who are looking for the short-term loan and have gold/jewellery, pawn broking-i can be an alternative option to personal financing. Under this scheme, Bank Rakyat provides three different products which are Ar-Rahnu, Az-Zahab and Ar-Rahnu (GeNiUS) offering cash loans up to RM350,000 and the maximum loan tenure for normal Ar-Rahnu is 18 months (6+6+6) and for GeNiUS is up to 3 years. To date, there are 44 Ar-Rahnu X'Change outlets that belonged and managed by Bank Rakyat and 71 Ar-Rahnu X'Change outlets franchised to cooperatives.

Apart from this, there are about 141 of Bank Rakyat's branches that offer Ar-Rahnu business. It positions Bank Rakyat as number one in Ar-Rahnu product with around 50% market share in Malaysia as based on current *Nilai Marhun*.

Besides being a pioneer of Islamic Pawn Broking, Bank Rakyat was also the first bank in Malaysia that launched Sharī'ah-compliant Credit Card-I specifically for women. The Credit Card-I Muslimah was launched in December 2016 with the appointment of a local celebrity as the ambassador. Because of its notable initiative, in 2017 Bank Rakyat won the Mastercard Best Ladies Card Program (Islamic). The Muslimah Credit Card-i provides exclusive deals and discounts at selected merchants and Mastercard privileges.

Agrobank – Micro Financing Programs and Partnership with Key Agricultural Associations in Malaysia

Agrobank was established in 1969 as Bank Pertanian Malaysia (BPM) under the Ministry of Finance (MOF) to promote the development of agricultural sector in Malaysia through loans and advance provisions. The bank extended RM 10.7 billion of financing and advances to its clients in 2018, an increase of 12.9% from 2017. As a developmental and islamic financial institution, Agrobank has a clear mandate to chart the growth and development of Malaysia's agriculture industry by offering shariah compliant products and solutions; and to serve and provide financial access to the underserved and unserved communities including agriculture community, indigenous people and the B40 group.

Micro Financing Programs

To spur greater financial inclusion, Agrobank supports viable growth of the agriculture industry through its role as a credit and investment intermediary by offering financial solutions tailored to its target group of customers. Agrobank focuses on supporting the bottom 40% of household income group (B40) as the Bank is one of the foremost providers of affordable micro-financing products, providing financing through the AgroTERAS, Paddy-i and Micro ESP-i financing schemes, among others to those who are involved in agriculture and agro-based businesses. Financing to this segment is critical to help the community eradicate poverty and increase quality of life.

1. Paddy-I – up-lift well-being of paddy farmers. As a DFI with a focus on agricultural development, Agrobank is cognizant of ensuring financial accessibility to the unserved and underserved segment of the agricultural community. This special program aims to focus on improving the farms productivity and increasing paddy yield.

2. Agro TERAS – for B-40 entrepreneurs. Agrobank is committed to helping people gain access to skills, and supporting entrepreneurs to drive job creation. Through Agro TERAS, the Bank provides financial assistance to entrepreneurs from the bottom 40% of household income (B40) involved in agriculture and agro-based business.

3. Agro Nisaa' – for women entrepreneurs (peer model group). Agrobank launched this new financing scheme dedicated in November 2018 (extension of Agro TERAS) with the aim to improve the standard of living of women agro-preneurs especially those in B40s group.

4. Agro Bakti – for person with disabilities (PwD)
Agrobank introduced Agro Bakti in 2016, which is a customised financing programme specifically for PwD. It is envisage that with the availability of Agrobank's financial assistance, it will provide them with the opportunity to be independent and earn an income through businesses within agriculture sector. In line with the bank continuing support of PWDs and commitment to create value to the society, the bank also launched Agro Nurani takaful product which provides a range of protection benefits and coverage for PWDs in 2017. It is also the first of its kind protection scheme in Malaysia.

Strategic Partnership / Collaborations:

In carrying out our mandate, Agrobank conducts partnership programmes with strategic partners to extend financing facilities to agricultural communities.

- National Farmers' Association (NAFAS) – Chilli Fertigation Group Financing Scheme.
- Lembaga Kemajuan Pertanian Muda (MADA) – MADA Paddy-I Financing Programme.
- *Perbadanan Pembangunan Pertanian Negeri Perak* (PPPNP) – Ladang Rakyat Programme.
- Rubber Industry Smallholders Development Authority (RISDA) – Rumah Bina Negara Programme.

Bank Simpanan Nasional (BSN) was established in 1974 after enactment of Bank Simpanan Nasional Act 1974 with the objective to inculcate the habits of savings and thrift among all Malaysians, especially among small savers. Still going strong in 2019 and fulfilling its vision of "No Malaysian Left Behind", BSN continues to serve over nine million Malaysians with retail deposits amounting to RM15.07 billion through its large network of 391 branches, 729 automated teller machines and 397 cash deposit machines throughout the nation. Apart from this, BSN also reaches out to underserved and unserved communities through its agent banking (or BSN EB) network, and to micro entrepreneurs by offering micro financing facility and advisory services.

In striving to bring basic banking services to those living in rural and remote areas, the bank required an innovative solution. In 2012, BSN pioneered and spearheaded the introduction of agent banking into the Malaysian banking system with the appointment of 200 agents. These agents were mainly owners of sundry shops, laundromats and phone retailers throughout the country. The Bank then went on to collaborate with companies such as Petroliam Nasional Berhad (PETRONAS) to engage their petrol station operators as agents.

One of the key features of the BSN EB is the use of point-of-sales (POS) terminals equipped with a myKad reader, biometric thumbprint and GPRS technology at the agent's premise. Transactions are online and real-time, instead of running by batch program. For the bank, BSN EB has helped to lower its carbon footprint by reducing the number of brick-and-mortar branches, reduced the usage of forms and transaction slips and contributing to a sustainable environment. In addition, BSN had found a way to bring the bank to those living in remote areas of the country.

BSN EB has benefited customers living in rural and remote areas where it has helped saved them money and time to travel to the nearest bank branch – with BSN EB, access to banking may be just at their neighbourhood store. For customers in urban areas, BSN EB has also benefited them by providing an alternative and convenient banking channel after official banking hours. For the agents themselves, they have benefited from additional foot traffic and revenue generated from customers as well as from commissions earned.

As at May 2019, BSN EB has reached 4,526 agents. Out of a total of 886 sub-districts in Malaysia, 96.3% or 853 are now served by BSN EB. At present, six types of transactions can be performed at BSN EB, i.e. cash withdrawals, cash deposits, purchase of BSN Premium Savings Certificate, mobile prepaid reloads, cashless purchase of goods at EB premise and opening of accounts. Since its implementation, total banking transactions at BSN EB have reached 176 million or nearly RM12.0 billion in value. Additionally, more than 43,000 new accounts have been opened at BSN EB, a testimony of BSN's commitment to serve those who were previously unserved.

For these efforts, BSN has earned many accolades including a Certificate of Merit for *Best Innovation in Sustainable Financial Services* conferred by the European Organisation for Sustainable Development (EOSD) in Karlsruhe, Germany (2013), the *Malaysia Green Tech Financial Institution Award 2013 for Green Practice* awarded by the Malaysian Green Technology Corporation and the Ministry of Energy, Green Technology and Water, and winner of the *Third Asean Leadership Awards on Rural Development and Poverty Eradication - Private Sector category* (2017).

Credit Guarantee Corporation – CGC Developmental Programme and imSME Platform

Credit Guarantee Corporation (CGC) Malaysia was incorporated in 1972 by the Government of Malaysia to enhance Small and Medium Enterprises (SMEs) access to financial from financial institutions. CGC assists viable and potential SMEs without adequate collateral to obtain financing from financial institution with its guarantee scheme. As at the end of 2018, CGC has availed almost 463,000 guarantees and financings to SMEs valued over RM70 billion since its establishment.

Besides providing guarantees, CGC started to expand its roles by extending direct financing to Micro, Small & Medium Enterprises (MSMEs) clients to cater for the underserved segments such as start-ups, women entrepreneur and the bumiputera small-sized contractors. These initiatives have been recognised by reputable institutions as evidenced by the awards received for BizMula-i, BizWanita-i, and TPUB-i MRT from the Association of Development Financing Institutions in Asia and the Pacific (ADFIAP) and the City of Karlsruhe in Germany. As part of continuous improvements, CGC introduced in-house documentation and green lane processes that have resulted in greater outreach and improved customers journey.

Beyond guarantee and financing, CGC has taken a step further in establishing our CGC Developmental Programme. The Programme helps MSMEs at every stage of their growth, providing them advisory and assistance on access to financing especially those with no collaterals, right up to finding new markets for their products and services. The CGC Developmental Programme was launched in 2016 to assist MSMEs to achieve development, long term growth and sustainability. There are three (3) main pillars in this programme namely Mentoring, Market Access, and Cross Border Initiative. More than 5,400 MSMEs have benefitted from these various programmes as at the end of 2018.

In February 2018, CGC launched imSME, Malaysia's 1st Online SME Financing/Loan Referral Platform, wholly owned and managed by CGC. The platform aims to broaden MSMEs access to financing/loan products offered by the participating banks and agencies. Currently, there are 17 commercial banks, 5 Development Financial Institutions (DFIs) and 10 P2P, alternative financiers & agencies that are partnered to offer financing to the MSMEs in the platform. imSME is the perfect platform for SMEs to:

1. Access fast and real-time information on collateral free financing/loan options, anytime, anywhere 24/7;
2. Search for financing/loan by participating banks at your comfort, hassle-free; and
3. Apply for loan/financing from a single platform.

After about a year since its launch, over 700 cases amounting close to RM80 million have been approved via the platform. The platform is expected to register 10,000 SMEs in 2019 and there is still vast opportunity to grow beyond this. Through imSME platform, there will be referral program of unmatched applications to imSME Financial Advisory Team (FA Team) as means to enhance credit profile, improve financial literacy and strengthen business viability of these MSMEs. imSME FA Team works closely with 6 P2P operators, 1 Alternative financier and 4 Capacity Building Agencies. Over 2,400 MSMEs have been assisted by the FA Team over the same period with some even managed to get financing immediately after this stage.

Export-Import Bank of Malaysia (EXIM Bank) – Strategy 2025: Aspiring to be an Islamic DFI and SME Strategy

Export-Import Bank of Malaysia Berhad (EXIM Bank) is the sole government-owned DFI dedicated to invigorate Malaysian external trades and export of strategic sectors such as value-added manufactured products. Established under the purview of Ministry of Finance, the bank commenced operation in 1995 with a mission to serve the country's global businesses by providing integrated cross-border solutions of banking, trade credit insurance/takaful and advisory services to their clientele, many of whom are SME exporters. As at 2017, the bank remained steadfast and resolute in extending support to Malaysian exporters amounting to RM16.2 billion to strengthen its role of helping Malaysian exporters increase their global presence. This support contributed to 16.7% of the nation's trade balance of RM97.2 billion.

With over 23 years of experience in doing business, EXIM Bank has exposure in approximately 133 countries through the banking as well as credit insurance and takaful facilities. The financing products have features that can be customised or tailor-made to the needs of the business. In terms of providing risk cover, EXIM Bank's credit insurance and takaful allows and facilitates undertaking of new businesses in the new and non-traditional markets by providing assurance on calculated risks. The Bank's commitment in financing Malaysian global ventures is evidenced in the growth of the Bank's gross loan and financing of more than 100 per cent in 5 years from RM5.84 billion in 2013 to RM11.71 billion in 2017, with exposures across all sectors.

Going forward, EXIM Bank is embarking on the significant business realignment of organizational transformation (Strategy 2025) to expand the bank's sustainable business in reaching out to SME exporters and its aspiration of becoming a full-fledged Islamic DFI by 2025. To date, EXIM Bank has provided financing of up to RM745 million and insurance coverage of up to RM1.3 billion to SME exporters, an upsurge in value compared to the previous year. This amount far exceeded the RM1.2 billion gazetted in the 2017 Malaysian Budget, thus signifying EXIM Bank's commitment to this segment, which now makes up 80 percent of the their total clientele. The bank has continue its mission to serve SMEs in 2018 and maintain its developmental roles as the mandated DFI in supporting Malaysian exporters. In terms of its credit insurance business, the bank is re-strategizing the insurance business income in meeting a higher number.

EXIM Bank has also made significant progress with respect to their high-level strategy in building Islamic finance business to up to 45%. Among its reputable achievement include being the world's first EXIM bank to issue a USD300 million Sukuk and awarded with IFN Award for Africa Deal of the Year 2016 for the conversion of USD780 million conventional syndicated term loan to an Islamic Murabahah term financing facility. The issuance and deal are in line with the bank's initiatives to grow its Islamic finance business and would position EXIM Bank to capture opportunities in the Islamic financial markets locally as well as globally. The Bank has also put in efforts to focus on SME marketing by leveraging on cooperation with related agencies or trade associations such as, Malaysia External Trade Development Corporation (MATRADE), Malaysian Investment Development Authority (MIDA), Small and Medium Enterprise Corporation Malaysia (SMECorp) and Construction Industry Development Board Malaysia (CIDB Malaysia) in order to boost the nation's exports. In addition to that, from credit insurance perspective, a harmonised approach has been planned through joint collaboration with Export Credit Agency members as well as the commercial banks to meet their development goals. Moving forward, EXIM Bank will continue to focus on Islamic banking, prioritizing the trade and non-trade segments, which includes project financing as well as credit takaful.

Malaysian Industrial Development Finance – SME Automation Financing and Industrial Revolution 4.0

Malaysian Industrial Development Finance (MIDF) was incorporated in 30 March 1960 to promote the development of the industrialisation of Malaysia. As of today, MIDF is wholly owned by Permodalan Nasional Berhad (PNB) and becomes a financial service provider in investment banking, development finance and asset management. MIDF via its development finance has assisted 10,961 local companies with total loans approved of RM14.8 billion since its establishment in 1960 to strengthen its role in accelerating the development and modernization of the country's manu-facturing industry.

In order to help develop Malaysia businesses, MIDF provides several financing schemes for viable companies and SMEs in manufacturing and services sectors with higher margin of financing, longer repayment terms and offers profit rates as low as 2% per annum. MIDF has put an effort to focus on offering soft loan schemes such as soft loan scheme for Automation and Modernisation (SLSAM), soft loan scheme for service sector (SLSSS), soft loan scheme for service capacity development (SLSCD) and soft loan scheme for service export (SLSSE) by leveraging on the fund channelled by the Government of Malaysia for the implementation of the scheme.

SLSAM is part of Minister of International Trade and Industry initiative in modernising SMEs, on their journey towards the fourth Industrial Revolution. SLSAM may be used by SMEs to modernise and automate their manufacturing processes and minimise dependence on labour hence upgrading production capability and capacity and improving productivity. Not only in manufacturing sectors, MIDF also hope to achieve the same goals for services sector with their its SLSSE and SLSCD schemes. These two loan schemes are for local services companies being SMEs or Non-SMEs in undertaking upgrading activities to improve their services and delving into more value-added activities.

As SMEs' productivity increases and their competitiveness rises, SME may want to start expanding their business and penetrating into international markets. For these aspiring enterprises, MIDF has allocated funds in the form of SLSSE. SLSSE hopes to provide export opportunities for the growing businesses in Malaysia and further increase the profile of Malaysia as a competent service providers. This loan scheme may be used to cover overseas expenses such as to mobilize resources and overseas project preparations.

Going forward, MIDF will continue to support SMEs in gearing up for the fourth industrial revolution. MIDF has shown full commitment to this cause through the MoU agreement with Malaysian Technology Development Corporation (MTDC) where MTDC will be sharing its expertise on the development of technology, technology transfer and commercialisation and MIDF to provide funding facilities.

5

Good Practices in Targeted Sectors and Segments

INFRASTRUCTURE

This sub-section outlines some of the good practices in the infrastructure sector from various institutions globally. These practices are presented in the context of offered products and services, risk management, technological adoption, institutional initiatives, partnership, as well as environmental and social factor.

Disclaimer: good practices from conventional benchmarks serve as reference only

Products and Services

Infrastructure bond

Bonds serve as one of the best tools to finance long-term infrastructure projects. They are also an attractive investment instrument for institutional investors such as pension funds and insurance companies. **The European Investment Bank (EIB)** and **Yes Bank** are among many other banks to have issued bonds for infrastructure financing.

Blending

The blending of financing with other sources of investment which may include structured financing, guarantees, project bonds, trust funds as well as other strategies may be considered as this reduces the risks inherent in infrastructure projects. For instance, **the European Investment Bank (EIB)** offers Loan Guarantee Instrument for Trans-European Transport Network Projects (LGTT) which aims to mitigate risks arising from projects or part-projects that are of common interest which receive income from user-charges. 10% of all senior debts which may amount up to EUR 200 million per project is guaranteed under the LGTT. As the EIB becomes a creditor, any amount due and owing under the LGTT will rank junior to other debts. This significantly enhances credit quality which leads to the reduction of risk margins in senior project loans.

Leasing financing

Leasing financing is a method by which the refinancing risk of a project may be reduced. **Municipality Finance Plc Finland (MuniFin)**, which provides leasing financing for real estate financing, provided one for the T3 Hospital of the Hospital District of Southwest Finland. This project entails the transfer of operations from the current hospital building to a new one. While the new building is owned by MuniFin, as the lease period expires, the hospital has the option to either purchase or sell the building.

Advisory

Advisory services, which are a valued-added service provision, may also prove to be beneficial. For instance, **Canada Infrastructure Bank** offers a preliminary evaluation of financial structures and the bankability of potential projects in addition to the provision of financing and investment for infrastructure projects.

Infrastructure diagnostic

Means of measuring performance in delivering infrastructure projects may pave the way for necessary improvement. Towards this end, **McKinsey** has developed an infrastructure diagnostic consisting of international best practices that will empower governments and stakeholders in assessing their own performance and identifying required improvement. This diagnostic works by first establishing a baseline view of the infrastructure assets of a nation. This is followed by making a comparative analysis with other nations for a better perspective. An assessment of the performance by a nation or region in 5 key areas is then carried out. These areas are: project selection, funding and finance, streamlined delivery, use of existing assets and governance and capabilities. Finally, the findings from this diagnostic will then highlight the areas in which infrastructure projects may improve on.

Qualified Public Infrastructure Bonds (QPIBs)

In the **United States**, qualified public infrastructure bonds (QPIBs) rose as a new innovation in the public structure bonds market. They are intended to increase private sector participation in infrastructure investment. Projects may qualify for QPIBs if they are owned by state or local governments and available for public use. QPIBs enjoy an exemption from volume capitalization and an exemption from the alternative minimum tax on interest. This reduces the cost of financing and allows for the creation of a new channel of financing, comprising taxable investors, to public private partnership.

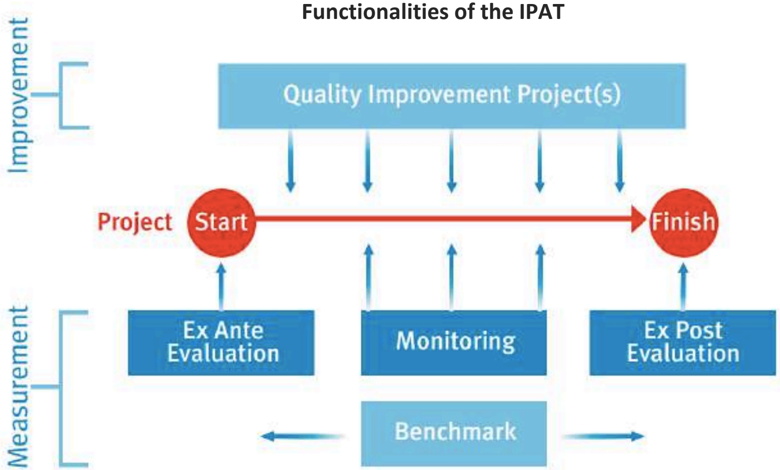
Co-investment platform

The **Global Strategic Investment Alliance (GSIA)** is another promising initiative as it acts as a global co-investment alliance. The Ontario Municipal Employees Retirement System launched GSIA in 2012 with the goal of gathering sophisticated investors, comprising mainly of pension funds, to directly invest in infrastructure assets, with an enterprise value of more than USD 2 billion, in a myriad of sectors which includes airports, railways, ports, power generation and distribution and pipelines which are mostly situated in North America and Europe.

Infrastructure Project Assessment Tool (IPAT)

Infrastructure Project Assessment is a common tool for infrastructure projects in **Europe** that can be used for ex ante and ex post evaluation of these projects as well as for monitoring and benchmarking purposes. The objectives of the IPAT are to assess 'the maturity' of large infrastructure project, provide an indication to what extent a project delivery organization is ready to enter its next project phase and to improve project organization

Functionalities of the IPAT



Adopted from: Network for the dissemination of knowledge on the management and organisation of large infrastructure projects in Europe (NETLIPSE). (2016). "10 Years of Managing Large Infrastructure Projects in Europe: Lessons Learnt and Challenges Ahead"

Risk Management

Construction Sector Transparency Initiative (CoST)

The Construction Sector Transparency Initiative (CoST) spearheads the initiative around the world to increase transparency and accountability in public infrastructure. Collaborating with governments, industry players and the society at large in the call for better disclosure, validation and interpretation of data from infrastructure projects, CoST was first implemented in eight countries namely **Ethiopia, Guatemala, Malawi, the Philippines, Tanzania, United Kingdom (UK), Vietnam, and Zambia** which dealt with more than 200 construction projects. It was discovered that CoST can assist in the reduction of corruption, mismanagement, inefficiency and overspending. The pilot study carried out in the UK, where CoST was employed to decrease infrastructure costs by £2.5bn per annum, produced examples of best practices which may act as a benchmark for other countries.

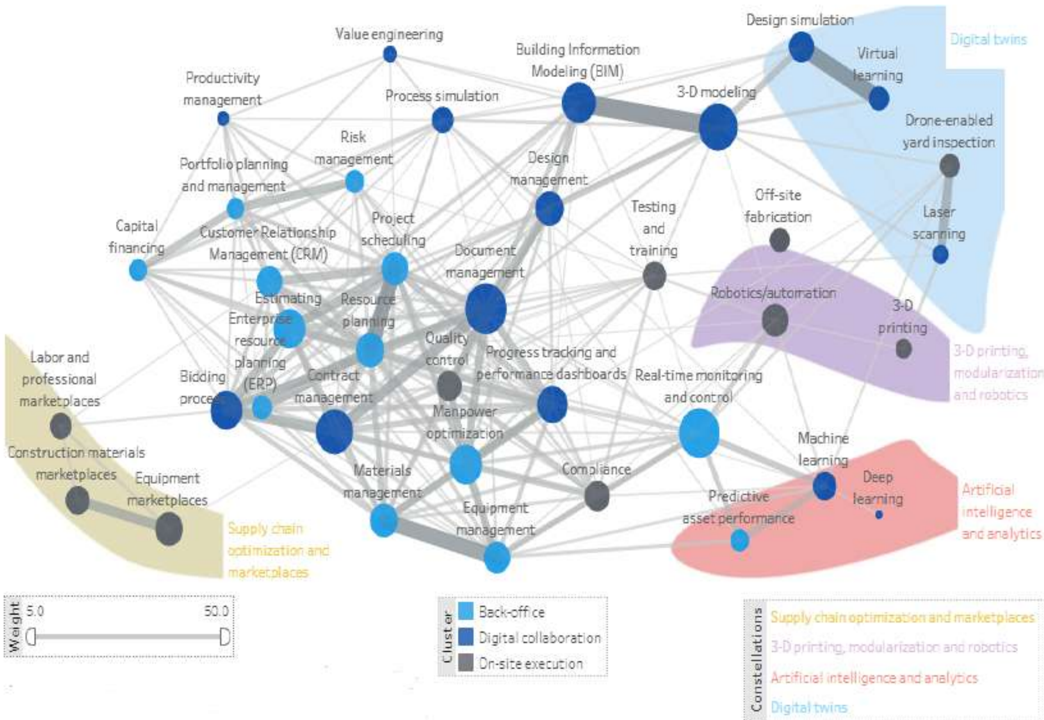
Four features of CoST

Disclosure	The purpose, scope, costs and execution of infrastructure projects is open and accessible to the public, and that it is disclosed in a timely manner.
Assurance	The teams identify key issues of concern in relation to the items listed in the CoST Infrastructure Data Standard and put technical jargon into plain language.
Multi-stakeholder working	Working with different stakeholder groups who have different perspectives and backgrounds, including government, private sector and civil society.
Social accountability	CoST Works with media and civil society to promote the findings from its assurance process so that they can then put key issues into the public domain.

Source: CoST – Bridging the Infrastructure Transparency Gap in Uganda

Mapping the construction technology ecosystem

McKinsey & Company has successfully made a map of the construction technology ecosystem which highlights solutions in the construction phase of the project life cycle. The construction technology landscape was also assessed to identify the trends of activity relating to established and emerging use cases. For instance, the digital twin technology constellation comprises drone-enabled yard inspection which represents an on-site execution use case.



Adopted from: Blanco et. al. (2018). "Seizing Opportunity in Today's Construction Technology Ecosystem" McKinsey & Company

Initiatives

Policy initiatives

The Africa Infrastructure Country Diagnostic (AICD), which proved to be a success, gathered extensive vital information on infrastructure performance, economic and technical data. Its database contains cross-country data network infrastructure for nine major sectors namely air transport, information and communication technologies, irrigation, ports, power, railways, roads, water and sanitation. All major findings were synthesized in a Flagship Report which covers the extent of the challenges faced by the African infrastructure. It also comprises detailed and substantiated estimations on spending and financing and possible positive outcomes arising from policy reforms.

Standardised contract

The **United Kingdom** and **Australia** have began the practice of having standard contracts for infrastructure projects which are tailored to a specific sector. This provides a risk-sharing mechanism which leads to the bankability of projects. As risks relating to approvals, land acquisition, foreign currency, repatriation, payment security and force majeure in construction projects are mitigated, higher efficiency is accomplished in the procurement process.

Research unit

Korea Development Bank has established a research unit which specializes in research on its service offerings to meet the challenges of the Fourth Industrial Revolution. This research unit aims to position itself as a top-notch bank-affiliated research institute.

Partnership

QII partnership	**World Bank Group and the Government of Japan** has initiated the Quality Infrastructure Investment (QII) Partnership which targets to raise awareness on the quality aspects of infrastructure in developing countries. These quality aspects include economic efficiency, safety, environmental and social sustainability, local economic and social contributions in addition to resilience against natural disasters.
Partnering with other governments	**Canada Infrastructure Bank** collaborates with federal governments, provincial, territorial, municipal and indigenous partners in structuring, financing and providing commercial capacity to promote investment in infrastructure projects.
Partnering with other organizations	**Asian Infrastructure Investment Bank** partners with The Economist Intelligence Unit and various stakeholders for collection of data and analysis of the progress in the Asian infrastructure market. This initiative aims to identify pressing issues in infrastructure development, evaluate project financing and allocate private capital for infrastructure.

Environmental and Social Factor

GRESB Infrastructure Asset Assessment

The Global Real Estate Sustainability Benchmark (GRESB) Infrastructure Asset Assessment offers an assessment of systematic reporting, objective scoring and peer benchmarking of environmental, social and governance (ESG) management and performance of infrastructure assets. This assessment consists of 7 core aspects namely management, policy and disclosure, risk and opportunities, monitoring and Environmental Management System (EMS), stakeholder engagement, performance indicators, certifications and awards. To date, **ABN AMRO** has participated in this assessment while the **Development Bank of Japan** has included this assessment as part of its Sustainability Bond Framework.

GRESB Infrastructure Asset Assessment – Indicator Summary

Aspect	Summarized Indicators	Weighting
Management	❖ Entity materiality assessment ❖ GRESB materiality assessment ❖ ESG specific objectives ❖ Individual responsible for implementing ESG objectives ❖ Senior decision maker accountable for ESG issues ❖ ESG factors in personnel performance targets ❖ ESG-related training	10.1%
Policy and Disclosure	❖ Policies on environmental issues ❖ Policies on social issues ❖ Policies on governance policies ❖ Disclosure of ESG actions and/or performance ❖ Third-party review of ESG disclosure ❖ Process for communication of ESD-related misconduct, penalties, incidents or accidents ❖ Involvement in ESG-related misconduct, penalties, incidents, or accidents	10.2%
Stakeholder Engagement	❖ Stakeholder engagement program ❖ Actions taken to implement stakeholder engagement program ❖ Process for stakeholders to communicate grievances ❖ Reporting of stakeholder grievances ❖ ESG requirements in procurement process to drive sustainable procurement ❖ Engagement with supply chain on ESG requirements	10.1%

Source: GRESB Infrastructure Asset Assessment

Aspect	Summarized Indicators	Weighting
Risk and Opportunities	❖ Environmental risk assessment ❖ Social risk assessment ❖ Governance risk assessment ❖ Actions to mitigate ESG related risks or improve ESG performance	21.3%
Monitoring and EMS	❖ Alignment and/or accreditation to ESG-related management standards ❖ Monitoring of environmental performance ❖ Monitoring of social performance ❖ Monitoring of governance performance	10.1%
Performance Indicator	❖ Reporting on measures of input, output and impact ❖ Reporting on health and safety performance; employees ❖ Reporting on health and safety performance; contractors ❖ Reporting on health and safety performance; customers ❖ Reporting on health and safety performance; communities ❖ Reporting on energy performance ❖ Reporting on greenhouse gas emissions ❖ Reporting on air pollutant emissions ❖ Reporting on water use/withdrawal ❖ Reporting on water discharge/pollution ❖ Reporting on waste generation and disposal ❖ Reporting on biodiversity and habitat ❖ Customer satisfaction survey ❖ Program to improve customer satisfaction ❖ Program to improve customer satisfaction ❖ Employee satisfaction survey ❖ Program to improve employee satisfaction ❖ Reporting on gender and diversity	35.75%
Certifications and Awards	❖ Asset-level certifications ESG-related performance ❖ Awards for ESG-related actions, performance, or achievements	2.5%

Source: GRESB Infrastructure Asset Assessment

MARITIME

This following pages outlines some of the good practices in the maritime sector from various institutions globally. These practices are presented in the context of offered products and services, risk management, technological adoption, institutional initiatives, partnership, as well as environmental and social factor.

Disclaimer: good practices from conventional benchmarks serve as reference only

Products and Services

Alternative lending of ship leasing

In China, ship leasing has become one of the fastest growing sources of shipping finance. **Bank of China**, **China EXIM** and **Industrial and Commercial Bank of China (ICBC)** are currently the top providers of this mode of financing. For instance, ICBC Financial Leasing, through its designated lessor entities, entered into an approximately USD 900 million structured lease arrangement with BP Shipping. Under the arrangement, vessels will be manufactured as per specifications by BP Shipping and chartered to it for an initial period of 10 years with lease extension flexibility. While BP Shipping will have the control over the vessels during the tenure of the lease, it will have to deliver them back to ICBC Financial Leasing once the lease expires.

Apprenticeship programs

The Associated British Ports provides an apprenticeship training programme for operators in the maritime industry. "Trailblazer", one of their programmes, trains a group of 10 employers in a new Level 3 Standard for Port Facility Operators in the United Kingdom. This Port Facility Operators Programme, with core and elective coursework, is for a period of 12 months and it focuses on the roles and settings across the industry, inclusive of cargo vs passenger vessels and industrial vs leisure/marinas. The syllabus covers health and safety training, knowledge about port operations, Mathematics and English where each component is linked to the standards of the International Marine Organization.

Risk Management

Freight derivatives

Freight derivatives are relied by market players for the purpose of risk management. Parties buy and/or sell a derivative based on their expectations of market conditions. For example, **Deutsche Verkehrs Bank** relied on derivatives for hedging purposes which are executed as over-the-counter transactions on behalf of its clients in the shipping industry.

Technology

Blockchain shipping containers

Shipping containers based on the blockchain technology holds the potential to increase efficiency and transparency in the shipping industry. Towards this end, **ABN AMRO** and **Samsung SDS** have initiated a pilot project on blockchain shipping containers. Partnering with Port of Rotterdam Authority, they are employing an overarching 'Notary' to connect two distinct blockchains to track the shipment of a container originating from Korea.

Initiatives

German Maritime Export initiative

KfW IPEX-Bank founded the GeMaX (German Maritime Export initiative) which provides a platform for sourcing maritime equipment from well-known brands and equipment-based project financing from German banks. Apart from that, participants can also be eligible for an export credit cover (governmental or private) and rely on a global network of expert advice.

Global Shared Container Platform

Blockshipping, a Danish firm, is in the midst of designing a freight container registry, the first of its kind in the world, called the Global Shared Container Platform. Its blockchain-based system will contain a full global registry of every shipping container while implementing a system for smart contract-based transactions between industry players such as carriers, ports, terminals and hauliers.

Partnership

Partnering with technology providers

TradeLens, an initiative arising from the partnership between **Maersk** and **IBM**, is working towards the digitalization of the global supply chain through the use of distributed ledger technology. Smart contracts are programmed into its documentation module to allow for smoother transactions between shippers and prevent the fraudulent tampering of documents. Maersk and IBM will manage the platform and a fee is chargeable on users of the platform.

Partnership with government

The **Government of the Bahamas**, with a backing from the **Inter-American Development Bank**, will launch its National Apprenticeship Programme which offers on-the-job (80%) plus off-the-job (20%) training for key industries for a duration of 12 months. The key industries include the maritime sector, IT / telecom-unications and medical services. Also, in support of this initiative, the private sector will establish 3 Sector Skills Councils in the afore-mentioned industries.

Environmental and Social Factor

Responsible Ship Recycling Standards (RSRS)

The RSRS was developed by **ABN AMRO**, **ING** and **NIBC** in respect of ship financing. It aims to encourage responsible ship recycling and minimize the risks inherent in hazardous materials on board of ships. Apart from these three entities, **DNB**, **Nordea**, **KfW**, **Danske Bank** and **Eksportkreditt** have incorporated RSRS as part of their loan agreements with shipping companies. The RSRS requires ship owners to prepare and maintain an inventory of hazardous material which will aid in the increased safety of the crewmembers and workers involved in recycling processes as well as the minimization of harmful environmental effects.

Green Passport

As a rule of thumb, **ING** refrains from financing of 'breaking yards' and requires that all ships carry a Green Passport which specifies all of the materials used in the construction of a ship that may be harmful to humans or the environment. This Green Passport must accompany ships throughout their working lives. Produced by a shipyard during the construction stage of a ship and handed over to the purchaser of the ship who will record any changes in the materials used for the ship. The same is to be done by all future owners of the ship with the final owner presenting it to the recycling yard when the ship is delivered.

Energy Efficiency Design Index (EEDI)

The EEDI is employed by **KfW IPEX-Bank** when assessing the energy efficiency of its merchant shipping portfolio as it provides valuable technical measurements which will lead to the promotion of the use of more energy efficient equipment and engines. It requires a minimum energy efficiency level per capacity mile (e.g. tonne mile) for different ship types and size segments.

In this sub-section, we outline some of the good practices in the agriculture sector from various institutions globally. These practices are presented in the context of offered products and services, risk management, technological adoption, partnership, environmental and social factor as well as other institutional initiatives.

AGRICULTURE

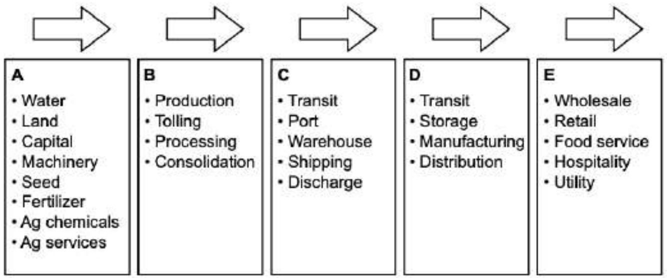
Disclaimer: good practices from conventional benchmarks serve as reference only

Products and Services

Agro value chain financing

Standard Chartered Bank in Africa utilizes an array of financial instruments to finance agricultural clients at different phases of the whole value chain produce. The facilities provide a financing solution to Agri customers starting from cultivation process up to the end buyer.

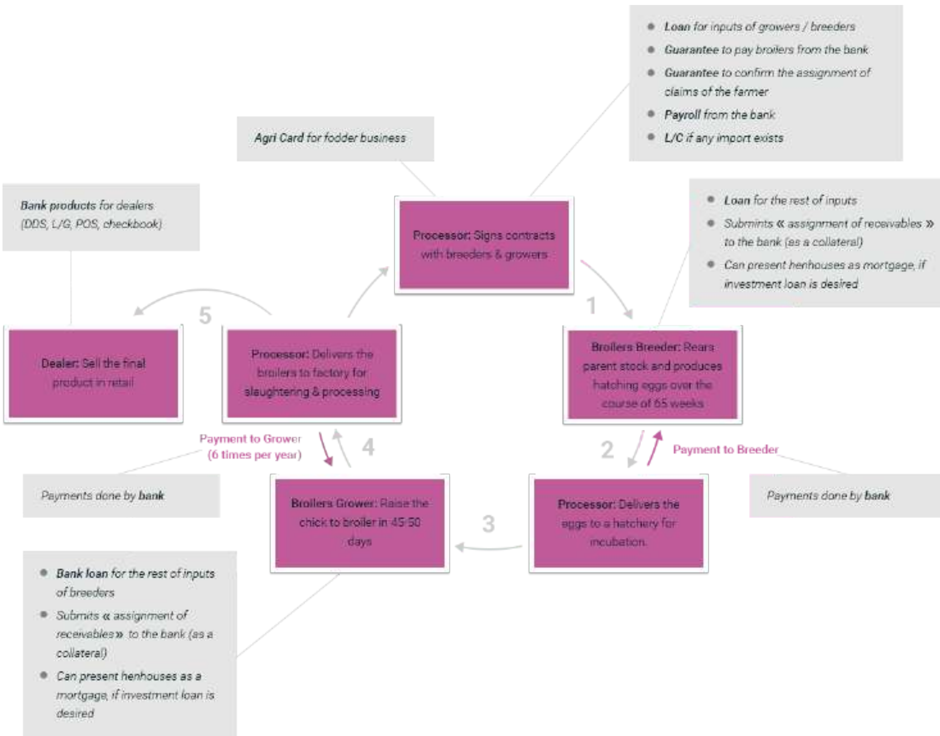
Standard Chartered Bank Value Chain Finance Instruments



A · Grain hedge, fertilizer hedge, working capital, project finance, structured finance, term debt.
B · Pre-finance, working capital.
C · SPV – special purpose vehicles, repurchase agreements, warehouse inventory.
D · Structured receivable financing.
E · Debtor finance working capital foreign exchange derivatives term debt.

Adopted from Miller, C. and Jones, L (2010) Agricultural Value Chain Finance, Practical Action Publishing, Rugby.

Cross-selling and Tailoring Products to the Agro Value Chain



Source: AgriFin VCF Bootcamp, 2014; Adopted from: AgriFin. "Determining the Product Set: Matching Products to Client Needs." Agriculture Finance, www.agrifinfacility.org/sites/agrifin/files/microsite/page5.html.

Farm trading unit

Alalay Sa Kaunlaran (ASKI) Philippines developed a trading unit which goes by the name of ASKI Multi-Purpose Cooperative (AMPC) which sells high quality farm inputs to farmer-borrowers. A farmer-borrower who requires farm tools and inputs such as pesticides and fertilizers may approach the AMPC for such tools and inputs which will be considered as a tranche release of his loan.

Credit card for input financing

The State Bank of India introduced the Kisan Credit Card Scheme as a means for credit delivery to fulfill the working capital needs of farmers. The credit card may be used by farmers to purchase inputs from a wide selection of registered agrobusinesses from all over the country.

Purchase assurance

Panasonic Manufacturing Philippines Corporation (PMPC) provides lending to the agricultural sector while also owning a rice mill and a warehouse unit called farmer-level grain center (FLGC). THE FLGC purchases the rice produced by farmer-borrowers. The outstanding amount from the loans provided to the farmer-borrowers is deducted in full from the sale proceeds of the rice crop while any excess proceeds are transferred back to the farmer-borrowers in cash. This practice results in the 100% repayment of their loans.

Insurance for agricultural activities

India has developed an insurance scheme tailored to the need of farmers namely the Weather Based Crop Insurance Scheme (WBCIS). It insures against adverse weather conditions during a cultivation period that may negatively affect harvest yield. For example, the rainfall insurance provides payouts for losses relating to crop arising from insufficient rainfall.

During the Agricultural Finance Conference 2015 in **Africa**, it was recommended for agrobanks to consider providing consumption loans to small farmers particularly during the time for harvest as crop prices are at their lowest. It was suggested that these loans may assist smallholders in preventing forced sales.

Financing during the time of harvest

ECOBANK and **United Overseas Bank (UOB)** offered loans to farmers in Rwanda through the East African Exchange (EAX) Electronic Warehouse Receipt. A warehouse receipt documents the ownership of commodities stored in a warehouse. Once a cooperative has signed on as a member of the EAX, the banks will disburse funds up to 70% of the value of the grains deposited at EAX-certified warehouses.

Warehouse receipt

ASKI provides a plethora of other financial and non-financial services that act as an incentive for farmer-borrowers to keep good accounts with ASKI. Among the services offered are funeral benefits, microenterprises loans, housing loans, education tuition loans, farmer school, medical missions and scholarships.

Comprehensive products and services

Risk Management

Autonomy of village bank system

Bank Rakyat Indonesia allows for an arrangement where village banks under its purview are given the freedom to decide on the contractual terms of their loans as the ones negotiated with the management. Moreover, it may be noted that the processing time for loans is within a week and even lesser for repeat borrowers.

Selection through farmer associations

PMPC Philippines conducts searches for potential clients by relying on referrals from Local Government Units, informal leaders and village-level farmer associations.

Collection of data on farmers

Yoma Bank gathers data on farmers, through surveys done by agri-equipment dealers' field sales agents, to develop a credit scorecard. This scorecard is intended to improve the management of its hire-purchase financing of agricultural equipment. The survey gathers 60 pieces of data comprising both qualitative and quantitative information such as demographic, use of certified inputs, access to irrigation and post-harvest storage capacity, estimated crop and livestock income.

Releases loan in tranches

PMPC releases their loans gradually based on the actual needs of farmers as outlined in approved farm plans and budgets. For instance, the loan for rice production is released in four tranches as follows: (1) for land preparation, released in the monetary form; (2) for farm inputs; (3) for care and maintenance, and (4) for harvesting expenses of the farmers with up to 70% of the value of their commodities.

Collection from the sale points of produce

Bank for Agriculture and Agricultural Cooperatives (BAAC) Thailand assigns their field officers to collect loan repayment from the sale points of produce. Through this, it keeps track of the cash flows and utilization of loans by its borrower.

Conduct actual farm visit

ASKI carries out farm visits to assess the size and condition of farms, their irrigation system, their suitability with the proposed crops and the true ownership of these farms. These site visits are done by loan officers who possess basic agricultural knowledge.

System to predict the farm production

The Centenary Bank of Uganda relies on the Agricultural Lending Analysis Systems (ALAS) for an analysis of projected farm production from disbursed loans which assists the bank in determining the amount of money that customer is able to pay considering the customer's project constraints.

Comprehensive scorecard

Harvesting Inc., an AgriFin company, develops its credit risk management system scorecard that leverages on clients' historical data alongside with geospatial, Mobile-Network Operator (MNO) and value chain data for a fast, easy and accurate risk scoring to assess a farmer's creditworthiness.

Digital credit scoring

Strengthening Agricultural Finance in Rural Areas (SAFIRA) and Grow Asia made a recommendation for **a balanced scoring model** where elements of credit history, transaction records, agronomic survey data and lifestyle-related demographics are included. The model may be further developed by the use of alternative data sources if they are readily available at a reasonable cost.

Data Set Ranking Table	Relevance	Availability	Cost to Lender	Reliability	Predictive Power
Credit History	HIGH	LOW	LOW	HIGH	HIGH
Transaction Records	HIGH	HIGH	LOW	HIGH	HIGH
Agronomic Surveys	HIGH	HIGH	LOW	AVERAGE	AVERAGE
Demographics	AVERAGE	HIGH	LOW	AVERAGE	AVERAGE
Mobile Phone/Wallet	AVERAGE	AVERAGE/LOW	AVERAGE/HIGH	HIGH	HIGH
Psychometrics	AVERAGE/LOW	HIGH	HIGH	LOW	AVERAGE
Social Media	LOW	AVERAGE/LOW	HIGH	LOW	LOW
Satellite	HIGH	AVERAGE/LOW	AVERAGE/HIGH	AVERAGE	LOW

Source: Caire, Dean (2018). "Digital Credit Scoring in Agriculture: Best Practices of Assessing Credit Risks in Value Chains". Sponsored by SAFIRA & Grow Asia

Technology

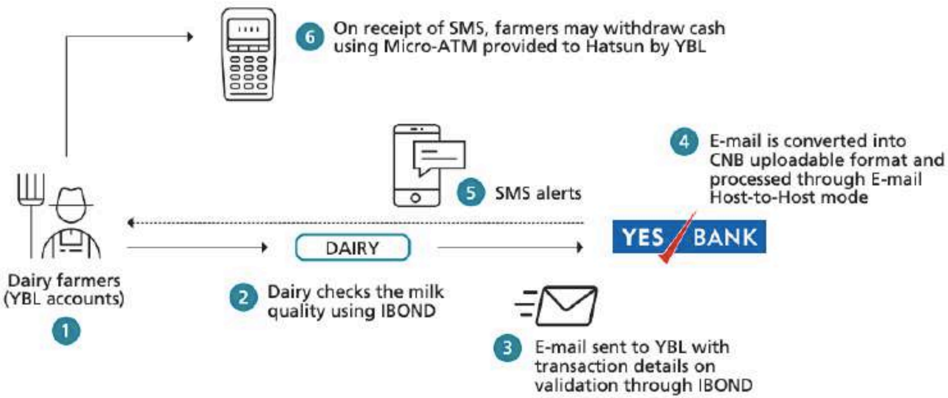
Fast electronic payment method

Yes Bank implemented Yes Kisan Dairy Plus which paves the way for immediate payments to farmers at the moment of milk collection and the digitization of the mode of payment. This shortened the time period between the delivery of milk and the receipt of payments by farmers. For this to work, milk banks need to maintain sufficient cash for two days a week to facilitate payment to the farmers.

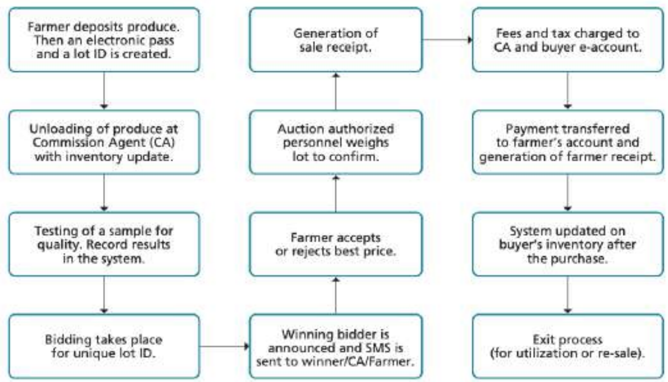
Electronic tender system

The **Karnataka E-Mandi System** is implemented to ensure competitive pricing for farmers' produce, increase transparency in the bidding process and shortening the time required for finalizing tender documents. This system is expected to reduce collusion among traders, facilitate quick payment settlement, reduce market fee evasion and enable the delivery of several agricultural financial services.

YES Kisan Dairy Plus Process Flow



The Electronic Tender System in Karnataka State



Note: YBL – Yes Bank Limited; IBOND – System that transmit the results of milk analysis to a remote server; CNB – file extension name associated with Pegasus Mail
Adopted from FAO. 2017. Innovative risk management strategies in rural and agriculture finance – The Asian experience, by Emilio Hernández (ed.), Rome, Italy

One app for paddy management

The Golden Paddy Platform by **Impact Terra** offers farmers in Myanmar access to the most recent and practical information on farming practices, weather, pest and market pricing. It also provides them access to suppliers, buyers and financial service providers. Data collection on crops under production, farmer demographic, contact details, and patterns of using the mobile app is also carried out by Impact Terra.

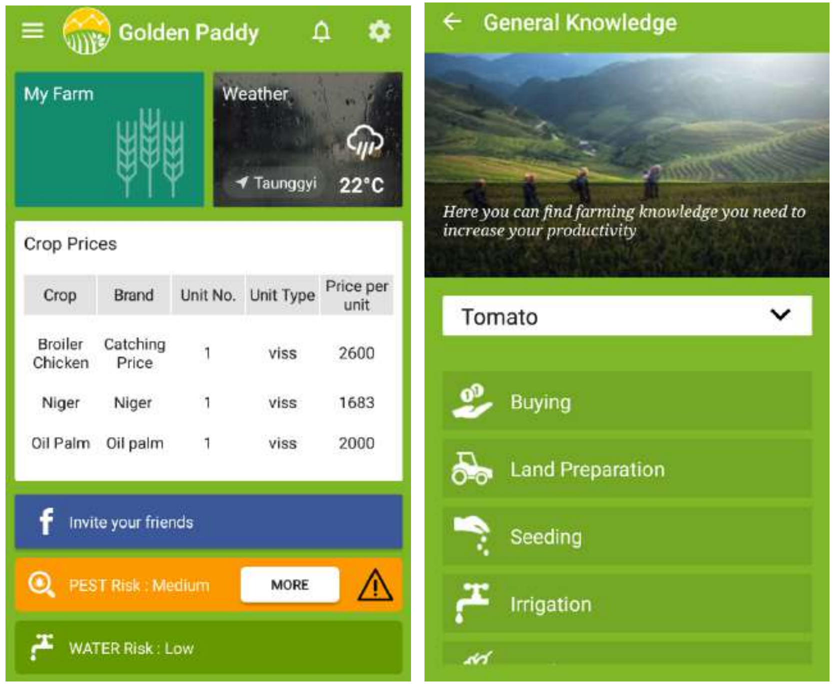
Platform for traceability

Farmforce leverages on mobile technology to ensure that traceability and compliance become part of smallholder production and to redefine the relationship between growers, manufacturers and markets.

Drone technology

Banco Hipotecario utilizes drones to capture geo-referenced drone imagery and data to improve clients' agricultural practices as these assist in determining the suitability of farm lands for certain crops or farm lands with higher yields.

Golden Paddy App Features

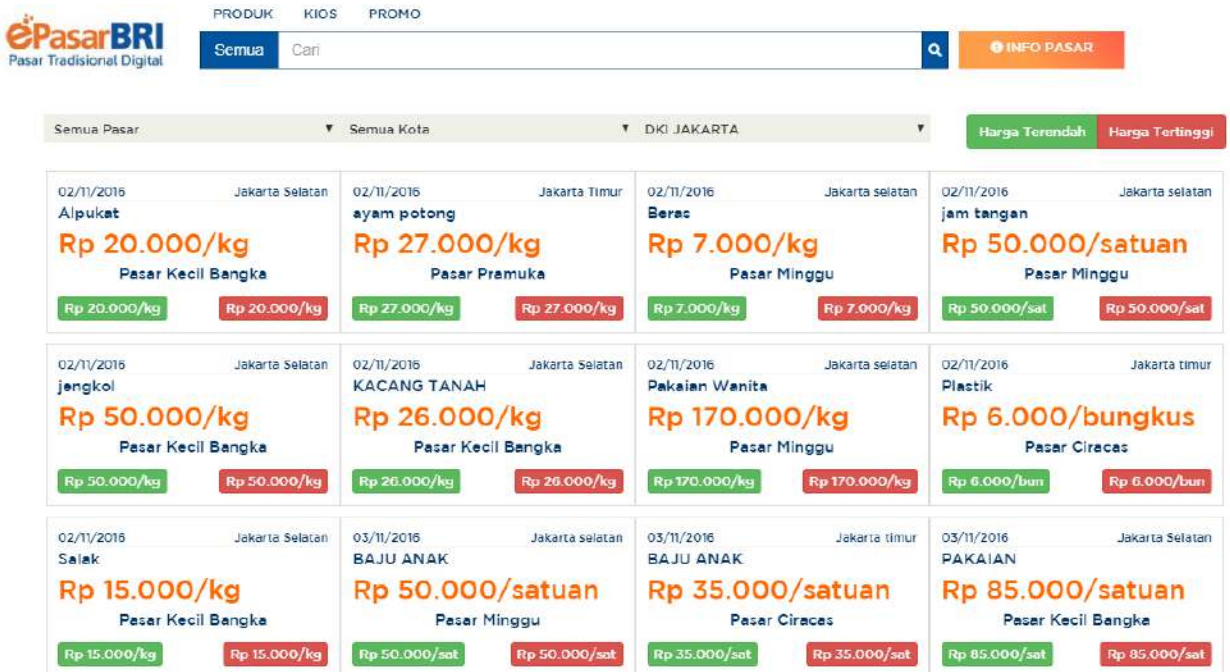


Source: Impact Terra. "Golden Paddy." Impact Terra, www.impactterra.com/golden-paddy

Platform for commodity supply chain

Geotraceablity, a "software as a service" company, was established to help integrate independent small-holder farmers into the global commodity supply chain. Its digitalized solutions include data collection tools, traceability systems and online data hosting services that enable agrobusinesses to collect, process, visualize and analyze data in a cost-effective way.

E-Pasar BRI Platform



Source: Koperasi Swakarya BRI. "Pasar BRI." e-Pasar BRI, e-pasar.bri.co.id/.

E-commerce for wet market

E-Pasar by **Koperasi Swakarya BRI** is a digital platform that provides updated information on commodity prices and available stock in traditional wet markets, a place for retailers to sell their products and interact directly with prospective buyers and a way for end buyers to acquire information on suppliers in a more efficient manner.

Partnership

Tripartite arrangement

The Centenary Bank of Uganda developed a tripartite arrangement between purchasers, farmers and the bank whereby the purchasers of agricultural produce will make payments to the farmers through the bank. These payments will go automatically towards the repayment of loans given to the farmers.

Partnership with irrigation authorities

ASKI coordinates its loan disbursement with irrigation authorities such as the National Irrigation Authority where the release of the financing amount coincides with water release from the irrigation systems. This ensures that water is available to the farmers for their land preparation and planting and that the loan is not misused for non-related purposes.

Partnership with agri supply stores

PMPC entered into a partnership with Agri-Vet Supply Stores to enable farmers to easily source for high quality farm tools and inputs. All it takes is a trip to a PMPC branch office to obtain a purchase order form, fill it in and visit the nearest accredited Agri-Vet Supply Store to claim the required tools and inputs. Payment will be made directly by PMPC to the Agri-Vet Supply Stores where this payment represents a tranche release of the loans given to farmers.

Partnership with tender system stakeholder

ICICI Bank has entered into a partnership with an electronic tender system, E-Mandi. In addition to existing service points offered by the Bank such as rural ATMs, agents and mobile points of service, E-Mandi provides service actors at the market yards which allows farmers the option to immediately withdraw cash deposited into their account by buyers.

Environmental and Social Factor

Sustainable Certification

The Development Bank of Singapore (DBS) extends loan requirement for its agricultural clients to obtain sustainable certification such as the Roundtable on Sustainable Palm Oil certification for the palm oil sector.

Technology for impact measurement and prediction

In **Paraguay**, banks initiated a pilot project for the use of Global Forest Watch Pro, a tool based on algorithms that rely on satellite imagery for early detection of deforestation and fires.

Integrate sustainability in product offering

The **Banking Environment Initiative (BEI)** has led to the global banking industry integrating sustain-ability standards into Letters of Credit to help clients buyers of agricultural commodities sourcing from sustainable agricultural supply chain.

Initiatives

Research and Development

It was suggested at the **Agricultural Finance Conference 2015** that a mapping of the whole country should be done to pinpoint areas best suited to specific agricultural activities. Through this, banks may be able to ascertain the most profitable agricultural activities to lend to.

Knowledge and awareness campaign

Bank for Agriculture and Agricultural Cooperatives (BAAC) Thailand launched a radio show called "BAAC - Friends of Farmers" which is broadcasted weekly. Lasting for half an hour, this show is intended for small farmers and it is packed with information on agriculture and the activities and projects of BAAC.

Digitization of land records

India has shown support for the digitization of land records for easier access by all and as a means for better governance. In a few states, it is now possible for land owners to obtain digitized ownership documents through facilitation centers. This has favored the collateralization of loans, land rental, leasing and sales.

RENEWABLE ENERGY AND ENERGY EFFICIENCY

This sub-section outlines some of the good practices in the renewable energy (RE) and energy efficiency (EE) sector from various institutions globally. These practices are presented in the context of offered products and services, risk management, partnership, as well as environmental and social factor.

Disclaimer: good practices from conventional benchmarks serve as reference only

Products and Services

Linked deposit loans

In the United States (US), **the state government of Ohio** partners with banks for the Deposit Linked Loan Programme where the state government will purchase a certificate of deposit (CD) at these banks with a reduced interest rate to be paid for the CD and the banks will offer below-market-rate loans to priority sector including RE and EE projects, particularly for EE installment at residential housing.

Property Assessed Clean Energy (PACE)

A **PACE loan** seeks to finance energy-efficient upgrades or the installation of renewable energy sources for private residential, commercial and industrial properties. It creates a voluntary special tax or special assessment district that funds the cost of energy improvements for commercial and industrial property owners that move to the district. The property owner will pay the district back over time through an assessment on their property taxes and the savings on the owner's utility bills will go towards the payment of the project cost. The assessment is secured by a property lien that takes priority over the mortgage and other loans if there is a foreclosure. A unique feature of PACE is that the assessment stays with the property in the event of a sale, if the buyer agrees to this transfer, and the benefits of the upgrades and the corresponding payments can be transferred to the buyer as the new owner.

Bundle mortgage loan with RE and EE financing

KfW Germany channel EE loans through commercial banks by combining home mortgage loans with solar home systems loans. This is to ease solar financing with the added advantage of allowing banks to benefit from mortgage securitization. A similar practice exists in the US where the EE mortagages combines the cost of EE and renewable energy improvements into a single primary mortgage during the purchase or refinance of residential real estate.

Blended finance

The International Finance Corporation (IFC) has introduced a blending of concessional funds with commercial funding which may reduce early-entrant costs or mitigate project risks. This re-balances the risk-reward profiles for pioneering investments. Blended financing has largely been focused on climate change where the private sector players face greater risks associated with new and yet-to-be-proven technologies or first-of-their-kind projects.

Consultancy service and payment based result

European Bank for Reconstruction and Development (EBRD) offers direct loan under the Western Balkans Sustainable Energy Direct Financing Facility (WeBSEDFF) whereby the borrowers can also benefit from technical consultancy services by their Project Consultants and receive incentive payments based on the estimated reduction of carbon dioxide emissions resulting from their project implementation.

On-Bill Repayment (OBR)

OBR is the best choice for programmes that target tenants. Property owners have little incentive to pay for energy improvements if their tenants reap the savings and on the other hand, tenants have little incentive to invest in improvements to a building they do not own. The practice has always been for property owners to acquire a loan for energy improvements and pay it back over time via their utility bills. However, OBR combines the savings and loan payments in the same bill and this eliminates the split-incentives issue. OBR is also attractive for borrowers with low credit scoring as the credit decision is based on utility payment history. Additionally, the ability to disconnect power in the event of non-payment presents a novel way of mitigating non-payment risks as it serves as a powerful incentive to pay and a strong form of security.

Risk Management

Loan Loss Reserve

The Connecticut Green Bank launched its Smart-E Loan Programme which offers unique residential energy efficiency and renewable energy financing products with corresponding loan loss reserve levels. Every time a lender underwrites an eligible loan under this programme, the Connecticut Green Bank reserves a percentage of the loan principal in the range of between 7.5% to 15% for the lender in the event of a default. However, lenders may only access this reserve fund after assuming the “first loss” of around 1.5% on its portfolio.

Weather insurance or derivatives

The United Nations Environment Programme recommended the use of weather insurance or derivatives as a hedging instrument for renewable energy projects as risks are transferred from project owners/sponsors to insurance policy providers and the capital markets. Contracts and traded or OTC derivatives include weather-linked financing (e.g. temperature, wind, and precipitation).

Partnership

Partnering with other organizations

Collaboration with stakeholders such as homeowner associations, conservation organizations, engineering firms, state agencies and others with expertise in RE and EE is of great importance in connecting with potential borrowers.

Partnership in legal and regulatory

The European Bank for Reconstruction and Development (EBRD) is partnering with the National Electric Energy Regulatory Commission of Ukraine to evaluate the existing legislative and regulatory framework that applies to RE so that recommendations for improvements may be made to spur the development of RE.

Partnership guarantee scheme

KfW Germany, in partnership with the **European Union (EU)** and **African Union (AU)**, offers a guarantee scheme for geo-thermal projects in East Africa and Latin America. KfW Germany will assume up to 80% of all risks in such projects while either the EU or AU will assume the balance.

Environmental and Social Factor

Green Credit Ratings

Asian Development Bank Institute suggested a credit assessment framework comprising green credit ratings as this will internalize the implicit benefits of clean energy projects. The green credit rating incorporates environmental indicators in its credit risk scoring which will consider the externalities arising from the project such as reduction of CO_2 by green energy project.

Shadow Carbon Pricing (SCP)

EBRD utilizes SCP methodology in its credit assessment, forming a part of its cost-effectiveness analysis for energy project by European Investment Bank (EIB). SCP aims to make environmental costs included in the broad economic analysis of whether to invest in a project related to highly powered and heavy industry plants by identifying the price of pollution with greater transparency. EBRD follows recommendations by the High-Level Commission on Carbon Prices when it comes to setting the "shadow price"; it recommends that carbon is to be priced at US$ 40-80 in 2020 which will increase over time and reach US$ 50-100 by 2030.

The following pages outline some of the good practices in the trading and manufacturing sector from various institutions globally. These practices are presented in the context of offered products and services, risk management, technological adoption, partnership, environmental and social factor as well as other institutional initiatives.

TRADING AND MANUFACTURING

Disclaimer: good practices from conventional benchmarks serve as reference only

Products and Services

Invoice finance

Santander Invoice Finance provides a scheme where its manufacturing customers may benefit from having an instant access to an ongoing supply of capital by linking their financing with their sales. This is to provide liquidity to manufacturing firms that normally would have their cash tied up in unpaid invoices which put pressure on their working capital.

Future flow securitization

Afrexim Bank allows for the future flow securitization whereby debt offerings will rely upon repayment from receivables such as credit card cheque receivables, royalties arising from bilateral air services agreements as well as overflight fees which are not generated from the export of physical goods.

Export credit insurance

Exim America offers an array of export credit insurance products to insure the receivables of the businesses foreign accounts against non-payment by foreign buyers. These insurance products include single buyer insurance, multi buyer insurance, letter of credit, medium term export credit insurance and financial institution buyer credit export insurance.

Supply chain

Mizuho Bank provides a supply chain financing facility which optimizes cash flow for both importers and exporters by allowing the period for payments to be extended while providing a discount for early payment.

Initiatives

Graduate Interns

Santander Bank does networking with manufacturers across all sectors and through this, it assists its manufacturer clients by connecting them to partly funded graduate interns from leading UK universities with whom the bank shares a partnership with.

Export Development Programme

Afrexim Bank introduced the Export Development Programme which integrates credit, risk bearing, twinning, market access and advisory services geared towards the creation of non-commodity export products for sale to a broad range of export markets. This is to facilitate non-commodity export production, particularly export manufacturing and foster the implementation of regional projects including tradable infrastructure services.

Risk Management

Machine learning

Commerzbank will implement the machine learning technology from Amsterdam-based firm, Conpend, to automate pre-compliance checks for traditionally paper-based trade financing transactions. This technology will provide a so called "first line of defence" by relying on optical character recognition and progressive machine learning to extract data from physical documents, recognize patterns and flag deviations.

Partnership

Trade financing automation

The Bank of Tokyo-Mitsubishi is collaborating with iAPPS, a leading FinTech company, to help improve its trade financing offerings, facilitation of cross-border funding and money transfers as well as revolutionize the traditional supply chains in the manufacturing and retail industries.

Technology

Digital network

Seven banks, inclusive of **HSBC and Banco Santander**, have signed a Memorandum of Understanding to create a global digital network of trade finance which aims for better access to more convenient and cost-effective funding for its members. By linking corporates, suppliers and banks through a standardized digital platform, the network aims to lower the costs. This network will allow small and midsized companies to submit and verify purchase orders and invoices for the purpose of applying for trade financing from the banks of their choice.

Environmental and Social Factor

Green finance

Barclays and UK Export Finance is working towards introducing green finance for sustainable trade. In furtherance of this, they assist exporters in obtaining the financing required for them to sell their green products and services overseas through the Barclays Green Trade Loans.

SMALL AND MEDIUM ENTERPRISE (SME)

The sub-section outlines some of the good practices in the small and medium enterprise (SME) sector from various institutions globally. These practices are presented in the context of offered products and services, technological adoption, outreach of institutions, environmental and social factor, client assessment, and other initiatives.

Disclaimer: good practices from conventional benchmarks serve as reference only

Products and Services

Dual-channel approach

Hunters Approach to manage the sales function

Perform functions to fulfil sales like bringing in new businesses.

Farmers Approach to manage relationships with clients

Focus on **cross-selling** and client supports.

Rely on innovative products to overcome the problem of costly relationship management such as relying on low cost delivery channels (e.g. call centre) or multi-channel networking.

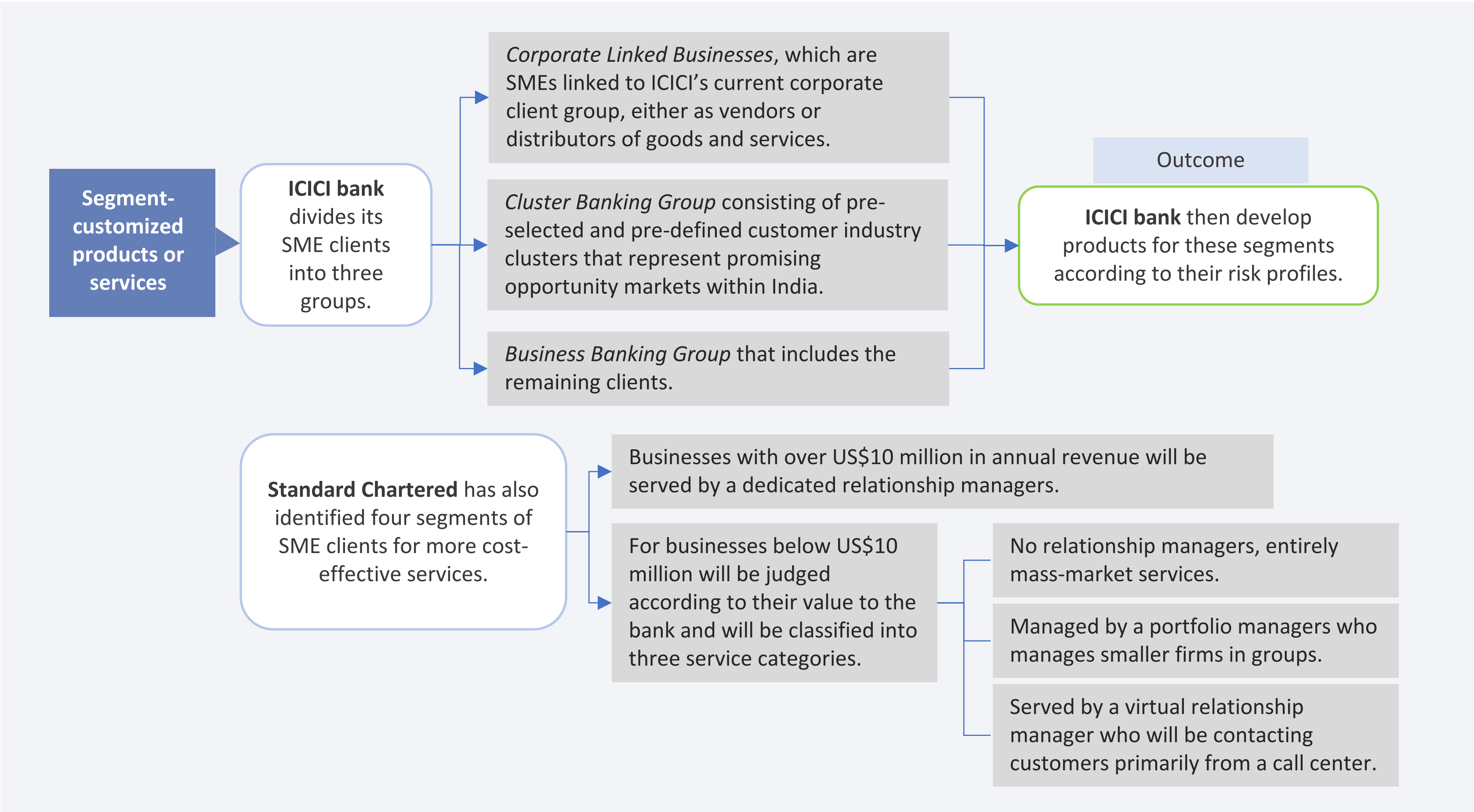
Cross-selling

Credits are used by banks only to attract and retain potential customers but major of banks' profit is driven by other value-added products such as core banking products e.g. deposit and account management products.

A study done by IFC shows that less than 40% of banks' revenues are generated by credit products.

"Beyond-lending" approach

ICICI Bank has a similar approach where they try to fulfil SMEs' demand for products beyond financing such as cash management and advisory services.


Segment-customized products or services
ICICI bank divides its SME clients into three groups.
Corporate Linked Businesses, which are SMEs linked to ICICI's current corporate client group, either as vendors or distributors of goods and services.
Cluster Banking Group consisting of pre-selected and pre-defined customer industry clusters that represent promising opportunity markets within India.
Business Banking Group that includes the remaining clients.
Outcome
ICICI bank then develop products for these segments according to their risk profiles.
Standard Chartered has also identified four segments of SME clients for more cost-effective services.
Businesses with over US$10 million in annual revenue will be served by a dedicated relationship managers.
For businesses below US$10 million will be judged according to their value to the bank and will be classified into three service categories.
No relationship managers, entirely mass-market services.
Managed by a portfolio managers who manages smaller firms in groups.
Served by a virtual relationship manager who will be contacting customers primarily from a call center.

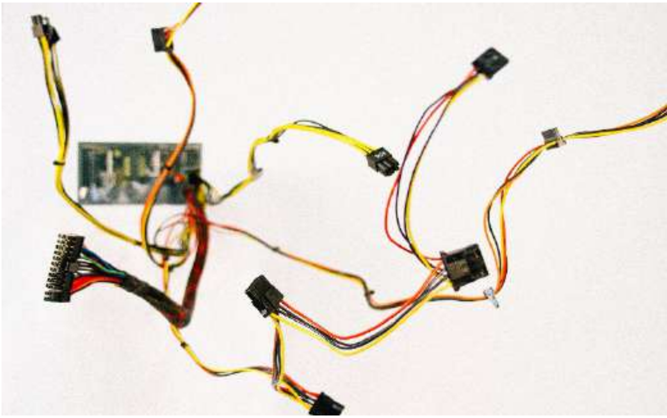
Technology

AI and ML algorithms

SmartCoin is an app-based instant loan platform for the SMEs. The startup based in Bengaluru assesses the risk profiles of potential clients in real time by using data science, artificial intelligence (AI), and machine learning (ML) algorithms. Its proprietary credit underwriting engine will aggregate thousands of data points on clients' mobile phones, including their financial transactions, device usage, app behavior, and more to build a customized credit score. A customer will be offered customized loan products based on their risk capacity predicted from the data, and the loan amount will be transferred to the clients digitally. Overall, a cashless process.

Data and Analytics

OnDECK's Score provide significant clarity and predictability to assess the creditworthiness of small businesses thus enabling OnDECK to serve more customers. With each credit application, each loan and each payment received, more data is gathered, thus improving the decision-making process. OnDeck also use proprietary data and analytics engine to pre-valuate clients and market to those clients who are qualified to take a loan and have a better chance of getting approved. Whenever necessary, OnDeck may also utilize a dual approach which utilizes the online platform together with judgmental underwriting to make better financial decision.



End-to-End Integrated Technology Platform

OnDECK built a platform incorporating all the needs to cater to the financing of SMEs. The platform covers every aspect of a client's lifecycle, starting from the client onboarding, sales, scoring and underwriting, financing, and servicing and collections. The platform is also enhanced by robust fraud protection with multiple layers of security and proprietary application programming interfaces. Therefore, it enables excellent customer experience with great flexibility to withstand attacks and stability to handle peaks.

Outreach

Appointing customers as agents

Bank Rakyat Indonesia (BRI) partner with their customers, as BRILink agents, under a fee-sharing concept, to provide banking transactions to the public on a real-time online basis using the mini ATM device and the BRILink digital web application; opening access to previously unbanked segment of the society. As of late December 2018, BRI has 401,550 BRILink agents across Indonesia, a sharp hike from 279,750 agents in late December 2017. The growth of agents significantly impacts the amount of transactions and transaction volume of BRILink agents.

Diversified distribution channels

OnDECK's diversified distribution channel

- Direct marketing
  - Direct mail.
  - Outbound calling.
  - Social media.
  - Online marketing.
- Strategic partnerships
  - Small business-focused service providers.
  - Payment processors.
  - Other financial institutions.
- Funding advisors
  - Includes businesses that provide loan brokerage services.

Environmental and Social Factor

Energy efficiency and renewable energy	**Korea Development Bank** launched **'Special On-lending for Eco-friendly Companies'** to provide financing to SMEs in businesses for energy efficiency and renewable energy facilities e.g. Energy Service Companies (ESCOs) and energy users.
Gender inclusiveness	At **Standard Chartered**, there is a growing offering of custom-made products for women, including loans tailored and marketed for female figures among the high potential entrepreneurs. At its Bangladeshi local branch, Standard Chartered has received recognition for developing a credit product called "Orjon" specifically for female heads of SMEs.
Responsible Business Loans	**OnDECK's** progressive technology and platform is able to offer socially-optimum priced short-term capital with the right amount to SMEs to help them grow, avoiding opportunity costs of long searches and the cost commitments of long-term financing. This is according to the SMEs' business performance and ability to repay and at an appropriate amount for their intended use.
Restricted activities	**OnDECK** does not engage in transactions involving the following : i) Pornography; ii) Drugs; iii) Dispensaries; iv)Weaponry Vendors; v) Politically motivated activities; vi) Astrology / Fortune Telling; vii) Gambling; viii) Money Services Business (MSB); ix) Religion motivated activities; x) Boarding Houses; xi) Auctions/ Used goods dealers.

Client Assessment

				Outcome
Two-pronged process	**SMEcorner's** two level approval process	*First level, Technology:* Automatic screening which is fast and cost effective.	*Second level, Human valuation*: Sales team's one-on-one meeting ensures a clear judgement and understanding of our customers.	The loan approval turnaround time has been brought down to an average of three days as against traditional banks that take in excess of two weeks.

Diagnostic toolkit

IFC's SME banking CHECK methodology. CHECK consists of a diagnostic toolkit which is used to assess SME banking operations of IFC's clients before designing a tailored action plan and technical assistance program to strengthen operations.

360-degree credit risk evaluation

ICICI bank: Credit score cards based on industry, linkages, or market segments are developed and approved by the central risk department to facilitate the client approval process at the branch level. ICICI Bank combines this numbers-based credit scoring process with analysis of SME value propositions, and the human touch of relationship manager site visits and personal references, to develop a multi-faceted credit risk approval process. Combining standardized credit metrics and relationship-based techniques means that ICICI Bank can offer products and services to SMEs that would normally fall through the cracks of traditional methods (such as requiring audited financial statements) while still maintaining profitability.

Alternative data

Kabbage turns alternative qualitative data into quantitative data. To determine the financial performance of a business, real-time business information is reviewed through data sources like business checking accounts, accounting platforms, payment processors and other online marketplaces.

Types of data

Social media data: When a potential customer creates an account with Kabbage to apply for a small business loan, they have the option to connect one or all of their business' social media accounts to their Kabbage account. In a 2013 interview, co-founder Gorlin explained that they've "learned that if someone has added Facebook or Twitter data" to their Kabbage account "they are 20% less likely to be delinquent."

Sales records and employee history, as well as how often the company uses 2-day shipping for its products as it implies how much emphasis the SMEs put on customer satisfaction.

Initiatives

Production Chain Program

NAFIN, a development bank owned by the Mexican government launched The Production Chains Program in 2001. It works like a normal reverse factoring scheme where SMEs can borrow at a more attractive by transferring the credit risk to usually higher quality parties (e.g. buyers through SMEs' receivables or vice versa). This is coordinated and can be tracked through an electronic platform. NAFIN offered the service through two types of programs.

- **Factoring without recourse**: Maximum rate of 4% above the interbank rate.
- **Contract financing**: Funds up to 50% of confirmed contract orders from large buyers at a fixed rate.

Potential Outcome

SMEs can build up their credit history through the platform mechanism where SME suppliers are grouped in chains to large buyers, thus allowing business relationships to strengthen.

Purchase Order Finance (POF)

In 2005, **USAID**-funded Rural Competitiveness Activity (ARCo) identified Purchase Order Finance as one of the solutions to tackling the local cocoa producers' problem of limited access to finance in Yungas and Chapare regions of Bolivia. USAID partnered with a private financial fund, FIE to execute POF pilot project with conditions such as FIE to give small subsidies and technical assistance in training NAFIN's staffs.

Loan Comparison Tool

Description

Lenders express pricing in different ways, which may sometimes be difficult to compare loans. To push for pricing transparency, **OnDECK, Kabbage and CAN Capital** led a multi-lender initiative to establish the Innovative Lending Platform Association (ILPA). The ILPA launched a first-of-its-kind capital comparison tool called the **S**traightforward **M**etrics **A**round **R**ate and **T**otal Cost — or the **"SMART Box."** The SMART Box is a disclosure form that provides a comprehensive, standardized breakdown of a client's cost of capital.

SMARTBOX™

Capital Comparison Tool

Versions of disclosure

- Term loans
- Lines of credit
- Merchant cash advances

Features

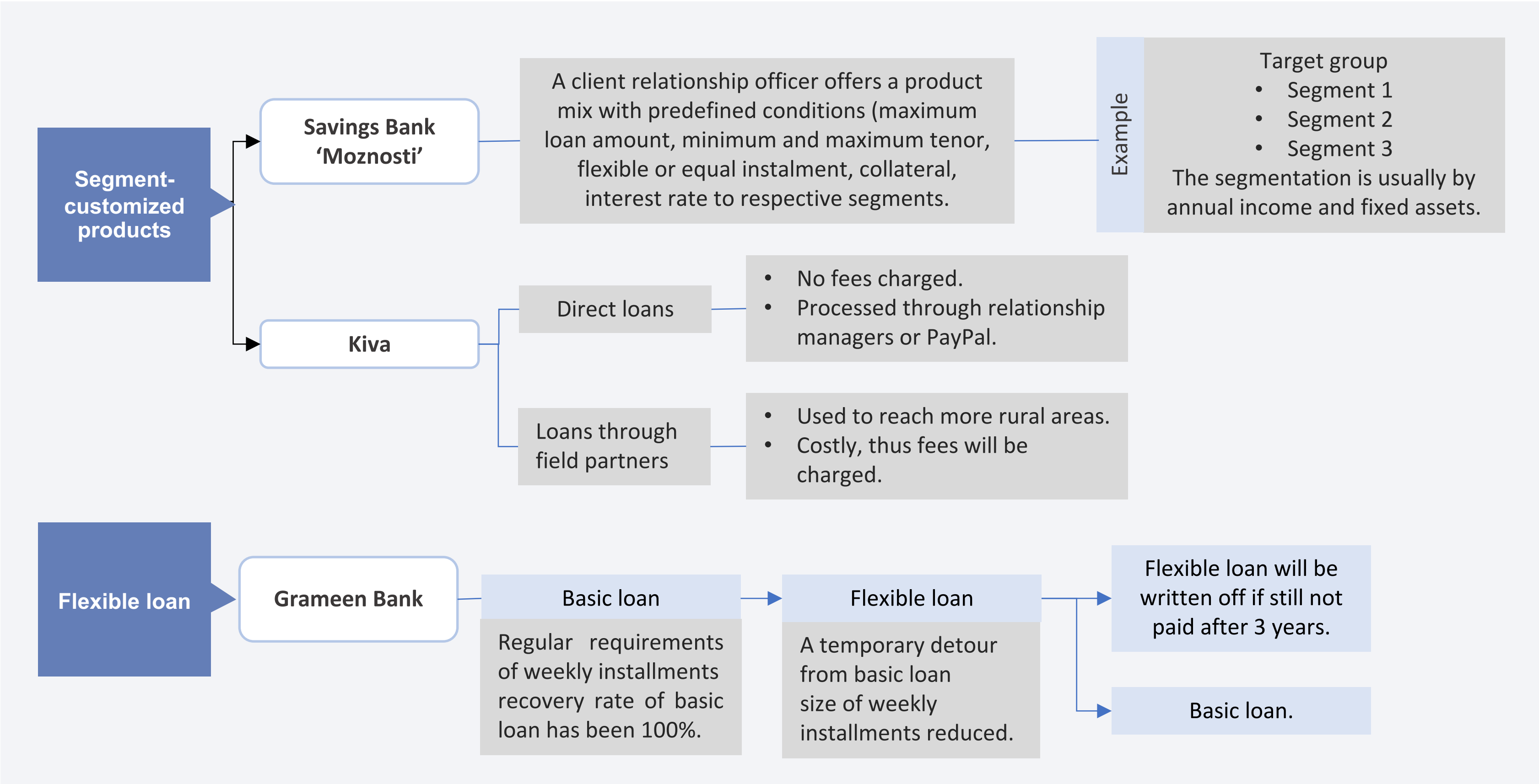
- *Basic elements of the finance option* under consideration, including: the amount financed, the funds disbursed, the total repayment amount, the expected term, and the frequency of payback.
- *Common pricing metrics,* including TCC, APR (estimated for merchant cash advances), the average monthly payback, and the cents on the dollar cost of the financing option.

MICRO ENTERPRISE

Here, we outline some of the good global practices in the micro-enterprise sector. These practices are presented in the context of offered products and services, risk management, technological adoption, partnership, outreach of institutions, environmental and social factor, credit assessment, empowerment of clients and other initiatives. In addition, we present the Indonesian BMT model as a case study to empower clients.

Disclaimer: good practices from conventional benchmarks serve as reference only

Products and Services



Loan against chit funds

CredRight offers credit against chit fund up to 70% to members who are in need of funds but whose turn hasn't arrived yet. CredRight will reach out to these potential clients by partnership with chit fund groups and tapping into its data source. The credit will get repaid whenever the client eventually wins the pooled chit prize.

Relationship-based lending

Kreativ Finanz Mecklenburg GmbH

First interview

- Meeting with clients who passed a loan application screening.
- Kreativ Finanz screens the applicant's financial capacity.
- Kreativ Finanz proposes him or her an adapted loan product in terms of guarantees, loan term and amount.
- Kreativ Finanz clearly explains its own expectations regarding the loan preconditions and repayment procedure.

Second meeting

- Kreativ Finanz observe the business premise and local environment.

Client withdraws

Client accepts Kreativ Finanz's conditions and expectations.

Creates mutual trust and interest

Risk Management

Joint liability group

MicroLoan UK lends only to a group of women, rather than individual women, as a form of check and balance. In cases where one member has not yet settled her periodic payment, the rest of the members will not receive their next cycle of funds. This service has managed to achieved a repayment rate of 99%.

Providing insurance

Grameen: In the unexpected death of a client, the loans will be paid off from an insurance fund generated through interests of the client's saving account.

Combination of wide range of evaluation techniques

CEEI Burgos

Description	Results
• Risk evaluation techniques include risk ratio, structural operational analysis, credit officer assessment and negative credit record. • The methodology has been tested and fine-tuned on the specific features of rural entrepreneurs by taking the characteristics of the local context into consideration. • Manage risk without asking for collateral.	• Implemented since 2013 and is still ongoing. • Maintains high quality portfolio with 98.30% of survival rate of the projects funded.

In late 2013, **Opportunity Bank Serbia (OBS)** created a tablet technology that could provide near instant loan pre-approval when visiting clients in desolated areas for loan amounting up to 3,000 EUR. They developed a credit scoring app within the tablet that would be connected with the Bank's Management Information System (MIS). The data entered into the tablet is automatically fed into OBS Core System, thus effectively reducing the time taken to process the loan. Additionally, the bank's travel related expenses would be saved since faster approval means less days taken to travel.

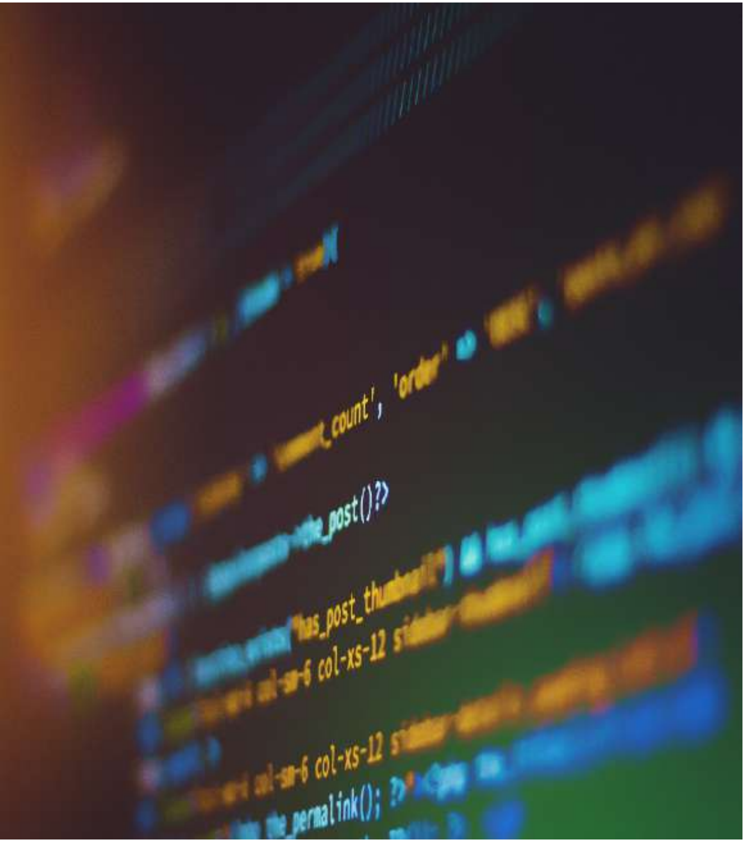
Paperless loan approval process

The base level operations of **ASA** went complete electronic using tablets starting April 2018. Daily installment collection has been collected using the tabs equipped with AMMS Mobile App. The tabs also store information which would synch automatically with ASA's Microfinance Management System (AMMS).

Fejér Enterprise Agency: CREDINFO® is system which allows clients to apply for loans online. After applying, the system will go on with the loan assessment. Clients can also get help by entering certain codes on screen. Through this online application, clients in rural areas do not need to travel into the towns to apply for financing.

Swadhaar FinServe is piloting a digital field application (DFA)– a handheld technology such as tablets or mobile phones that will allow relationship officers to key in client's information (including business data and photos of collateral) during the door-to-door assessment. This information can then be accessed by staff or sent electronically for processing, synched into the system, ready for analysis, and approval, eliminating for paper-based manual process. The application will reduce turnaround time and increase efficiencies. It will also build a dataset of clients' information – allowing Swadhaar to capture clients' risk profile better.

Digital Information Capture



Loan management system

ASA Microfinance Management System (AMMS) is a coordinated in-house developed software. It works on full automation, records daily activities electronically and helps to solve management needs with varying reports. It is a solution to meet the institution’s operations with multilevel MIS (Management Information System) and FIS (Financial Information System) reports. It supports micro-credit program parameters tailored to suit different products, interest rates, amortization, maturities among other conditions. It also helps to coordinate between branches and central unit users and helps them to strategize their future capital needs and plan accordingly.

Interest-based online loan management system: **Fejér Enterprise Agency** CREDINFO® system was developed, allowing rural clients to submit a loan application online. After completing the online steps, the final version of the application is generated and recorded in the system with the push of a button. After this step, the client has no more work to do. The process continues with the online assessment management system, which enables the evaluation of loan applications. As a result, rural clients do not need to go to the loan offices located in big towns. They can submit their loan applications online. In addition, the client can receive help online. By entering a code appearing on the loan application screen, the online helpdesk can have access to the screen on which the client is currently working and solve the client’s problems immediately. This technology can also provide significant help when writing the business plan, which can be a great advantage for rural clients.

Partnership

For technological advancement

Socremo Mozambique partners with a global non-profit financial inclusion pioneer, **Accion** to develop and integrate a new digital strategy that will help the business grow, launch new products, lower costs, and optimize services throughout the country.

Leveraging on outside expertise

Swadhaar and **Ratnakar Bank Limited (RBL)** partner together. Swadhaar is non-bank lacking the credit history data, but has the market information and knowledge in financial inclusion services, while RBL Bank is the opposite. RBL sees Swadhaar as a vehicle for becoming the market leader in the space of inclusive finance, especially catering to the underserved households and small businesses. In the future, RBL will also be looking to leverage Swadhaar's growing branch.

e-Commerce platform

Land Bank and the Department of Science and Technology (DOST) of Philippines sign the Memorandum of Understanding for the oneSTore.ph Project, which is an e-commerce web application that provides a marketing platform for DOST-assisted micro, small, and medium enterprises (MSMEs) around the Philippines under its Small Enterprise Upgrading Program (SETUP). It offers customers an effortless shopping experience and gives retailers simple and direct access to the largest customer base in the country. Under the agreement, Land Bank serves as the payment solution system of the oneSTore.ph project through its ePayment Portal (ePP) which provides a secure and convenient payment platform while facilitating operational and cost efficiencies for seller-MSMEs. Prior to the establishment of oneSTore, the country did not have an e-commerce platform that caters exclusively to quality Filipino products.

Outreach

Door-to-door sales

Swadhaar FinServe: Relationship managers spend most of their time going to meet potential clients, door by door, with the goal of 12-15 MSME clients per day.

'Umbrella' marketing campaigns

Swadhaar FinServe: Relationship managers set up a branded parasol in an area with a high concentration of MSMEs to market their products and services, pass out flyers and address questions. The sales team is rigorously trained to handle questions smartly and professionally.

Mobile vans to explore new areas

ADIE, a European microfinance,: The mobile van is used to explore areas where Adie branches are not yet available. Aside from that, the van also works as a knowledge stop for curious entrepreneurs. The stopping points are usually located where people live and work, such as squares in front of city halls or market places. staffs' knowledge of a market's starting time, position drawing, rental costs, and selling price allowed Adie employee to easily connect people there and their marketplace manager. These connections were leveraged to meet market traders and build prospective relationships.

Bank on wheels

Telenor: Provides a van that can reach desolated location, disburses and collects money.

Environmental and Social Factor

Social impact measurement

Impact measurements are important to investigate the effectiveness of developmental financial institutions in bringing about development. **Five Talents,** a church-based non profit organization, use a number of key indicators:

i. Churches equipped
ii. Entrepreneurs trained
iii. Business developed
iv. Community banks established
v. Leaders empowered
vi. Saving groups formed
vii. Total beneficiaries

QCredit's Social Economic Performance Indicator gives more insight into:

i. How the income of clients is improving (standard of living).
ii. Which groups of people are reached.
iii. How many jobs are created (job creation); and
iv. The growth of the social network (social connectivity).

Qcredit regards networking and connection as factors to a leader's or entrepreneur's success.

Initiatives

Community groups

EKI Microcredit Foundation introduced EKI business club where any current EKI client can become a member. Members of EKI Business Club have access to regular information on changes taking place at EKI and the option to receive advice from experts in agriculture and small business. These services are free of charge for clients and clients only need to pay a registration fee.

Five Talents and its local partners organize micro-entrepreneurs into groups to encourage accountability and sharing of knowledge among them. These groups become hubs for a whole range of community activities such as literacy training, peace and team-building, accounting and marketing workshops, and healthcare opportunities. Five Talents believe that their clients should learn and grow in a supportive community and build a network for growth. The organization stressed on social capitals such as goodwill, trust, friendship, respect, emotional support, cooperation, power, influence, shared ideas and more.

Credit Assessment

Discussion-based assessment

Swadhaar FinServe

Also known as "Trade Reference Checks', this customized discussion assesses the client's business aptitude and understanding such as on financial stability, turnover, past credit history, and willingness and use sales and margin estimation techniques as substitutes for income and sales documentation to reveal business cash flows and capacity to repay. The uptake rate is high as it is more efficient since less time is spent on collecting verifying documents manually.

Does not require formal documentation (sales tax receipts, bank statements, or income tax returns).

But relationship managers will use a variety of ways to establish credit history such as credit bureau, bank statements, and reference checks.

+

Gather information from a variety of sources.

Detailed discussion with the client to understand their business.

Background checks with suppliers, customers and neighbours.

Alignment with the bank's policies and risk appetite

Psychometric Scoring

Microbank conducted a pilot project on psychometric scoring in 2016 which is still ongoing. The psychometric methodology was developed in collaboration with Entrepreneurial Finance Lab (EFL), a U.S. based FinTech company. The project aimed to reach thin-file and underserved clients in Spain using a psychometrics grading methodology, whilst maintaining financial sustainability. The Psychometric scoring methodology enables Microback to capture clients with no credit history, no track record with the bank, or who may have failed to meet their previous obligation. The management of Microbank find that the psychometric scoring methodology to be an effective tool in improving their loan approval process, which in turn reduces operational costs. In practice, the process that takes place is as follows:

Client takes an interactive credit assessment, which factors in their behaviour and attitude, on their devices.

Traits are summarized into a 3-digit score which classifies the client based on two criteria: ability to pay back the loan as well as willingness to pay back the loan.

Results in initial statistical test shows discriminatory power measured by ROC ratio in range of 70-80% compared to a 30-40% ROC using traditional assessment with the same "thin-file" client.

Technological Assessment

Mikrofin in Bosnia and Herzegovina has implemented a digitalized credit assessment system in 2015 which is still continued now. It is used as credit scoring for business and personal financing below EUR 1,500 for active, low-income customers. The system is attached with a number of "filters/information" that capture the customer features such as credit risk, collateral, capacity and character. Each of the traits have determined the individual values which will be translated into a credit score. Some of the credit risk parameters considered by Microfin include sources of income, credit history, loan cycle, borrowing capacity, and loan type.

Benefits:

Client

- Easier and faster loan approval process.
- View their score and check whether they qualify for the loan.
- Eliminate waiting time for additional approval.
- Reduce additional cost and inconveniences of traveling to physical bank.

Institution

- Increase loan officer output.
- Lower transaction cost.

Empowerment

High-impact films

Ujjivan Financial Service Limited

Sankalp (The Resolution) Film Description

- Films to inculcate awareness on ghost-lending and over borrowing.
- The storyline is developed by experts based on real life case studies.
- The two-part story begins with a happy family and ends with a single mother trying to fend for the family and pays off a huge debt.

Financial literacy programs

The DIksha (Aim and Purpose) Program Description

- Comprised of five modules.
- Includes training kits which have been developed by Parinaam Foundation.
- In-depth hands-on training to teach participants to use calculators in developing numerical skills, to understand household cashflow by keeping a financial diary, and to gauge the pros and cons and different types of debts.
- Include pictorial stories, homework assignment and role play activities.
- The programs were further fine-tuned after receiving feedback and going through focus group discussions.

Unitus Labs certify this to be by far the most effective financial literacy toolkit for low income populations within India.

Case Study: The Indonesian BMT Model

Why BMT?

The *Baitul Maal wa Tamwi*l (BMT) model provides Islamic social microfinance and has proven to be a feasible and sustainable model to assist MSMEs.

Roles financial cooperatives can benefit from BMT model

As a diversified source of finance for MSMEs

- Can plug the SME financing gap with large amounts of assets.
- Can be localized and directly engaged in the development of MSMEs.
- More natural to adopt value-based intermediation.

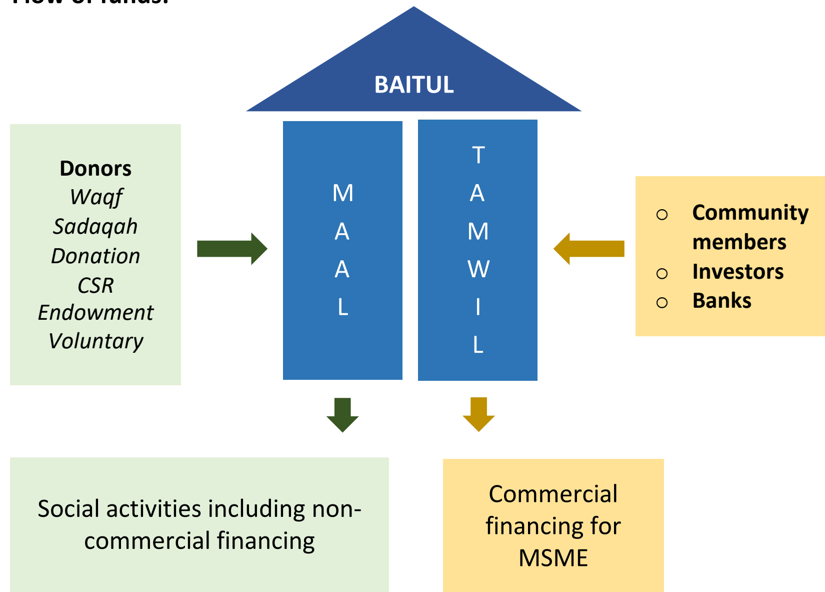
As an agent of socioeconomic change via MSMEs

- Better mobilization of financial resources and human capital into high value-added sectors in the local economy.
- Advocates financial inclusion and alleviation of poverty.
- Better integration between the financial sector and the real sector; can contribute towards greater adoption of risk-sharing.

BMT and its Business Model

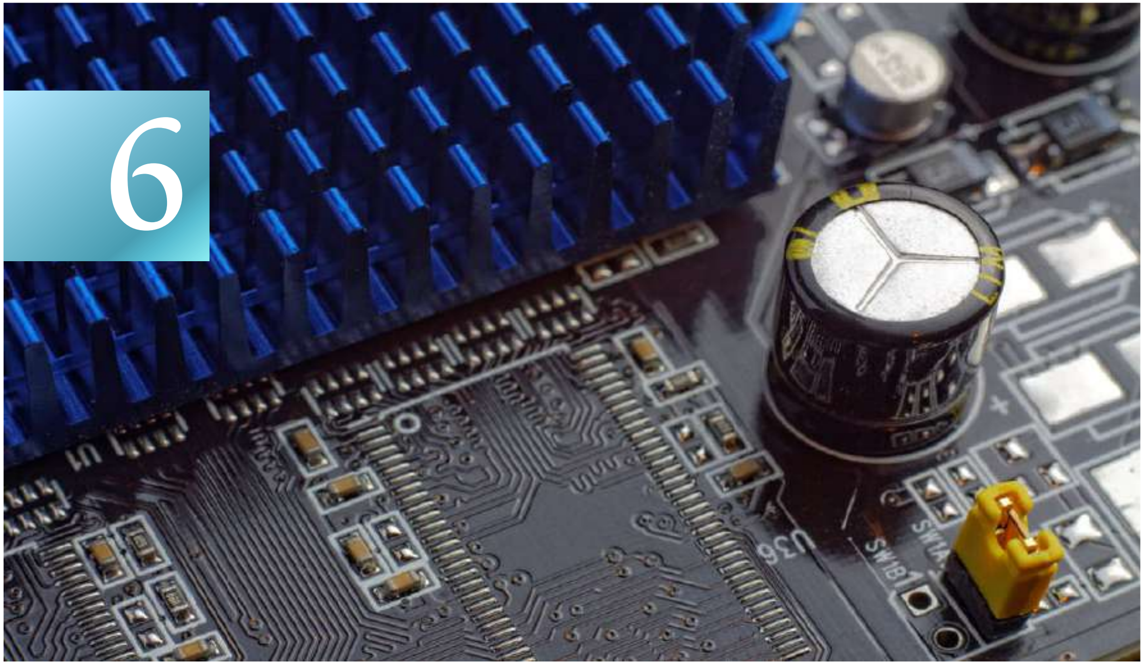
- A community-based and established, owned and governed by members of the institution and regarded as an independent unit.
- Every member shares equal obligations.
- BMT performs two functions: business function (*baitul tamwil*) and social function (*baitul maal).*

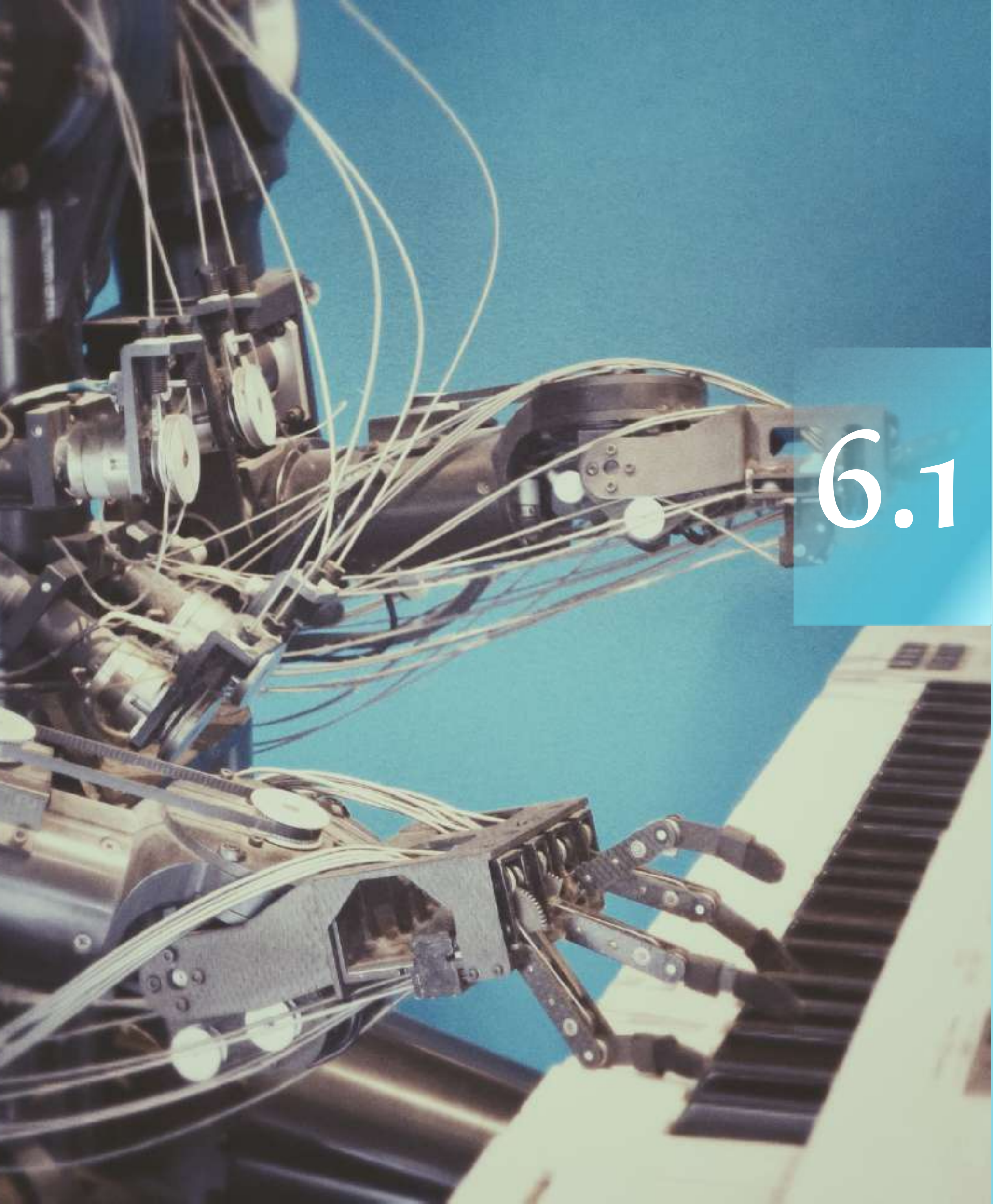
Flow of funds:



6

Technology for DFIs





6.1

Harnessing **Cutting-Edge Technology** for Development

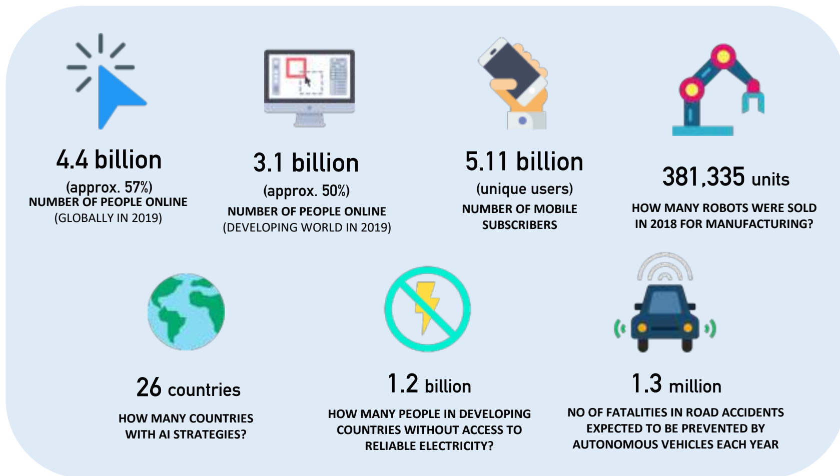
6.1 Harnessing Cutting-edge Technology for Development

The next wave of industrial revolution has witnessed digital technology rapidly changing in various fields, carving the way for DFIs to increase their development impact by leveraging on existing and new technology. Due to the lack of innovative product development for specific markets coupled with limited ability to manage risk arising from high risk sectors, there is a need for DFIs to reach a consensus on how best to capitalize the technological disruptions posed by thinking outside the usual development toolbox and reflect on the broad opportunities available to create sophisticated solutions to such barriers. The idea of being at the technological frontier is particularly compelling for DFIs to re-engineer their business models in order to remain sustainable in the long run, making progress in demonstrating the necessity for serving undeserved segments, developing new products and increasing productivity.

> "New technologies offer enormous possibilities to advance the SDGs and improve the lives of the marginalized. Technological change affects all aspects of social and political life. Through social protections and investments in education, people can feel that they have the possibility to be a part of this change and benefit from it. DFIs and development corporations have a key role to play in facilitating this."

Peter Eriksson, Swedish Minister for International Development Cooperation, at the Washington, D.C. Development Finance roundtable held in April 2019.

Factsheet on Technology in the World



Source: Daniel F. Runde, Romina Bandura and Sundar R. Ramanujam. (2019). "The Role of Development Finance Institutions in Enabling the Technology Revolution". Center for Strategic & International Studies. CSIS Briefs.

Developing a Sustainable Digital Growth Strategies for DFIs

1 Harnessing the power of big-data and analytics

The need to explore big data analytics for sustainable development purposes involves the collection, processing, analysis and dissemination of unprecedented amount of data from electronic devices, social media, search engines and sensors tracking devices that are designed for the purposes of policy effectiveness, monitoring and progress evaluation.

DFIs should further complement statistics from traditional sources whilst embracing new sources of data to better capture the data vulnerabilities coming from novel sources.

In order to fully-utilize existing data, DFIs can explore synergies and collaboration opportunities with other development partners to have a more nuanced understanding on their scalability.

Big data and the SDGs: How data science and analytics can contribute to sustainable development

SDG 1	Spending patterns on mobile phone services can provide proxy indicators of income levels
SDG 2	Crowd sourcing or tracking of food prices listed online can help monitor food security in near real-time
SDG 3	Mapping the movement of mobile phone users can help predict the spread of infectious diseases
SDG 4	Citizen reporting can reveal reasons for student drop- out rates
SDG 5	Analysis of financial transactions can reveal the different spending patterns on men and women
SDG 6	Sensors connected to water pumps can track access to clean water
SDG 7	Smart metering allows utility companies to increase or restrict the flow of electricity to reduce waste
SDG 8	Patterns in global postal traffic can provide indicators such as economic growth, trade and GDP
SDG 9	Data from GPS devices can be used for traffic control and to improve public transport
SDG 10	Speech-to-text analytics on radio content can show bias concerns and support policy response
SDG 11	Satellite remote sensing can track encroachment on public land or spaces such as parks and forests
SDG 12	E-commerce transactions can reveal the pace of transition to energy efficient products
SDG 13	Combining satellite imagery, crowd-sourced witness and open data can help track deforestation
SDG 14	Maritime vessel tracking data can reveal illegal, unregulated and unreported fishing activities
SDG 15	Social media monitoring can support disaster management with real-time info on victim whereabouts
SDG 16	Sentiment analysis of social media can reveal public opinion on effective governance or human rights
SDG 17	Partnerships to enable the combining of statistics, mobile and internet data can provide a better and real time understanding of today's hyper-connected world

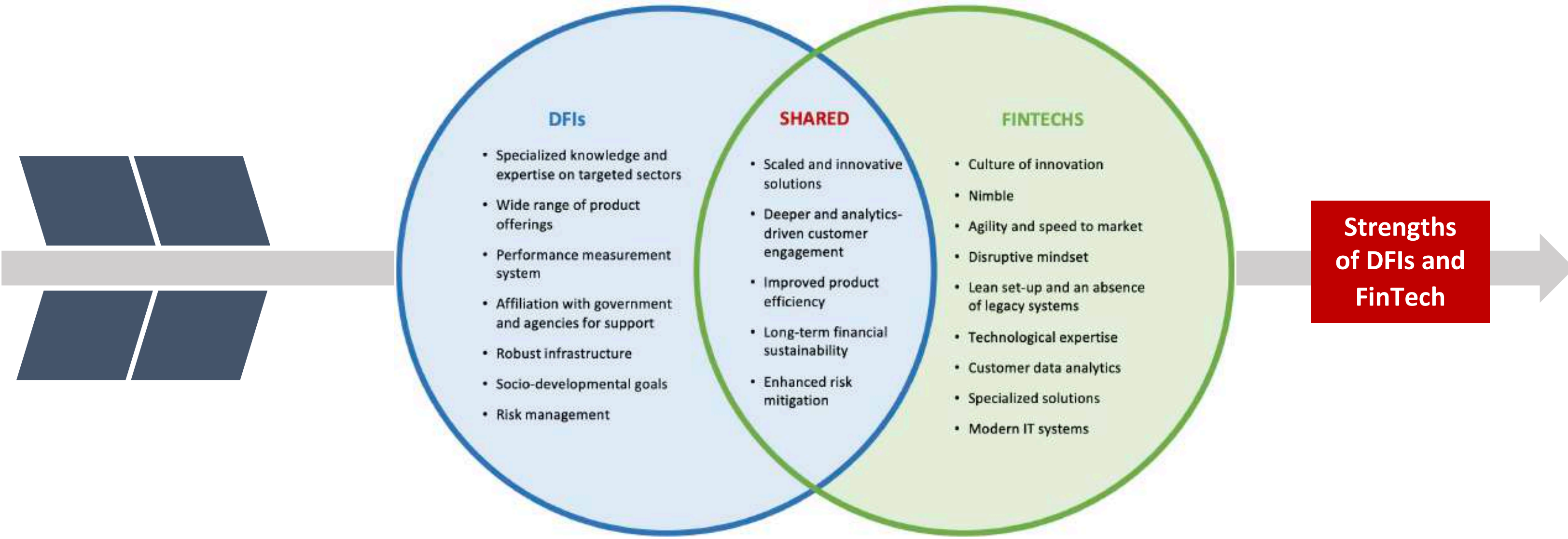
Source: United Nations, Inter-agency Task Force on Financing for Development, Financing for Sustainable Development Report 2019 (New York: United Nations, 2019).

Developing a Sustainable Digital Growth Strategies for DFIs

2 Forging partnership with tech-firms to develop digital solutions at lower cost and with greater convenience

The collaborative consortium between banks and FinTech firms will help improve banking by means of learning from new technology and 'know-how' transfer through developing research labs to foster innovation in low-risk, low-cost way.

A mutual beneficial partnership can assist DFIs to grow beyond its core into relevant ecosystem, learning new ways to leverage data, bolster their national competitiveness in promoting identified strategic sectors and opening up new opportunities to tap into new markets with more product offerings for undeserved customer segments.



Adopted from: Sonja Kelly, Dennis Ferenzy and Allyse McGrath. (2017). "How Financial Institutions and FinTechs are Partnering for Inclusion: Lessons from the Frontlines" Center for Financial Inclusion at Accion and the Institute of International Finance.

Developing a Sustainable Digital Growth Strategies for DFIs

3 Utilizing Information and Communication Technology for Development (ICTD)

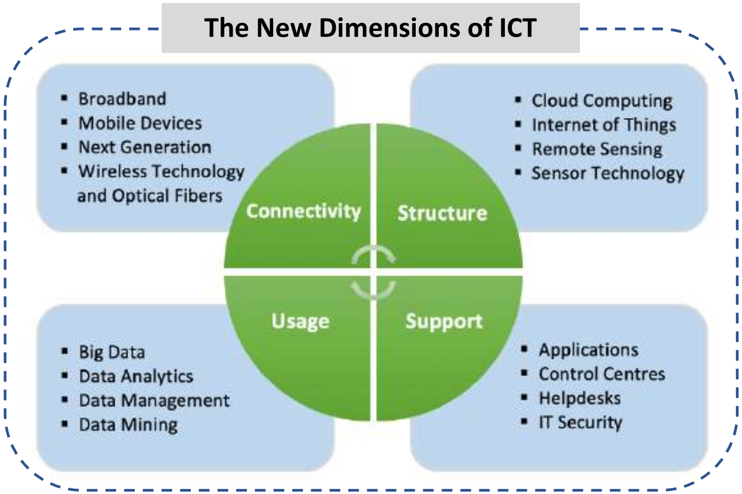
It is essential for DFIs to move forward with new digital shifts, proactively seeking ways to leverage digital technologies for development while emphasizing the adoption of ICT in achieving strategic objectives of the national economic development agendas.

The creation of ICT for Development (ICTD) arise from the desire to harness ICT to propel economic and social progress and enhance its effects in less fortunate environments whereby DFIs can leapfrog stages of development by increasing avenue for economic engagement, strengthening social networks and making services more efficient.

DFIs can ramp up its role and make major contributions by catalyzing the ICTD through development of reliable infrastructure and skillset for ICT.

Why ICTD in DFIs Operations?

- To improve the outcome/impact in operations using ICT as a powerful tool for service delivery
- To diversify operational portfolios
- To increase DFIs operational scale through ICT-led or ICT enabled investment
- To prepare DFIs for new digital economy



Adopted from: Serrat, Olivier. (2016). "Leveraging Information and Communication Technology for Development". Asian Development Bank (ADB)

Beyond Technology: The Fourth Industrial Revolution in the Developing World

How is Technology Impacting the Finance and Banking Sector?

1 Empower operations to be integrated, flexible, efficient, and transparent with accountability

2 Enable flexible and innovative financial products and services

3 Create open, collaborative platforms for seamless client, partner, and staff engagement and connected data

4 Build and share knowledge enhanced and harness emerging technologies to meet business needs

What are the Technologies of the 4IR?

			
Automation Technologies	***Artificial Intelligence***	***Connectivity & Comm.***	***New Energy Solutions***
Self-driving vehicles	Machine Learning	Cloud Computing	Smart Grids and Off-Grid
3D Printing	Deep Learning	Blockchain Technologies	Solar Home Systems
Drones	Image/Face Recognition	Internet of Things	Renewable Energy
Genetic Modification	Cyber Defense Systems	Container Databases	Biofuels
		5G	

Source: Runde et. al. (2019). "Beyond Technology: The Fourth Industrial Revolution in the Developing World" Center for Strategic & International Studies. Report.

6.2

Technology Trends Disrupting the Future of Financial Services

6.2 The Technology Trends Disrupting the Future of Financial Services

1. Internet of Things (IoT)

The **Internet of Things (IoT)** is at the core of the fourth industrial revolution, opening up boundless opportunities for people, business and machines to connect with one another through a whole new era of connectivity in sensors and Wi-Fi. With the influx of real time data generated by the IoT platform, the banking world is being reshaped to create more tailored products for customer with smarter loan decisions and devising better ways to improve risk management and operational efficiency while at the same time reducing the cost.

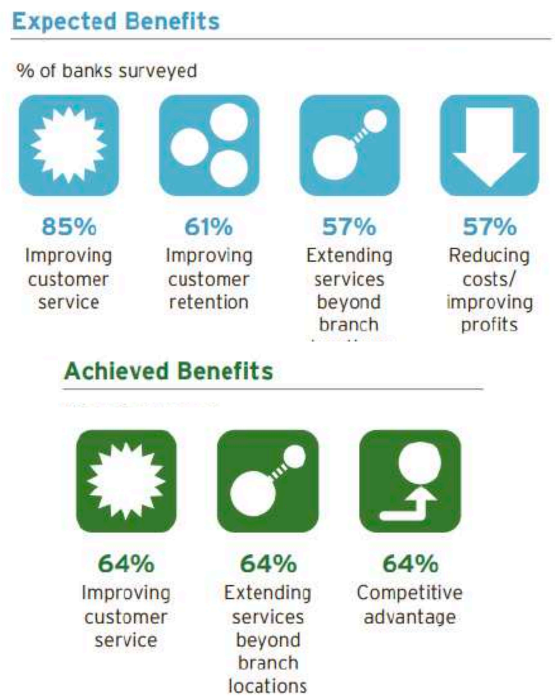
Example use cases for banks:

- Seamless digital wallet.
- Smart loans.
- Innovative product and services.

Case Study

The Brazilian Development Bank (BNDES) is working hand-in-hand with the government in conducting a national study of IoT, an action plan for Brazil that focuses on four core verticals of sustainable development namely health, smart cities, industry, and the rural environment. The planned initiative is strategic for the bank in establishing a strong support system, simultaneously increasing efforts to improve their innovative instruments. The potential impact of the plan includes bringing IoT to SMEs, through productive chains integration and development of value-added design in products and business models, among others.

How IoT Helps Banks Improve Key Metrics



Source: Cognizant (2015). "Gearing Up for the Internet of Payments"

The Technology Trends Disrupting the Future of Financial Services

2. Artificial Intelligence (AI)

The expansion in the use of **AI** in financial services has a lot to do with the rapid growth of structured and unstructured data, supply of new technologies like the cloud and machine learning, increased regulation, heightened competitive pressures among business players in the market as well as customers' expectations for more efficient and innovative services. There are various benefits bank can gain from adopting AI, ranging from productivity in back office operations, product delivery, risk management to even marketing.

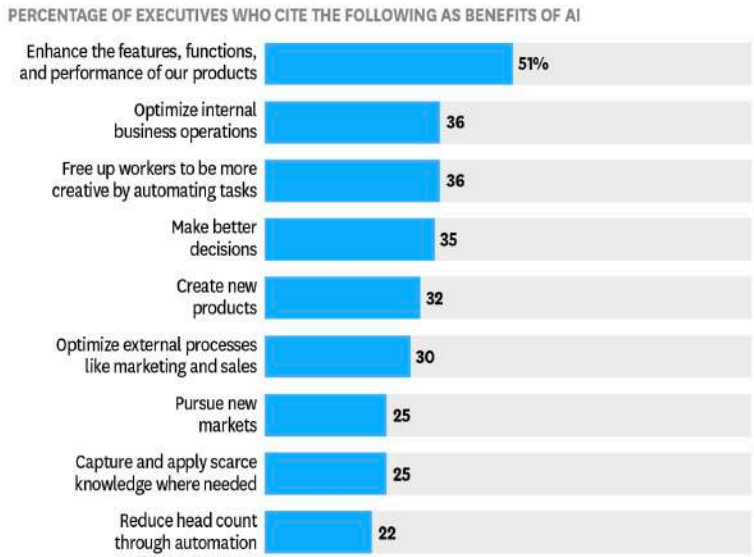
Example use cases for banks:

- Data analysis and advanced analytics.
- Real time fraud and risk management.
- Customer supports, transaction, helpdesks.
- Underwriting loans and insurance.

Case Study

Bancolombia won the Artificial Intelligence award for its Plink solution — an intelligent data- and analytics-driven platform that brings powerful insights to retail customers and merchants, offering them most relevant products based on their preferences and to experiment with new business models. The system uses a machine learning algorithm drawn from the bank's '10 million' customer data while concurrently solicits ratings from customers, which it uses to grow more effective over time.

The Business Benefits of AI



Source: Thomas H. Davenport and Rajeev Ronanki. (2018). "Artificial Intelligence for the Real World". Harvard Business Review.

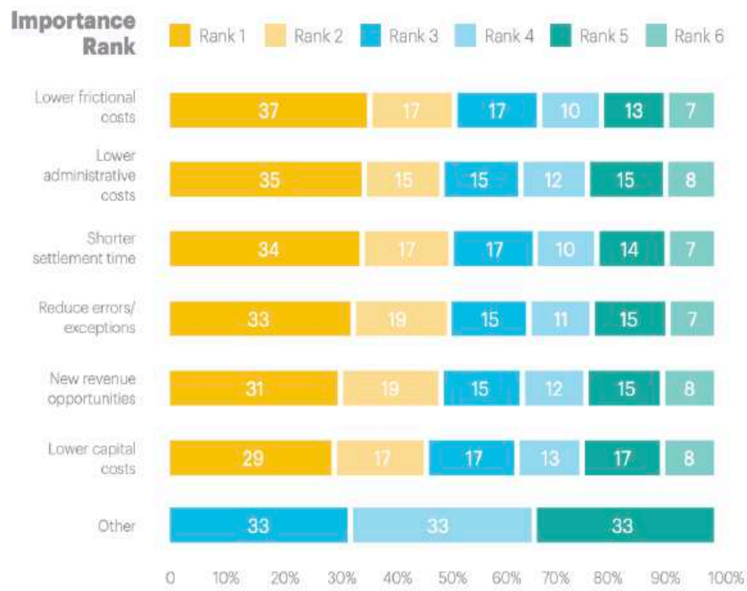
3. Blockchain

Blockchain is a distributed database which uses software algorithms or cryptography to record and confirm transactions with reliability and anonymity – with such features, the advance of blockchain technology can stir a transformational impact to the banking industry. Many banks are already adopting blockchain technology to improve efficiency, cost-effectiveness, and security throughout the entire spectrum of financial services.

Example use cases for banks:
- Supply chain management.
- Trade finance.
- Loan processing.
- Fraud reduction.
- Record management.

Case Study
The research arm of the **Inter-American Development Bank (IDB)** has developed a report with World Economic Forum on the facilitation of trade with block chain technology, aimed to lower trade time and cost as well as enhance traceability and accelerate automated payments. Subsequently, the bank will use the newly launched framework to pilot blockchain projects that is projected to improve efficiencies in trade for border clearance and will share lessons and good practices.

Major Anticipated Blockchain Benefits



Source: Accenture. (2016). "Blockchain Technology: How Banks are Building a Real-Time Global Payment Network"

4. Robotic Process Automation

Robotic process automation (RPA), which commonly integrates web robots has helped accelerate growth by executing pre-programmed rules across a range of structured and unstructured data. This intelligent automation gives processes the power to learn from prior decisions and data patterns to make decisions by themselves – reducing the cost of administrative and regulatory processes by at least 50% while improving quality and speed.

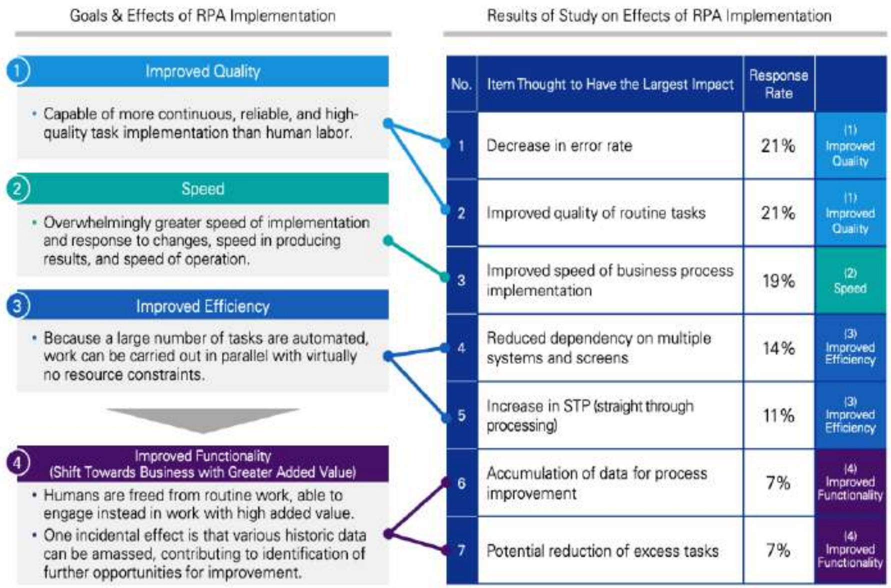
Example use cases for banks:

- Data management and infrastructure.
- Credit scoring and fraud detection.
- Process automation.
- Intelligent digital workforce.

Case Study

National Development Bank of Sri Lanka (NDB) marked an iconic milestone in its digital growth journey by launching a successful implementation of a RPA in its mainstream banking operations, partnering with Potenza Ltd. The RPA system focuses on NDB's customer credit facility covenants compliance monitoring processes, reaping intangible benefits, with increased internal efficiencies while eliminating inevitable human errors. As a result, NDB's RPA records a direct ROI of over 80%, due to improved process efficiency and cost effectiveness of deploying the system.

Feedback from Early Adopters of RPA



Source: KPMG Consulting Co., Ltd. (2018). "Robotic Process Automation (RPA)"

5. Hybrid Cloud

According to IBM, **cloud computing** has quickly become mainstream in banking, with most banks searching for the optimal mix of traditional IT, public and private clouds. The hybrid cloud, which is computing based on the Internet, enables IT services to be accessed anytime from anywhere and delivered as a service. It makes leveraging massive amounts of data and providing flexible, scalable processing platforms cost-efficient, fast and robust.

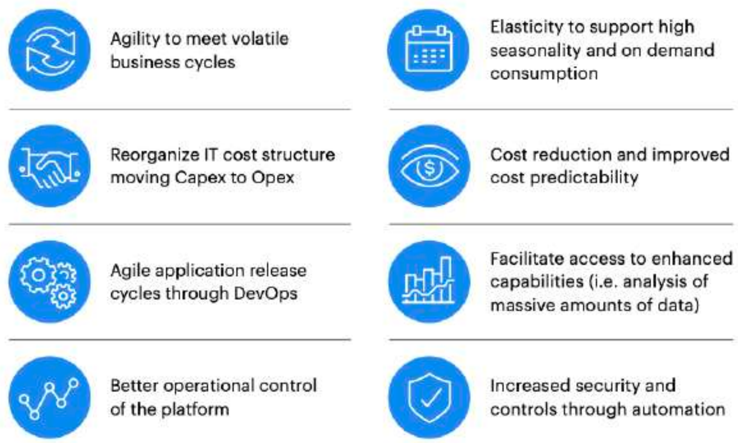
Example use cases for banks:

- Data security.
- Expansion of product/services portfolio.
- IT development.
- Customer analytics and CRM.

Case Study

Capgemini and Microsoft announced a joint plan to offer accelerated cloud services in 22 countries based on Microsoft's cloud solution, Windows Azure. Capgemini brings solutions specifically for financial services using the Windows Azure platform which delivers highly cost-effective development and deployment options on a flexible platform. Together, Capgemini and Microsoft have agreed to produce a future global study into the issues of data quality, security, and sovereignty in the cloud.

Opportunities Created by the Cloud



Source: Accenture. (2017). "Moving to the Cloud: A Strategy for Banks in North America"

The Technology Trends Disrupting the Future of Financial Services

6. Instant Payments

The availability of an **instant payment platform** offers banks an enticing opportunity to achieve the transaction speed consumers expect of their banking experience and increase the customer satisfaction. With instant payments, more transactions will be made digitally instead of in cash, which means that payments will become less expensive and more user friendly.

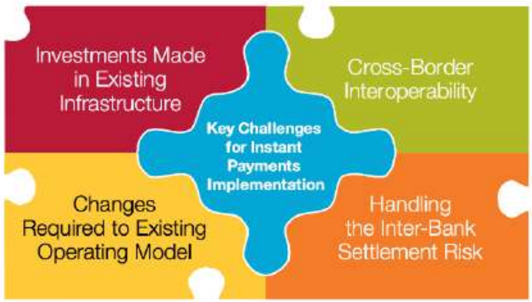
Example use cases for banks:

- Immediate mobile banking and payment.
- Cross border payment.
- Fast tracking fraud protection.

Case Study

J.P. Morgan has launched its E-Customs Payment Solution, making it the first foreign bank in China to offer a solution that fully digitises and automates cross-border payments of goods. Within the system, their clients will only be required to send the payment instructions with linked customs declaration number. Using application programming interface technology, the solution will then retrieve the relevant customs declaration status from the local authorities via the Shanghai international trade single window in real time and process the payments automatically. Clients will be able to keep track of their payments through J.P. Morgan Access at all times.

Challenges and Value of Instant Payments



Source: Capgemini. (2018). "Top 10 Trends in Payments 2018: What You Need to Know"

7. API Platforms

Integrating open **APIs** with open platform banking can change the ecosystem of banking itself – such changes can be seen from products and services offered, delivery channels and also underlying partnerships. Customer's experiences would be greatly enhanced with public APIs as they can have more options to interact with the bank, which here serves as a platform.

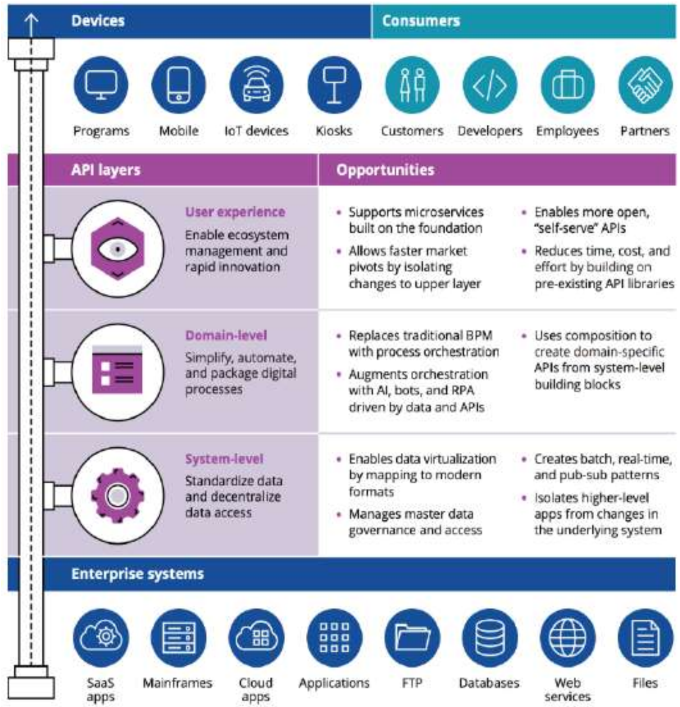
Example use cases for banks:

- Open banking.
- Embraced connected customers.
- Seamless payment transfer.

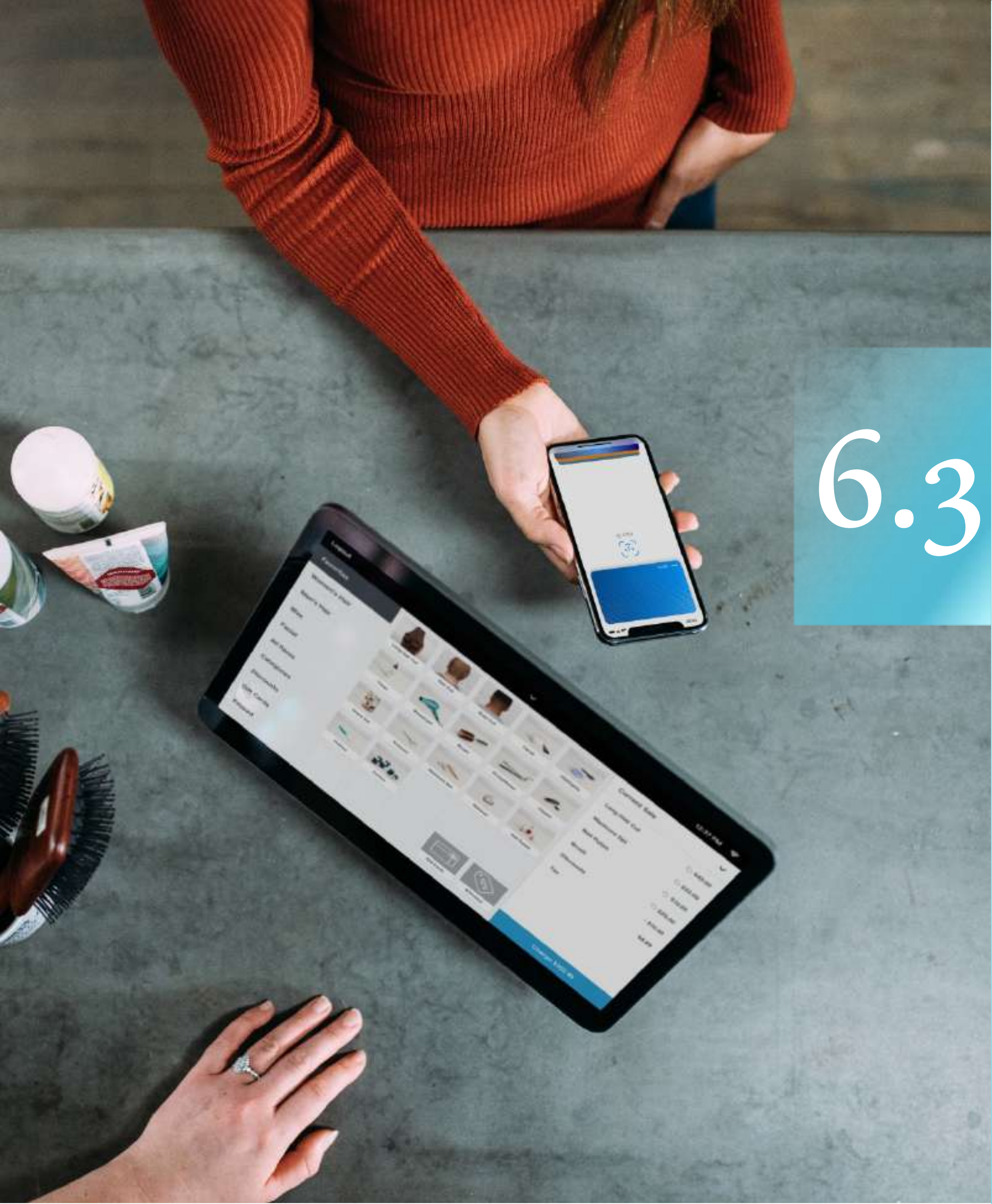
Case Study

Development Bank of Singapore (DBS) launched the world's largest API developer platform which includes funds transfers, rewards, and real-time payments to significantly accelerate the bank's customer-centric experience by making available a wide array of APIs for other brands, corporates, FinTechs and software developers to plug into. Tantamount to that, the banks implemented an omni-channel strategy to deliver a seamless streamlined experience for their customers, leveraging on APIs as an integral building block to form its platforms, with aims of building an ecosystem.

API Logical Architecture (Opportunities)



Source: Deloitte. (2017). "Tech Trends 2018: The Symphonic Enterprise"



6.3 Technology **Good Practices**

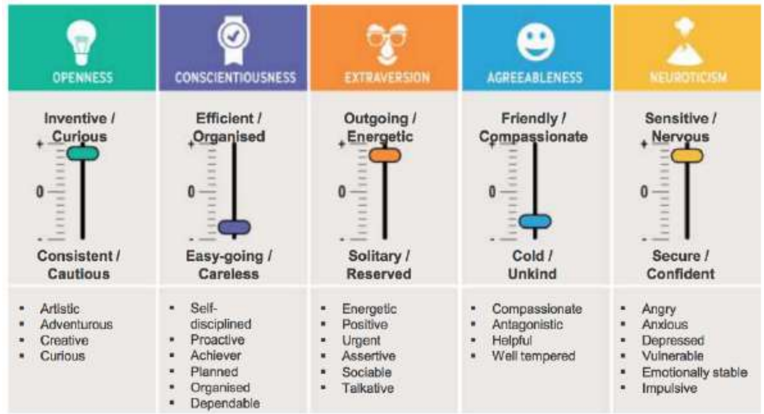
6.3 Technology Good Practices

RISK MANAGEMENT

Psychometrics as a Tool to Improve Credit Information

VisualDNA is one of the leading providers of psychometric testing for credit scoring. The psychometric score is built from the five key attributes: 'agreeableness', 'conscientiousness', 'emotional stability', 'extraversion' and 'openness'.

In line with latest psychological research, VisualDNA's personality profiling includes assessment of the 'Big 5' personality traits:



Robo-advisory services to enhance corporate lending services

The Shizuoka Bank has introduced robo-advisory service which allows the bank to make investment decisions, perform transactions and provide consultation to customer based on customer's preference including investment purposes, capital amount, target amount, risk tolerance and etc.

Credit scores using social media presence (cloud-based API)

Banks, Non-Bank Finance Companies (NBFCs) and **Telcos** are working together with Lenddo, one of the key innovators in using non-traditional data for credit scoring. The innovative credit scoring utilizes algorithms which collect and analyse data from these people's social media account. The data collected include their interest, who their friends are and how often they interact, their behavior, and ability to repay the loan. This information is turned into a rating which will provide better judgement of bigger segment of the borrowers.

Technology Good Practices

PARTNERSHIP

Mutually Beneficial Bank-FinTech Collaboration

Islamic Development Bank Group (IsDB) is developing Sharīʼah-compliant products using blockchain technology in collaboration with Tunisian Startup I-FinTech Solutions (IFTS). It aims to expand financial inclusion to all its member countries as well as to meet demand of Muslim investors from Indonesia to Canada. The technology allows the reduction of counterparty, assists instantaneous clearing and settlement of transactions and asset exchanges.

Australia and New Zealand Banking Group (ANZ) is developing cloud based automated payment platform partnering with UK based Invapay, a technology company to solve the payment issues faced by the bank. The technology allows the bank to deliver a secure payables solution that enable client to fully use the available credit lines by ANZ. Such features would also allow the customers to improve their working capital, increase operational efficiencies and visibility and strengthen their supplier relationship.

Partnership for Banking Technology-research Lab

Deutsche Bank and FinTech start-ups are working together to apply latest technologies to all its business and delivering solutions including trading, retail compliance and operations. The systematic Venture Capitalist engagement programme is utilized by the labs allowing them to find the best solution to match with the demand of the bank. The bank will selectively choose and invest in the most promising FinTech such as Modo (for digital payments), Quantiguous Solution (open banking), and Dwins (creators of Finanzguru).

Deutsche Bank Innovation Labs focus on a broad range of emerging technology themes, including:

Source: Deutsche Bank Innovation Labs

Technology Good Practices

ENVIRONMENTAL, SOCIAL AND OTHER INITIATIVES

Innovative platform for sustainable development

Islamic Development Bank (IsDB) has established a new digital platform known as Engage which will improve technological and scientific solution to escalate the achievement of Sustainability Development Goals (SDGs). There are three key services offered through the Engage platform: match-making, calls for innovation and technology transfer. Besides that, the platform also provides tailored mentoring services and expert knowledge-sharing which can support government, NGOs, private sector companies, SMEs and innovators to trigger their ideas and proposals to globally recognised standard.

Establishing Technological funds

IsDB has introduced a special fund called Science, Technology and Innovation Transform Fund (IsDB-STIF) which allows the bank to assist its Member Countries in solving the main development issues through the power of innovation.

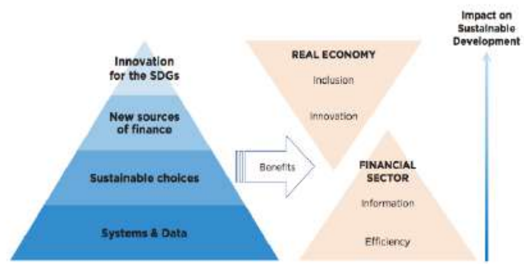
Fin-tech Programmes

Dutch Development Bank (FMO) and **FinConecta** have joint force to launch FinFoward, a FinTech innovation. FinFoward was developed to improve the digitization of financial institutions in Africa where African Financial Institutions and Mobile Money Providers (MMPs) can connect with global FinTech companies.

Sustainable Digital Finance

Big Data and Artificial Intelligence are often utilized to reduce information asymmetries as well as to cut cost of capital in providing green commercial loans. For example, **ING Real Estate Finance (REF)** in Netherlands has collaborated with technology partner CFP Green Building to launch a web-enabled innovation utilizing big data. This innovation allows the borrowers to identify energy improvement measures of their buildings which provide the highest financial returns and greatest reduction of carbon emissions. ING has also embarked on offering discount on 'sustainable loan' and providing advice of getting the subsidy as well as providing free Energy Performance Certificate assessments for its customers.

Harnessing Digital Finance to Enhance the Mobilization of Sustainable Finance



Source: Sustainable Digital Finance Alliance, 2018

7

The Way **Forward**

Strategic Recommendations by Sectors and Segments

INFRASTRUCTURE

Strategies and Way Forward	Example of Good Practices
Offer wide range of innovative financial products and services such as Convertible Grant, Blending, Leasing Financing and develop alternative financing arrangements.	▪ Netherlands Development Finance offer **Convertible Grant** as financing instrument for infrastructure projects. In the case that project is success, the organisation is given a grant which can be converted into equity or debt. ▪ European Investment Bank (EIB) uses **blending** in offering its product and service for infrastructure project such as guarantees, trust funds, project bonds and structure finance. ▪ Municipality Finance Plc Finland (MuniFin) provides **leasing financing** of Hospital District of Southwest Finland.
Increase transparency in infrastructure projects by partnering with appropriate stakeholders to boost public confidence.	Panama together with National Authority of Transparency and Access to Information (ANTAI) launched a new data disclosure platform called "PanamaenObras" to ensure more information on infrastructure projects will be disclosed to public.
Assess clients In infrastructure projects on their ESG performance through robust ESG assessment framework.	ABN AMRO adopts the Global Real Estate Sustainability Benchmark Infrastructure Asset Assessment to promote systematic reporting, objective scoring and peer benchmarking of ESG management and performance of infrastructure assets.

Note: Further details on good practices can be found in Chapter 5.

MARITIME

Strategies and Way Forward	Example of Good Practices
Provide ship leasing as an alternative to financing.	Bank of China, China EXIM and ICBC Banks are the top lenders that provide ship leasing.
Provide freight derivatives as a risk mitigation and hedging against price volatility in supply chain.	Managing freight rate risk by deploying Forward Freight Agreement (FFA) markets. The introduction of Baltic International Freight Future Exchange (BIFFEX) contract provide the opportunity to shipping industry to control the freight rate risk through hedging in physical market.
Explore the opportunities of Blockchain Shipping Supply Chain Platform to track information about each shipment in supply chain.	IBM and MAERSK jointly have launched their blockchain shipping supply chain in 2018.
Create awareness for the adoption of Blockchain Shipping Containers.	ABN AMRO and Samsung SDS undertake pilot project of blockchain shipping containers. The pilot project is tracking the shipping container that goes to Netherlands from Korea.
Provide innovative responsible/green shipping finance products and services.	▪ ABN AMRO, ING Bank, NIBC, Scandinavian SEB and DND are launching **Responsible Ship Recycling Standards (RSRS)** for their ship financing. The banks are incorporating RSRS as part of the loan agreement with the shipping company. ▪ ING does not provide financing of 'breaking yards' or buyer of scrap vessels and ensure that all vessels carry a **Green Passport** (inventory of hazardous materials). ▪ KfW IPEX-Bank evaluates the **energy efficiency** of its merchant shipping portfolio based on the Energy Efficiency Design Index (EEDI).

Note: Further details on good practices can be found in Chapter 5.

AGRICULTURE

Strategies and Way Forward	Example of Good Practices
Provide sustainable financial services for clients in the rural agricultural sector and smallholders (*such as through safe financing facility with available alternative collateral, strategic disbursement and collection method, standardization of loan procedures, rural deposit mobilization, and link banking and formal institutions that have better infrastructure and access to funds, and less formal institutions which usually have close relationship with clients***).**	▪ HDFC Bank in India use warehouse receipt system as collateral. ▪ Centenary Bank of Uganda provided seasonal loans to small farmers to match financing with the needs of farmers and reduce non-repayment. ▪ The United Georgian Bank clustered their farmers according to their main cash crops to standardized loan procedures. ▪ The use of deposit collectors from a third party such as Safe Save in Bangladesh. ▪ In Mali, the Banque Nacionale de Dévelopement Agricole (BNDA) provides refinance facilities and savings accounts, which help institutions like savings and credit cooperatives manage liquidity and expand their loan portfolio.
Assess clients under the group of small players through alternative risk management solutions.	Harvesting.co creates a credit risk management system scoring that integrate geospatial, Mobile-Network Operator (MNO) and value chain data.
Explore opportunities in agricultural value chain financing.	Yara Ghana Ltd initiated the Ghana Grains Partnership (GGP) as a scalable model to enhance the efficiency of the maize value chain.
Raise the access and awareness for the adoption of smart farming practices (technology adoption).	In El Savador, Banco Hipotecario offers the use of drone technology to provide data and advisory service for suitability of lands.
Provide technical training and education for clients to strive for more sustainable agricultural practices through partnerships or innovative channels.	▪ In Zambia, the Zambia National Commercial Bank (Zanaco), in partnership with the International Finance Corporation (IFC) and Rabobank Foundation, launched the Zambia Emergent Farmers Support Programme (ZEFP) to provide access to finance and technical assistance to farmers. ▪ BAAC Thailand has a weekly radio session on informative agriculture practices targeted to small farmers.
Motivate the adoption of sustainable practices through incentives (financial and non-financial rewards).	DBS Singapore collaborated with Wilmar International Limited in introducing sustainability-linked loan that reduces the financing rate upon achievement of sustainability target.

Note: Further details on good practices can be found in Chapter 5.

RENEWABLE ENERGY AND ENERGY EFFICIENCY

Strategies and Way Forward	Example of Good Practices
Provide innovative financing solutions for clients such as linked-deposit loan, bundling renewable energy financing with home financing, matching loan repayment schedules to project cash flow.	▪ KfW channel energy efficiency loan through commercial banks by combining home mortgage loans with solar home systems loans. ▪ Washington State Legislature and State of Ohio purchases a certificate of deposit (CD) or similar investment at the financial institution at a reduced rate in exchange for the bank providing below-market-rate loans to the targeted projects or segment.
Provide technical assistance along with direct loan for clients.	European Bank for Reconstruction and Development (EBRD) offers technical consultancy services for its client as well as incentive payment for projects that success to achieve estimated reduction of carbon dioxide emissions.
Incorporate environmental factors in appraising RE projects for a more accurate valuation of costs.	Shadow Carbon Price (SCP) is being used for credit assessment and appraisal by EBRD bank and as part of cost-effectiveness analysis for energy project by EIB.
Explore different ways to mitigate risks in RE projects.	UNEP suggested that weather insurance/derivative including weather linked financing as part of hedging instrument for RE projects.

Note: Further details on good practices can be found in Chapter 5.

TRADING AND MANUFACTURING

Strategies and Way Forward	Example of Good Practices
Offer innovative products and mechanisms for trade finance through partnership with multilateral development banks, national DFIs and export credit agencies (ECAs) including strategic credit insurance business.	▪ Marco Polo Network launched by Commerzbank uses open application programming interfaces and the blockchain to connect a range of main players in the trade supply chain to enhance efficiency and minimize risk of late payment. ▪ The Tezhi Hydro Power Project in Zambia was a first-of-a-kind public private partnership co-financed by DFIs and ECAs in the power sector of Zambia, aims to substantially enhance the trade financing capabilities. ▪ NEXIM bank provide credit insurance against political and commercial risks in the event of non-payment by foreign buyers and issue short term guarantees for loans granted by Nigerian banks to exporters.
Promote Sharīʾah-compliant trade finance for the clients.	▪ Tawreeq Holdings offers the world's first comprehensive Sharia-compliant SCF technology enabled solutions targeting the SMEs, addressing credit gaps through Islamic factoring, reserve factoring and ethical management of the entire cycle of supply chain finance. ▪ Abu Dhabi Islamic Bank (ADIB) issued a Sharīʾah-compliant first Usance Payable At Sight Letters of Credit, where the bank paid at sight to the sellers of their wholesaler client against a deferred payment LC, hence allowing them to extend the credit period to their buyers without direct effect on their financial strength.
Provide structured development advisory services and innovative program to clients in trade finance such as advisory facilitation on debt recovery and export transaction, networking program, and informative data about export and trade.	▪ Thai Exim Bank has been operating program called "SME Exporter Service Centre" to provide an advisory and information hub to Thai exporters. ▪ Asian Export Banks Forum was initiated by Export-Import Bank of India to provide trade information and advisory services in collaboration with existing institutions, national and international.

Note: Further details on good practices can be found in Chapter 5.

Strategies and Way Forward	Example of Good Practices
Explore digital solutions to trade financing through partnership with FinTech company, and adoption of smart manufacturing and industrial 4.0.	▪ The Bank of Tokyo-Mitsubishi partners with iAPPS, a leading FinTech company to help improve its financing offering; that include facilitating efficient cross-border funding and money transfers as well as revolutionising traditional supply chains in manufacturing and retail industries. ▪ Governments in Asia and the Pacific have engaged in the adoption of a UN treaty; Framework Agreement on Facilitation of Cross-border Paperless Trade in Asia and the Pacific (FA-PT) to accelerate progress towards digital trade facilitation and cross-border e-commerce.
Improve credit risk management of the bank through leveraging on technology and automation, approaching regulators or other key players in trade finance to enhance existing credit registries as well as credit information system.	▪ A FinTech firm, *Traydstream*, has launched a trade digitalization and compliance screening solution by extracting paper-based information digitally and scrutinize transaction data through machine learning algorithms to help trade financier better handle AML and compliance issues. ▪ McKinsey highlighted five main distinct areas in order to establish a national credit bureau namely: regulatory environment and legal structure, HR and organization, procedures and processes, technology and interfaces and data acquisition to support the key success factors on data reliability and acquisition. ▪ IFC is providing support to countries and institutions by creating a robust credit information system under its Global Credit Reporting Program.
Promote sustainable trading and manufacturing practices.	▪ The International Chamber of Commerce (ICC) Banking Commission hosts a "Working Group on Sustainable Trade Finance" which brings together industry players to raise awareness among key stakeholders. ▪ Barclays and UK Export Finance offer Green Trade Loans to their clients.

Note: Further details on good practices can be found in Chapter 5.

MICRO, SMALL AND MEDIUM ENTEPRISES (MSMEs)

Strategies and Way Forward	Example of Good Practices
Integrating Islamic Social Finance and Microfinance to reach the Muslim MSME market.	The Baitul Maal wa Tamwil (BMT) model in Indonesia provides Islamic microfinance whereby the model performs dual roles: business function such as commercial financing for MSME; and social function such as Waqf, Sadaqah, Donation, Corporate Social Responsibility (CSR) and Endowment.
Employ innovative ways to reach desolated micro and SMEs clients.	▪ Bank Rakyat Indonesia (BRI) established BRILink agents, a collaboration with BRI's customers to provide banking services to public on real-time basis particularly in rural areas. ▪ Adie, European microfinance, offers its business loans and services to clients in remote areas using Adie mobile van.
Invest in the latest technology for more time and energy efficient operations.	▪ OnDECK built end to end integrated technology platform to cater the financing of SME. The platform covers all the transaction activities including sales, scoring, underwriting, financing, servicing and collections. ▪ Swadhaar FinServe runs a pilot project on digital field application (DFA) which enable relationship officers to key in client's information during door to door assessment.

Note: Further details on good practices can be found in Chapter 5.

MICRO & SMALL AND MEDIUM ENTEPRISES (SMEs)

Strategies and Way Forward	Example of Good Practices
Assess clients through traditional as well as non-traditional assessment by using alternative data, employing innovative credit scoring, leveraging on technology and conducting discussion-based assessment.	▪ Kabbage turns alternative qualitative data such as social media data into quantitative data to be used in credit risk assessment. ▪ Microbank is piloting a psychometric project since 2016 aiming to capture thin-file and undeserved clients in Spain. ▪ IFC established SME banking CHECK methodology to assess its client before designing tailored action plan and technical assistance program. ▪ Swadhaar FinServe conducts discussion-based assessment to assess the creditworthiness of its clients as substitutes for income and sales documentation in identifying the client's capacity to repay the loan.
Increase the productivity of MSMEs clients through empowerment, consultancy service and by providing market access.	▪ Ujjivan Financial Service Limited provides financial literacy programs and toolkit as well as high impact films to spread awareness on ghost-lending and over borrowing. ▪ Microcredit foundation EKI developed EKI business club where its members can receive advice from experts in agriculture and small business. ▪ Land Bank collaborates with Department of Science and Technology (DOST) of Philippines to develop oneSTore.ph Project, an e-commerce web, which allows MSMEs to have direct access to larger customers.

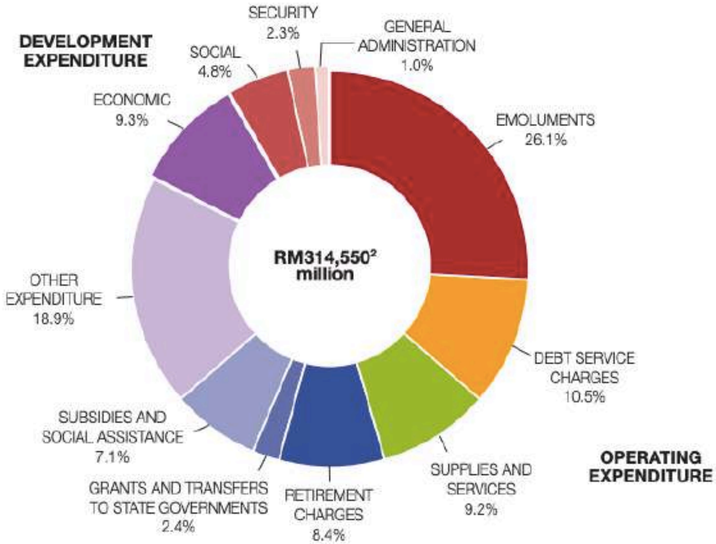
Note: Further details on good practices can be found in Chapter 5.

APPENDIX

Budget 2019 on Green Initiatives

THE 2019 FEDERAL GOVERNMENT BUDGET: *"A Resurgent Malaysia, A Dynamic Economy, A Prosperous Society"*

Total of **RM 314.5 B** In expenditure	**RM 259.8 B** Operating Expenditure
	RM 54.6 B Development Expenditure



Adopted from: Ministry of Finance, Malaysia. (2019)

3 Focus Areas of the Budget with its Respective Strategies

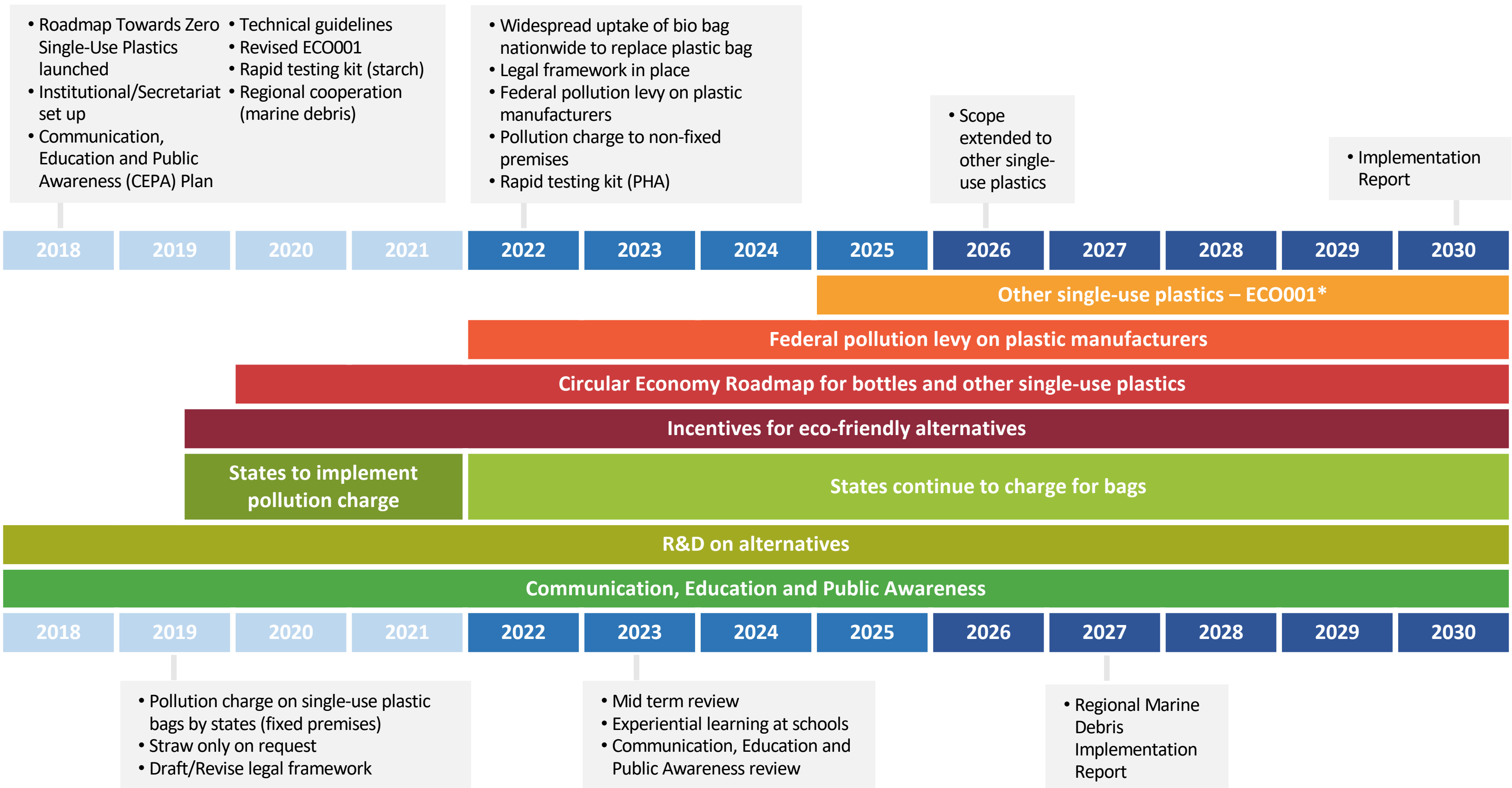
1	**To implement institutional reforms**	**Strategy 1 – 3**
2	**To ensure the socio-economic well-being of Malaysians**	**Strategy 4 – 8**
3	**To foster an entrepreneurial state**	**Strategy 9 – 12**

Under **Strategy 12** which strives to **ensure equitable and sustainable economic growth**, the Government is committed in the following initiatives in regards to the environment and energy:

- Allocate RM60 million to State Governments to protect and expand existing natural forest reserves and protected areas.
- List the Forest Research Institute Malaysia (FRIM) Forest Park in Selangor, and Royal Belum Perak as UNESCO World Heritage Sites.
- Allocate RM5 million for micro-grants to implement community-led programmes in collaboration with the United Nations Development Program (UNDP), to manage and protect the environment towards fostering the economic development of Orang Asli and Orang Asal communities.
- Proposes to provide Pioneer Status incentive of 70% or investment tax allowance of 60% for 5 years to companies which produces environmentally-friendly plastics based on bio-resin and biopolymer materials.
- Incentivize investments in green technology, a RM2 billion Green Technology Financing Scheme (GTFS) will be made available where the Government will subsidize the interest cost by 2% for the first 5 years.
- Expand the list of green assets which qualifies for the Green Technology Investment Allowance (GITA) from 9 assets to 40 assets which will be listed in the MyHijau directory

Roadmap Towards Zero Single-Use Plastics 2018 – 2030

- **Vision of the Roadmap**: To opt for a **phased**, **evidence-based** and **holistic approach** with the involvement of all stakeholders to jointly address the pollution of single0sue plastics in the country.
- The implementation of the Roadmap will be from 2018 – 2030 with an expectation that related stakeholders will effectively participate and contribute within their roles so the objectives of this roadmap are met.



ECO001: Eco-Labelling Criteria - Biodegradable and Compostable Plastic Packaging Materials; Source: MESTECC (2018)

Development of Renewable Energy Transition Roadmap (RETR) 2035

The Renewable Energy Transition Roadmap (RETR) 2035 is a new roadmap being developed by the Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC) "**to explore the possible strategies and action plans to reach the government's aspiration renewable energy (RE) target of 20% in the national power mix by 2025".**

RETR 2035 is still in its infancy stage and is targeted to be delivered by end of 2019.

The following are the **potential strategies** that will be explored under the roadmap:

a) Peer-to-peer Energy Trading: solar prosumers can sell their excess electricity to consumers enabling those who have rooftop constraint to enjoy the NEM programme. In effect, the P2P will enable virtual net metering (VNM) further supporting growth of solar industry in this new market.

b) Providing option for 100% RE electricity: electricity consumers have the option to buy 100% RE electricity from power utility. This will meet the growing trend of corporate sourcing of RE electricity for their purpose of meeting their environmental obligation;

c) Mobilising REC market: Currently Malaysia has a voluntary renewable energy certificate (REC) market, the roadmap will explore the cost benefits and effectiveness of establishing a mandatory REC market.

Green Financing Task Force

Private financing is essential to build a Green Ecosystem and for some developers of renewable energy (RE) find it challenging to obtain financing.

On this note, the Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC) has secured a collaboration with Securities Commission Malaysia to create a **Green Financing Taskforce** in developing a Green Financing Roadmap to facilitate green projects.

The objectives of the taskforce are:
- to mobilise affordable financing for RE developers; and
- to spawn an RE ecosystem which will support the RE agenda.

Findings by the taskforce will be sent to the Ministry by the the **end of July 2019** for possible implementation consideration.

Development of a Climate Change Act

In a four-year collaboration with the team from the UK Government through MESTECC's agency, Malaysia Green Technology Corporation, the Ministry plans to develop a **Climate Change Act** which aims to **strengthen, promote** and **develop climate change and low carbon transition on the basis of equality and mutual benefit.**

Per the Minister of MESTECC, "the Act will make industries take account of their CO2 emissions when making plans or the impact of a rise of 2°C in pre-industrial levels on their businesses."

Four focus areas throughout the collaboration:
1. Institutional framework in terms of mitigation and adaptations
2. Capacity building
3. Legal framework scoping studies for a Climate Change Act
4. Malaysia's Carbon Calculator

It would take two years before a Climate Change Act is tabled in Parliament to be passed into law, depending on the findings of the first phase of the collaboration which is expected to be by January 2020.

The Eleventh Malaysia Plan 2016 – 2020 (11MP)

The Eleventh Malaysia Plan 2016–2020 (11MP), is the last five-year national development plan to become a developed nation by 2020. The 11MP theme is "Anchoring Growth on People," where it focuses on balancing the needs of both the people economy and capital economy.

6 Strategic Thrusts: address the challenges and opportunities of the fast-changing global landscape and end-to-end needs of the people.

Enhancing inclusiveness towards an equitable society

Country's growth for all citizen regardless of gender, ethnicity, socio-economic level and geographic location.

Pursuing green growth for sustainability and resilience

Sustainable consumption and production which lead to better wellbeing and quality of life.

Improving wellbeing for all

Promote safer and healthy lifestyle to create united communities.

Strengthening infrastructure to support economic expansion

Access to essential amenities and services such as transport, communications, electricity and clean water.

Accelerating human capital development: advanced nation

Improve labour productivity, create more job opportunities and produce skilled workforce.

Re-engineering economic growth for greater prosperity

Advanced economy: Shift all economic sector to more knowledge-intensive and high-value added activities.

6 Game Changers: accelerate Malaysia's development and shift the trajectory of country's growth.

Unlocking the potential productivity

Public sector, industry players and enterprises.

Embarking on green growth

Achieving economic growth and protecting the environment.

Uplifting B40 households towards a middle- class society

Income levels, wealth creation, education and skill levels.

Translating innovation to wealth

Integration across industry, academia and communities.

Enabling Industry-led Technical and Vocational Education and Training (TVET)

Harmonising the knowledge, skills and attitudes of the graduates with what is required in the workplace.

Investing in Cities

Increase economic density in the cities to enhance productivity.

The Eleventh Malaysia Plan 2016 – 2020 (11MP): Mid-Term Review (MTR)

"New Priorities and Emphases, 2018-2020"

The MTR of the 11MP reports the progress achieved from 2016 to 2017 before outlining the realignment of socioeconomic policies and strategies for the remaining years of the plan, which considers the new Government's priorities. In this regard, six new pillars are presented:

The Six Policy Pillars

Pillar I:
Reforming governance towards greater transparency and enhancing efficiency of public service

Pillar II:
Enhancing inclusive Development and Wellbeing

Pillar III:
Pursuing Balanced Regional Development

Pillar IV:
Empowering Human Capital

Pillar V:
Enhancing Environmental Sustainability through Green Growth

Pillar VI:
Strengthening Economic Growth

Source: Ministry of Economic Affairs (2018)

Multidimensional Goals, 2018-2020: Revised Targets with New Priorities and Emphases

Targets are pursued together with qualitative aspects through the respective pillars

GDP growth at **4.5-5.5%** p.a. for 2018 – 2020	...with **reduced development gap** between states...	**Pillar III**
Labour productivity increases to **RM88,450** in 2020 from RM81,268 in 2017	..with **shrinking productivity gap** between industries...	**Pillar VI**
GNI per capita increase to **RM47,720** in 2020 from RM41,093 IN 2017	...with **narrowing income gap** between states and **higher purchasing power** of the *rakyat*...	**Pillar II and Pillar III**
Compensation of employees (CE) to GDP increase to **38%** in 2020 from 35.2% in 2017	...with **increased CE** for agriculture and services sectors...	**Pillar IV**
Mean monthly household income increase to **RM8,960** in 2020 from RM6,958 in 2016	...with faster and **sustainable increase for B40 household income...**	**Pillar II**
Malaysian Wellbeing Index to increase by **1.7%** p.a. for 2018 – 2020	...with **greater balance** between **social and economic aspects...**	**Pillar II**

Source: Ministry of Economic Affairs (2018)

SME Masterplan 2012-2020

Background

- SMEs make 99.2% of the business community.
- Every facet of the economy - microenterprises, the rural community, the bottom 40% of the income pyramid, suppliers to businesses, end-producers, essentially making up a large portion of the private sector.
- Vision 2020 of a high-income nation hinges on harnessing the full potential of our SMEs, including micro-enterprises
- To create a new breed of innovative and globally competitive SMEs that are resilient to challenges arising from liberalisation and changing global environment.
- SME Masterplan will therefore be the 'game changer' in navigating the new development path for SMEs across all sectors until 2020.

Strategic Direction

Identifying growth opportunities and building a framework

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Action Plan

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Implementation, capacity building and monitoring

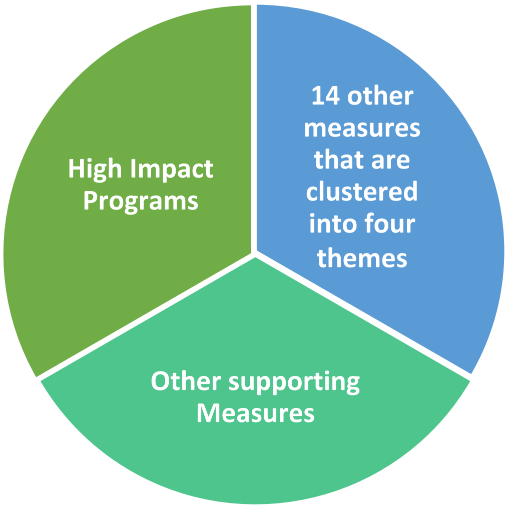
Approaches

- Outcome-based approach in SME development by putting in place a comprehensive Monitoring and Evaluation (M&E) system.
- 'LIVE PLAN' that can be fine-tuned to remain relevant with changing times
- Demand-driven, catering to the business needs of SMEs.
- Addressing market imperfections and information asymmetry.
- A strong element of PPP - encouraging shared responsibility and accountability between Ministries, agencies and the private sector.
- A clear timeline for exit.

Source: National SME Development Council (2012). "SME Masterplan 2012-2020: Catalysing Growth and Income"

SME Masterplan 2012-2020

Action Plan to Accelerate Growth



High Impact Programs

HIP 1: Integration of business registration and licensing to enhance ease of doing business

HIP 2: Technology Commercialisation Platform to encourage innovation

HIP 3: SME Investment Programme to provide early stage financing

HIP 4: Going Export Programme to expedite internationalisation of SMEs

HIP 5: Catalyst Programme to promote homegrown champions

HIP 6: Inclusive Innovation to empower the bottom 40% of the income pyramid

Source: National SME Development Council (2012). "SME Masterplan 2012-2020: Catalysing Growth and Income"

Fourteen other measures that are clustered into four themes

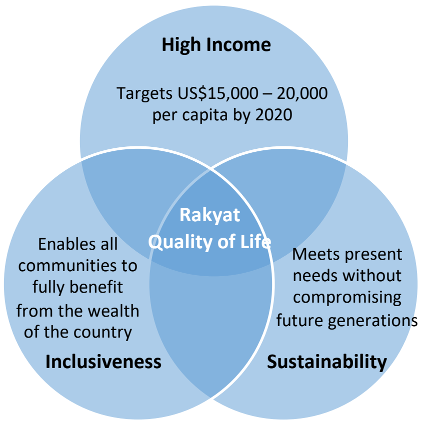
01	02	03	04
Resource pooling and shared services to overcome scale disadvantages	**Create demand for SME products and services for greater market access**	**Reduce information asymmetry to enhance opportunities**	**Building capacity through knowledge acquisition and skills upgrade**
• Encourage Consortiums and Aggregation of Service Providers for bulk purchase and to consolidate and market SME products and services. • Establish Logistics Consolidation Centre to assist SMEs pool demand and resources to overcome limitations from low volume and infrequent shipment. • Enhance Human Resources (HR) and Organisational Development support for SMEs to better attract and retain employees.	• Mandate a specific Government procurement policy for SMEs. • Encourage MNCs to procure from SMEs through the vendor development programmes. • Provide financial support to enable SMEs to comply with market standards and certification.	• Enhance current credit information system to address information asymmetry, i.e. to include Government funding. • Effective outreach to enhance financial Inclusion. • Foster greater IP adoption among SMEs through better awareness and advisory. • Establish an Independent Panel of Experts comprising industry experts to assist financial institutions to evaluate new technology projects.	• Ensure industry readiness of new entrants into the workforce. • Intensify human capital training programme to meet specialised skill needs. • Transform polytechnics and technical fields into a career of choice. • Tap-on talent from abroad to address skills shortage among SMEs.

Source: National SME Development Council (2012). "SME Masterplan 2012-2020: Catalysing Growth and Income"

The New Economic Model (NEM) 2011 - 2020

The NEM is the Government's blueprint formulated by the National Economic Advisory Council (NEAC) and was launched on 30 March 2010. Its main goal is to lead Malaysia to achieve a developed nation status and a competitive economy that comprise of its people living comfortably in an environment of high quality and with high level of income due to growth that is sustainable and inclusive.

THE GOALS OF NEM



Source: National Economic Advisory Council (2010). "New Economic Model For Malaysia"

The New Economic Model (NEM) is to be achieved through an Economic Transformation Programme (ETP) driven by eight Strategic Reform Initiatives (SRIs).

SRI 1: Re-energising the private sector to drive growth

- Investment in high value added products & services
- Generating sustained growth & high income

SRI 2: Developing a quality workforce and reducing dependency on foreign labour

- High value knowledge economy
- Remove labour market distortions

SRI 3: Creating a competitive domestic economy

- Government intervention will be phased out
- Enhanced social safety net

SRI 4: Strengthening the public sector

- Public sector reform programmes
- Speed up decision making

SRI 5: Transparent and market-friendly affirmative action

- Equal and fair economic opportunities
- Remove rent seeking & market distortion

SRI 6: Building the knowledge base and infrastructure

- High quality education
- Nurtures innovation and technology

SRI 7: Enhancing the sources of growth

- Comparative advantage sector & natural endowment
- High value added growth to new area activities

SRI 8: Ensuring sustainability of growth

- Sustainable public finance through stringent fiscal discipline
- Preserving natural resources for future generations

Financial Inclusion Framework for 2011-2020

Vision

An inclusive financial system that best serves all members of society, including the underserved, to have access to and usage of quality, affordable essential financial services to satisfy their needs towards shared prosperity

Desired outcomes

- Convenient accessibility
- High take-up
- Responsible usage
- High satisfaction

Broad strategies

1. Innovative channels
2. Innovative products & services
3. Effective financial institutions & infrastructure
4. Well informed & responsible underserved

10 action plans to achieve the mandate

1 Innovative channels

1. Introduce agent banking
2. Leverage technology-based innovative channels

2 Innovative products & services

1. Introduce flexible microfinancing
2. Introduce micro-saving product
3. Introduce micro-insurance/takaful

3 Effective financial institutions & infrastructure

1. Strengthen development financial institutions' capabilities
2. Organise structured training programmes in financial inclusion
3. Develop a framework for measurement and financial inclusion index

4 Well informed & responsible underserved

1. Collaborate with non-governmental organisations for capacity building programmes
2. Improve financial literacy

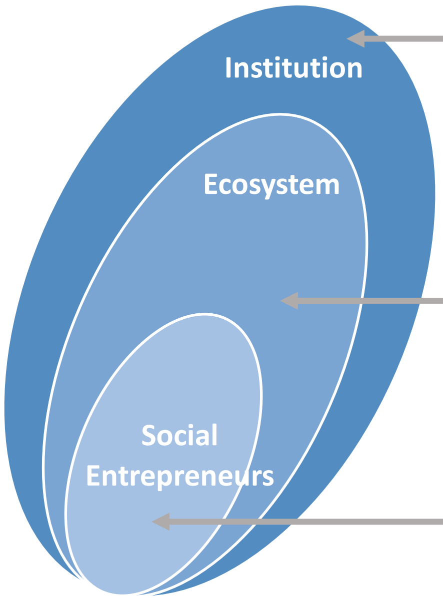
Adopted from Bank Negara Malaysia (BNM). (2011). "Financial Sector Blueprint 2011-2020: Strengthening Our Future"

Malaysia Social Enterprise Blueprint (2015-2018)

MaGIC Social Entrepreneurship designed the blueprint as **a 3-year roadmap that describes the necessary strategic thrusts to accelerate the development of social entrepreneurship.** The following is three strategic thrusts for social enterprises:

Three strategic thrusts to meet the challenge of creating a thriving ecosystem for social enterprises in Malaysia….

…realised by enabling initiatives that will culminate in a thriving ecosystem for Malaysia



Affect systematic changes

- Introduce supportive regulatory, tax and administrative framework
- Advocate for public procurement to encourage more good quality, cost-effective, and innovative public services
- Define the financial structure and provide guidelines for legal compliance and auditing

Create an enabling ecosystem

- Establish knowledge base to inform policy and development, spurring social innovation
- Encourage private sector involvement to increase collaboration, strategic investment, and capital creation
- Foster social-public-private partnerships to create synergies

Inspire a movement

- Create awareness and promote better understanding of social entrepreneurship
- Build the human capital of social entrepreneurs and those who work in social enterprises
- Catalyse more successful social enterprises by helping them pilot or scale

Adopted from: Malaysian Global Innovation and Creativity Centre (MaGIC) Social Entrepreneurship Unit. (2015). "Unleashing the Power of Social Entrepreneurship: Malaysian Social Enterprise Blueprint 2015-2018"

INCEIF's contribution to VBI and sustainable finance

CIMB — BANK NEGARA MALAYSIA CENTRAL BANK OF MALAYSIA — WORLD BANK GROUP — WWF

Developed a sustainability strategy, financing and valuation framework including sustainable finance policy and sector guidance for CIMB Group and CIMB Islamic (2016-2018)

Chair of the Environmental and Social Impact Assessment Framework (ESIAF) for Value-based Intermediation

Collaborated with WWF to develop and promote sustainable financing, with the shared goal of formulating environmental and social sustainability policies, standards and strategies relevant to Malaysia

Source: Salaam Gateway. "INCEIF Collaborates with Key Stakeholders as It Pushes for Sustainable Financing." Salaam Gateway, https://www.salaamgateway.com/en/story/inceif_collaborates_with_key_stakeholders_as_it_pushes_for_sustainable_financing-SALAAM15032019022917/

Source: ISRA. "PRESS RELEASE: Setting the Environmental and Social Impact Assessment Framework (ESIAF) for Value-Based Intermediation." I-FIKR , 28 June 2018, https://ifikr.isra.my/news/post/press-release-setting-the-environmental-and-social-impact-assessment-framework-esiaf-for-value-based-intermediation

Source: WWF-Malaysia. "Malaysia Partners with INCEIF to Promote Sustainable Financing." WWF, 4 Oct. 2018, http://www.wwf.org.my/?26125/WWF-Malaysia-Partners-with-INCEIF-to-Promote-Sustainable-Financing

INCEIF's contribution to VBI and sustainable finance

KEMENTERIAN TENAGA, SAINS, TEKNOLOGI, ALAM SEKITAR DAN PERUBAHAN IKLIM

Conducted a comprehensive feasible study on innovative financing, investment platforms and business models for renewable energy and energy efficiency for the Ministry of Energy, Science, Technology, Environment and Climate Change

MTDC — MALAYSIAN TECHNOLOGY DEVELOPMENT CORPORATION

Conducted research on the transformation of technology-based small-medium enterprises towards becoming sustainable technopreneurs through a research consultancy project for the Malaysian Technology Development Corporation (MTDC)

Source: INCEIF. "INCEIF Was amongst the 5 Universities to Be Awarded Research Grant from MTDC." INCEIF, 15 Mar. 2018, https://www.inceif.org/2018/03/20/inceif-was-amongst-the-5-universities-to-be-awarded-research-grant-from-mtdc/

CIBAFI — GENERAL COUNCIL FOR ISLAMIC BANKS AND FINANCIAL INSTITUTIONS

Consulted for the General Council for Islamic Banks and Institution (CIBAFI)'s Global Islamic Bankers' Survey 2016: Confidence, Risk and Responsible Business Practices

Source: CIBAFI. (2016). "CIBAFI Global Islamic Bankers' Survey: Confidence, Risk and Responsible Business Practices". http://cibafi.org/SurveyPage?ContentId=CI1341

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