

Brief Note on OIC Business Intelligence Center

A Report Prepared for Submission to the 38th Session of the COMCEC

(26-29 November 2022, Istanbul, Türkiye)

OIC Business Intelligence Centre (OBIC) – Background & Context:

1. **The main objectives of the OBIC:**
 - a. Build best-in-class business intelligence ecosystem development capability to serve all OIC MCs (regulatory guidelines, data collection, security, consumer/creditor rights, cross-border data flow frameworks, PPP, Industry Association, other);
 - b. Develop a best-in-class business intelligence database/digital platform that covers cross-border credit registry and linked credit bureau services (OIC-wide with potential Hub & Spoke model);
 - c. Provide advisory services including capacity building to MCs across the different maturity levels to drive business/credit intelligence impact across all members;
 - d. Deliver an optimal operational model with key strategic partnerships and potential regional offices network and adoption model that serves all MCs at various maturity levels; and
 - e. Establish a robust business model for the Center to ensure long-term sustainability and impact.
2. Taking into account the specific mandate of The Islamic Corporation for the Insurance of Investment and Export Credit (ICIEC), as mentioned in its Articles of Agreements, "The objective of the Corporation shall be to enlarge the scope of trade transactions and the flow of investments among the Member States". ICIEC has embarked on initiating a study on the possibility to create an OIC Credit Information Bureau where the main goal is to enlarge the scope of intra-trade and export from member countries.
3. Enhancing the OIC's credit information ecosystem will impact positively on the following:
 - a. It could boost private-sector lending in the least developed OIC member states by an estimated \$670 billion a year¹. In addition, rates of non-performing loans could potentially be reduced by 7.75 percentage points;
 - b. It will boost the OIC Intra-Trade from its current level of US\$ 539 bn, which represents a 19.9% share of total OIC Trade;
 - c. It will potentially reduce the rates of Non-Performing Loans By at least 7%;
 - d. Credit information systems boost lending by up to 50% of GDP, reduce costs substantially, and financially assimilate the 2 billion unbanked, with a noticeable impact on FDI. In 2016, OIC countries had \$ 96.3 bn in FDI (only 6.6% of global FDIs); and
 - e. Other vital benefits include the financial inclusion of MSME's, FDI growth, and Intra-OIC trade boost.
4. After extensive consultations with various stakeholders, ICIEC has deemed it necessary to widen the initial scope of Credit Information, to include the setting up of an OIC Business Intelligence Centre across the OIC region tackling the deficiencies in the availability of Business Intelligence Data to enable the Decision Making process at the public and private sector.
5. **Target Audience/Beneficiaries:**
 - OIC Member Countries;
 - Private and Public Stakeholders; and
 - Business community.
6. The COMCEC's Follow-up Committee (08-10 May 2018, Ankara, Turkey) took note of the First Interim-Report on the OBIC. It recommended that ICIEC submit the said Interim-Report to MCs to enrich the document with their feedback by July 30, 2018.
7. Comments and inputs from distinguished MCs and OIC organs, Turkey, Sudan, Egypt, Brunei, and Azerbaijan, commended the ICIEC's proposal. The Interim Report provided guiding principles and technical updated information captured in the Report and Resolutions.

¹ Based on applying credit information to private sector loan correlation evidence by a World Bank & Harvard University study of OIC countries.

8. During the 34th COMCEC Ministerial Meeting (November 29 2018), the following ministerial Resolution was adopted and which reads as follows *"Takes note with appreciation of the IDB Group's initiative called "OIC Business Intelligence Center" led by the ICIEC and requests the IDB Group, in particular the ICIEC, to start operationalization of this initiative as an OIC Program under one of the IDB Regional Hub, in close partnership with SESRIC and other relevant OIC institutions as required."*
9. During the 35th Session of the COMCEC (25-28 November 2019), the following resolutions were adopted, and which read as follows:
 - *"70- Welcomes the mutual arrangement between IDB Group, in particular, ICIEC and SESRIC regarding the allocation of space location and other relevant resources by SESRIC for technical instruments for the OIC Business Intelligence Programme."*
 - *"71-Takes note of the Report prepared by ICIEC on OIC Business Intelligence Programme and requests the ICIEC and SESRIC to complete the technical preparations for launching the Programme at the earliest."*
 - *"72-Also requests ICIEC in cooperation with SESRIC to conduct a survey for assessing the commercial data and credit information sharing systems of the Member Countries in order to ensure the operationalization of the Programme in line with the priorities and regulations of the Member Countries."*
10. During the 36th Session of the COMCEC (25-26 November 2020), the following resolutions were adopted, and which read as follows:
 - *69- Takes note of the Report prepared by ICIEC on the OIC Business Intelligence Programme and requests the ICIEC and SESRIC to complete the technical preparations for launching the Programme at the earliest."*
 - *70- Also requests ICIEC in cooperation with SESRIC to finalize the survey for assessing the commercial data and credit information sharing systems of the Member Countries in order to ensure the operationalization of the Programme in line with the priorities and regulations of the Member Countries, and submit the outcomes to the 37th meeting of the COMCEC Follow-up Committee and 37th COMCEC Ministerial Session."*
11. During the 37th Meeting of the Follow-up Committee of the COMCEC (held virtual-only 08-09 June 2021), the following resolutions were adopted regarding the OBIC:
 - *The Committee **took note of** the progress report submitted by the ICIEC with SESRIC on OIC Business Intelligence Programme; the Committee **requested** the ICIEC, in collaboration with SESRIC, to complete the technical preparations for launching the Programme at the earliest."*
 - ***Taking note of** the limited responses to the Questionnaire conducted by the ICIEC with SESRIC on the OIC Business Intelligence Programme, the Committee **requested** the ICIEC, in collaboration with the SESRIC, to continue their efforts to increase the number of the responses as well as submit their assessments on the outputs of the Questionnaire to the 37th COMCEC Session."*
 - *The Committee **welcomed** the proposal made by ICIEC and SESRIC for organizing capacity-building activities for potential beneficiaries of the Programme, in the areas covered under the core business areas of the Programme, and in collaboration with ICDT and other OIC organs."*
12. During the 37th Session of the COMCEC (24-25 November 2021), the following resolutions were adopted in relation to the OBIC:
 - ***Takes note of** ICIEC's efforts towards launching the OIC Business Intelligence Center (OBIC) Programme and the work and steps taken in collaboration with SESRIC towards its implementation."*
 - ***Also takes note of** the Progress Report and the Implementation Plan Report prepared by ICIEC on the OIC Business Intelligence Programme and **requests** the ICIEC and SESRIC to complete the technical preparations for launching the Programme at the earliest."*
 - ***Also takes note of** the Proposal prepared by ICIEC, SESRIC, and ICDT for organizing a Capacity Building Activities for potential beneficiaries of the Programme in the areas covered under the core business of the Programme and **requests** ICIEC, SESRIC, and ICDT to implement the Capacity Building Activities at the earliest."*
13. During the 37th Meeting of the Follow-up Committee of the COMCEC (24-25 May 2022), the following

resolution was adopted regarding the OBIC:

- *The Committee also **took note of** the progress report submitted by the ICIEC on OIC Business Intelligence Program and **requested** the ICIEC, in collaboration with SESRIC, to complete the technical preparations for launching the Programme at the earliest.*

14. Key Developments To-date:

- SESRIC has allocated the necessary office space in its premises for hosting the OBIC temporarily as an OIC Programme and host the OBIC Technical Team;
- ICIEC and SESRIC have formed two Committees, i.e. the Executive Committee and the Technical Committee, under a Resolution issued on August 31, 2020, in this respect by the CEO, ICIEC and the DG, SESRIC. The Resolution has named the members from each institution, along with Terms of Reference (ToRs) for each Committee. Both Committees held several meetings during the past few months to discuss the current status of the initiative and the way forward.
- A Questionnaire was designed by ICIEC and SESRIC as requested by Resolution No. 72 of the 35th Session, and the Questionnaire was sent out starting December 23, 2020, to 26 Public and Private entities involved in collecting and producing credit/business information, located in 19 Member Countries of Tiers A and B. Despite several reminders made, only a few responses were received to date, and they were from recipients located in 8 Countries, i.e. Kyrgyzstan, Oman, Maldives, Malaysia, Algeria, United Arab Emirates, and Saudi Arabia.
- As per the Resolution made by the 37th Meeting of the Follow-up Committee (held virtual-only 08-09 June 2021), requesting ICIEC, in collaboration with SESRIC, to complete the technical preparations for launching the Programme at the earliest, a detailed Implementation Plan Report was prepared. For easy reference, the Executive Summary of the Report is attached as **ANNEX-1**, while the full Report is attached as **ANNEX-2**.
- As per the Resolution made by the 37th Meeting of the Follow-up Committee (held virtual-only 08-09 June 2021), ICIEC, SESRIC and ICDT have prepared a Proposal for organizing a Capacity Building Programme for the benefit of potential beneficiaries of the OBIC in the areas covered under the core business areas of the Programme. In this respect, ICIEC, SESRIC, ICDT, and the Islamic Chamber of Commerce, Industry and Agriculture (ICCIA) – who joined the implementation team of the OBIC Capacity Building Programme recently - are taking together the necessary technical actions towards the implementation of the initiative and launching the OBIC. In this respect, preparations are ongoing to organize the Capacity Building Programme for the End Users, and the Programme was scheduled earlier to be organized in June 2022 in Cairo, Egypt, with the involvement of specialized experts from the IFC of the World Bank, in addition to technical contributions in delivering the sessions from ICIEC, SESRIC and ICDT. With the recent addition of the ICCIA to the team in charge of the implementation, the content of the Sessions was revisited to include more topics for the benefit of wider sectors of Users, and it was deferred to a new date to be organized in January 2023. The revised content of the Programme is given in **ANNEX-3**.

15. OBIC Launch Implementation and Phasing Strategy:

a. Short-Term Work Plan (For Phase One: November 2021 to November 2022)

- In this phase, the focus will mainly be on the pilot projects and a shortlist for hub selection, focusing on securing the funding. In this regard, Saudi Arabia, Türkiye, and Indonesia were selected to host the pilot hubs of the OBIC.

b. Medium-Term Work Plan (For Phase Two: December 2022 to November 2023)

- The focus will be more on finalizing the hubs, the main composition of OBIC, along with an extended drive to secure the funding if not met in Phase One. Also, this Phase will also witness the organization of the 1st Capacity Building Programme for the End Users of the OBIC in the 1st Quarter of 2023.

c. Long-Term Work Plan: (For Phase Three: December 2023 to November 2024)

- This phase will deal with creating a database for the credit bureaus, testing and deploying the registry technology system, and producing a manual of procedures for the registry's operation and a user guide for end-users culminating in the OBIC official launch.

Draft Resolutions

- **Took note of** the progress report submitted by the ICIEC on the OIC Business Intelligence Centre.
- **Took note of** the proposal prepared by ICIEC, SESRIC, ICDT, and ICCIA for organizing Capacity Building Activities for potential beneficiaries of the Programme in the areas covered under the core business areas of the Programme and **requested** the ICIEC, SESRIC, ICDT, and ICCIA to implement the Capacity Building Activities at the earliest.
- **Took note of** the OIC Business Intelligence Centre (OBIC) Implementation Plan Report submitted by the ICIEC, and **requested** the ICIEC, in collaboration with the SESRIC, ICDT, and ICCIA to continue their efforts to complete the technical preparations for launching the Programme at the earliest, and submit a Progress Report to the 39th Session of the COMCEC.

ANNEX-1



2

Executive Summary

2. Executive Summary

- Information asymmetry between financial institutions and borrowers has been greatly reduced by the increasing proliferation of credit information systems. However, OIC area credit information systems **remain far behind global standards** according to World Bank data with private credit bureau coverage in 2019 estimated at 15.5% of the total adult population in contrast to the 66.8% in the OECD.
- On the basis of this perceived gap, ICIEC, a member of the Islamic Development Bank (IsDB) Group, has opted to investigate the possibility of creating an OIC-wide Business Intelligence Center. COMCEC members officially endorsed the proposed Business Intelligence Center concept note on its 33rd Session and directed ICIEC to submit a feasibility report.
- The COMCEC's 34th Session, held between November 26-29, 2018, received the feasibility report, enhanced by comments on the interim report from the member countries, on the center's establishment, and directed that it be operationalized as an OIC program led by the Islamic Corporation for Investment and Export Credit (ICIEC) in collaboration with the Statistical, Economic and Social Research and Training Center for Islamic Countries (SESRIC).
- Following that, COMCEC's 35th Session instructed ICIEC and SESRIC to complete technical preparations for the launch of OBIC. The 36th COMCEC Ministerial Session asked that ICIEC and SESRIC finalize a survey of the Member Countries' systems for commercial data and credit information sharing and report the findings to the 37th COMCEC Ministerial Session.
- The COMCEC Follow-up Committee's 37th meeting took note of the progress of OBIC preparation, and asked that the ICIEC, in partnership with SESRIC, complete the technical preparations for launch as possible with report to COMCEC on its 37th Session. ICIEC and SESRIC's proposal to undertake capacity building activities for potential program recipients in conjunction with ICDT and other OIC entities was commended by the Committee.
- As determined in the earlier concluded feasibility report, an **OIC Business Intelligence Centre (OBIC)** would be established to deliver for member countries (MCs) key credit-ecosystem capacity building and cross-OIC credit intelligence delivery service. Based on the feasibility report, there are five key benefits of *OIC Business Intelligence Center (OBIC)* to OIC member countries: 1) Private sector lending boost of estimated \$220 billion to OIC economies; 2) Estimated reduction in rates of non-performing loans by 7.75 percentage points; 3) FDI boost; 4) Financial inclusion; 5) Intra-OIC trade boost
- This **OBIC Implementation Plan Report** is a follow-up to the feasibility Report already completed and it details an implementation plan that includes elaborated solution proposition, select pilot programs, with a 3-year plan covering 6 key implementation report objectives of hubs analysis, pilot program identification, communication strategy, governance structure, and funding strategy and plan. The goal of this Report is to present this actionable implementation plan gaining approval at COMCEC's 37th Standing Committee in Nov 2021, such that OBIC can fully launch by Q4 2024.
- Operationally OBIC would leverage a **Hubs and Spoke model**. With this approach, four regional groupings for Hubs and Spokes across the OIC regions, covering South & South-East Asia, MENA & Eastern Africa, Sub-Saharan Africa & Caribbean, and Central Asia & Europe are proposed. This will enable full regional credit intelligence coverage including consideration for official languages.
- Pilot programs** with potential Hubs and Spoke MCs is the approach taken to kickstart the practical and pragmatic implementation of OBIC. Based on a mix of quantitative and qualitative analysis, 15 member countries from Credit Ecosystem Tier A, B and C were identified as high potential as OBIC Hubs. These would then also enable services across all MCs across the four regional groupings. For the Pilot programs, 3 of these MCs were proposed for initial pilot projects. However, other identified high potential Hubs and Spokes would be welcome to participate in the Pilot program.
- To enable effective Pilot Program, OBIC services were detailed out in this Report. **OBIC Solution Bundle** containing 10-service offerings has been elaborated. **In line with COMCEC Follow-up Committee's 37th**

meeting commendations, the services are grouped as part of **Capacity Building** (Strategic Advisory, Tools & Resources, Training) and as **Credit Intelligence Delivery** (Credit Registry Infrastructure, Cross-OIC Credit Registry) services.

- In terms of **governance**, a proposed OBIC management, business development, marketing and technological resources are proposed and will be overseen by an executive board consisting of stakeholders from MCs, ICIEC, SESRIC and ICDT.
- OBIC will follow a **6-stage operational model**. In the 1st stage, database will be formed, followed by user acquisition in the 2nd stage. In the 3rd stage, data diversification takes place, and in 4th, user diversification will be progress, which will lead to database maturity in the 5th stage. This will enable service expansion to take place in the 6th stage. For effective **operations**, based on global best practices for regional credit intelligence centers, a working group was proposed to facilitate the initiation of OBIC.
- With regards to **OBIC's launch implementation and phasing strategy**, a 3-phased work plan was proposed. **In Phase 1 (November 2021 to November 2022)**, the focus will be on funding and starting up pilot projects from the shortlist prioritized potential OBIC hubs. Subsequently, in **Phase 2 (December 2022 to November 2023)** the focus will be more on finalizing the hubs, the main composition of OBIC, along with an extended drive to secure the funding if not met in Phase 1. **For Phase 3 (December 2023 to November 2024)**, the focus will be creation of a database for credit bureaus, testing and deploying of registry technology system, credit reporting events for OBIC and for the credit providers of the countries, and producing a manual of procedures for the operation of the registry and a user guide for end users culminating in OBIC official launch.
- **Investment needed in establishing** OBIC is estimated at \$7.97 million to be secured across a two-year period, \$4.24 million of which will be needed to build a robust, scalable database, and with \$3.73 million to sustain operations in the first five years. The center is expected to generate an operating profit in year 6 and revenue reaching \$4.40 million by Year 6, ramping up following the launch of the cross-OIC platform in Year 1, which is projected to reach 1,500 users within five years of launch and represent 30% of revenues by year 5.
- **Financing source** for OBIC can come from host countries on from Phase 1 pilot projects or subsequent

Phase 2 efforts on a clear Pilot Project fee basis where part of the total costs of project financing are covered in exchange for OBIC services for a discount. Additionally, IsDB and OIC member countries investment capital as shares in OBIC could also be structured.

- **OBIC's success** will depend on identifying the project's champions who will pioneer the project, coming to an agreement on a plan that is well-defined based on professional guidance and executing it regularly, a strong legal and regulatory to properly implement OBIC financing and consulting services, taking advantage of advances in data collection, dissemination, and analysis based on sophisticated technology, and most importantly, solid cooperation to build a strong technological foundation.

ANNEX-2



THE ISLAMIC CORPORATION FOR
THE INSURANCE OF INVESTMENT
AND EXPORT CREDIT
Member of the Islamic Development Bank Group



STATISTICAL, ECONOMIC AND
SOCIAL RESEARCH AND TRAINING
CENTRE FOR ISLAMIC COUNTRIES

A CUTTING EDGE PLATFORM TO DRIVE ECONOMIC TRANSFORMATION

OIC BUSINESS INTELLIGENCE CENTRE (OBIC)

IMPLEMENTATION PLAN REPORT

OCTOBER 2021

CONNECTION
ANALYSIS
DATA
SEARCHING
VERIFICATION
CODING
SENDING

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1

Preamble

IDENTIFICATION SECTOR

OBJECT: A-254117
STATUS: SYSTEM OK

MODE: STEADY
SECTOR: STEADY



SECTOR 1



SECTOR 2



SECTOR 3

1. Preamble

- Information asymmetry between financial institutions and borrowers has been greatly reduced by the increasing proliferation of credit information systems. However, OIC area credit information systems remain far behind global standards with private credit bureau coverage in 2019 estimated at 15.5% using World Bank data in contrast to the 66.8% of the total population in the OECD.
- Based on the identified need, the Islamic Corporation for the Insurance of Investment and Export Credit (ICIEC), a member of the Islamic Development Bank (IsDB) Group, had decided to evaluate creating a viable and financially sustainable **Business Intelligence Center for the OIC** that will assist with the identified need.
- The proposed **Business Intelligence Center's** concept note was officially endorsed during 33rd Session of the Standing Committee for Economic and Commercial Cooperation of the Organization of Islamic Cooperation (COMCEC), by the Senior Officials and Ministers of Trade (19-24 November 2017, Istanbul, Turkey).
- The 33rd session decided that, ICIEC was to submit an interim-report to the COMCEC Follow Up Committee so to set up a **OIC Business Intelligence Centre (OBIC)** with a possibility to create regional offices, so to globally and mutually respond to the need to have an appropriate function that addresses the deficiencies in terms of lack of reliable, predictable and strategic business intelligence.
- The COMCEC's Follow Up Committee (08-10 May 2018, Ankara, Turkey) took note of the First Interim- Report submitted by ICIEC on the OBIC and recommend to ICIEC to submit the said Interim-Report to MCs in order to enrich the document with their feedbacks by July 30, 2018.
- A feasibility report on the business case for establishing the center, was presented to the COMCEC in its 34th Session held between 26-29 November, 2018 after which it directed to start operationalizing this program as an OIC Program to be led by the Islamic Corporation for the Insurance of Investment and Export Credit (ICIEC) in close partnership with Statistical, Economic and Social Research and Training Center for Islamic Countries (SESRIC).
- During the 34th COMCEC Ministerial Meeting (29 November 2018), the following ministerial resolution was adopted, which reads as follows: *"Takes note with appreciation of the IDB Group's initiative called "OIC Business Intelligence Center" led by the ICIEC and requests the IDB Group, in particular the ICIEC, to start operationalization of this initiative as an OIC Program under one of the IDB Regional Hub, in close partnership with SESRIC and other relevant OIC institutions as required"*
- Then, COMCEC in its 35th Session mandated ICIEC and SESRIC to complete technical preparations for the launch of OBIC.
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- The 37th Meeting of the Follow-up Committee of the COMCEC (8-9 June 2021), has adopted the following resolutions:



*"87- **Takes note** of the progress report submitted by the ICIEC on OIC Business Intelligence Program and requested the ICIEC in collaboration with SESRIC to complete the technical preparations for launching the Program at the earliest."*



*"88- **Taking note** of the limited responses to the questionnaire conducted by the ICIEC with SESRIC on OIC Business Intelligence Program, the Committee **requested** the ICIEC, in collaboration with the SESRIC, to continue their efforts to increase the number of the responses as well as submit their assessment on the outputs of the questionnaire to the 37th COMCEC Session."*



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2

Executive Summary

2. Executive Summary

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- As determined in the earlier concluded feasibility report, an **OIC Business Intelligence Centre (OBIC)** would be established to deliver for member countries (MCs) key credit-ecosystem capacity building and cross-OIC credit intelligence delivery service. Based on the feasibility report, there are five key benefits of *OIC Business Intelligence Center (OBIC)* to OIC member countries: 1) Private sector lending boost of estimated \$220 billion to OIC economies; 2) Estimated reduction in rates of non-performing loans by 7.75 percentage points; 3) FDI boost; 4) Financial inclusion; 5) Intra-OIC trade boost
- This **OBIC Implementation Plan Report** is a follow-up to the feasibility Report already completed and it details an implementation plan that includes elaborated solution proposition, select pilot programs, with a 3-year plan covering 6 key implementation report objectives of hubs analysis, pilot program identification, communication strategy, governance structure, and funding strategy and plan. The goal of this Report is to present this actionable implementation plan gaining approval at COMCEC's 37th Standing Committee in Nov 2021, such that OBIC can fully launch by Q4 2024.
- Operationally OBIC would leverage a **Hubs and Spoke model**. With this approach, four regional groupings for Hubs and Spokes across the OIC regions, covering South & South-East Asia, MENA & Eastern Africa, Sub-Saharan Africa & Caribbean, and Central Asia & Europe are proposed. This will enable full regional credit intelligence coverage including consideration for official languages.
- Pilot programs** with potential Hubs and Spoke MCs is the approach taken to kickstart the practical and pragmatic implementation of OBIC. Based on a mix of quantitative and qualitative analysis, 15 member countries from Credit Ecosystem Tier A, B and C were identified as high potential as OBIC Hubs. These would then also enable services across all MCs across the four regional groupings. For the Pilot programs, 3 of these MCs were proposed for initial pilot projects. However, other identified high potential Hubs and Spokes would be welcome to participate in the Pilot program.
- To enable effective Pilot Program, OBIC services were detailed out in this Report. **OBIC Solution Bundle** containing 10-service offerings has been elaborated. **In line with COMCEC Follow-up Committee's 37th**

meeting commendations, the services are grouped as part of **Capacity Building** (Strategic Advisory, Tools & Resources, Training) and as **Credit Intelligence Delivery** (Credit Registry Infrastructure, Cross-OIC Credit Registry) services.

- In terms of **governance**, a proposed OBIC management, business development, marketing and technological resources are proposed and will be overseen by an executive board consisting of stakeholders from MCs, ICIEC, SESRIC and ICDT.
- OBIC will follow a **6-stage operational model**. In the 1st stage, database will be formed, followed by user acquisition in the 2nd stage. In the 3rd stage, data diversification takes place, and in 4th, user diversification will be progress, which will lead to database maturity in the 5th stage. This will enable service expansion to take place in the 6th stage. For effective **operations**, based on global best practices for regional credit intelligence centers, a working group was proposed to facilitate the initiation of OBIC.
- With regards to **OBIC's launch implementation and phasing strategy**, a 3-phased work plan was proposed. **In Phase 1 (November 2021 to November 2022)**, the focus will be on funding and starting up pilot projects from the shortlist prioritized potential OBIC hubs. Subsequently, in **Phase 2 (December 2022 to November 2023)** the focus will be more on finalizing the hubs, the main composition of OBIC, along with an extended drive to secure the funding if not met in Phase 1. **For Phase 3 (December 2023 to November 2024)**, the focus will be creation of a database for credit bureaus, testing and deploying of registry technology system, credit reporting events for OBIC and for the credit providers of the countries, and producing a manual of procedures for the operation of the registry and a user guide for end users culminating in OBIC official launch.
- **Investment needed in establishing** OBIC is estimated at \$7.97 million to be secured across a two-year period, \$4.24 million of which will be needed to build a robust, scalable database, and with \$3.73 million to sustain operations in the first five years. The center is expected to generate an operating profit in year 6 and revenue reaching \$4.40 million by Year 6, ramping up following the launch of the cross-OIC platform in Year 1, which is projected to reach 1,500 users within five years of launch and represent 30% of revenues by year 5.
- **Financing source** for OBIC can come from host countries on from Phase 1 pilot projects or subsequent

Phase 2 efforts on a clear Pilot Project fee basis where part of the total costs of project financing are covered in exchange for OBIC services for a discount. Additionally, IsDB and OIC member countries investment capital as shares in OBIC could also be structured.

- **OBIC's success** will depend on identifying the project's champions who will pioneer the project, coming to an agreement on a plan that is well-defined based on professional guidance and executing it regularly, a strong legal and regulatory to properly implement OBIC financing and consulting services, taking advantage of advances in data collection, dissemination, and analysis based on sophisticated technology, and most importantly, solid cooperation to build a strong technological foundation.



3

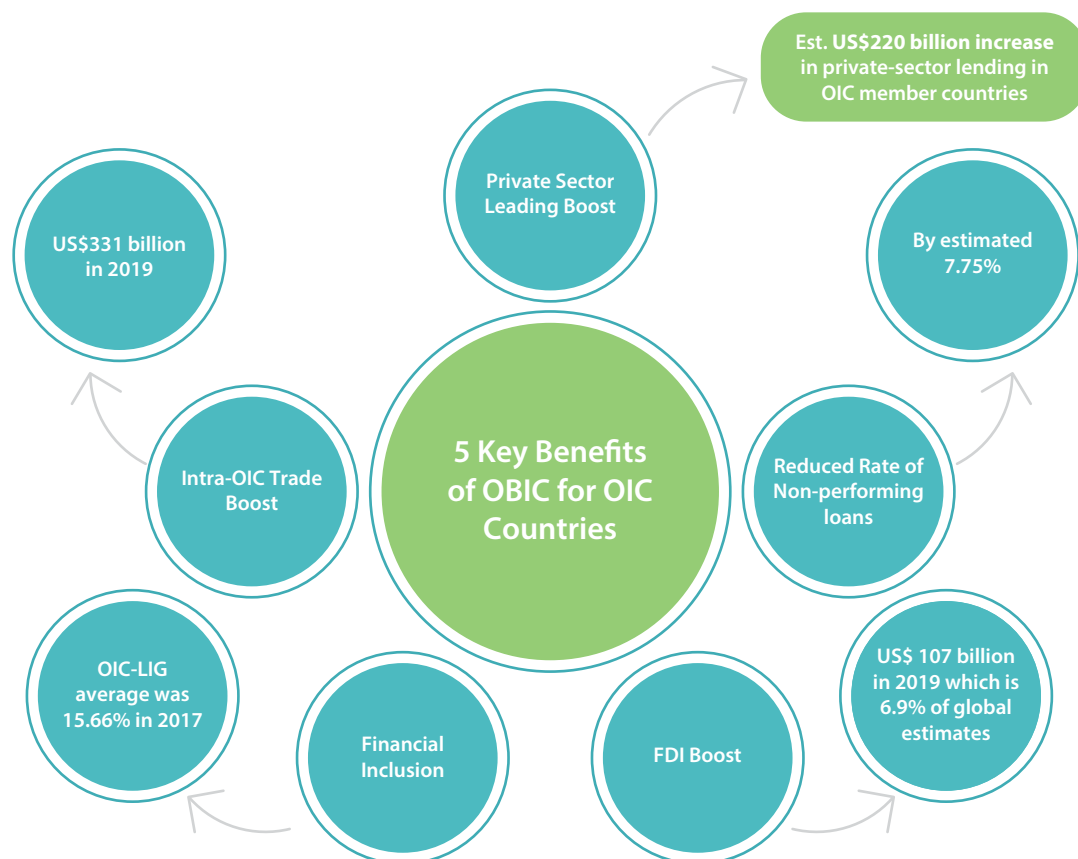
OIC Business Intelligence
Centre (OBIC)

Background & Context

3.1. OBIC Business Case

Based on the earlier analysis of the gaps in OIC member countries relative to global credit information benchmarks, there are five key benefits of OIC Business Intelligence Center (OBIC) to OIC member countries:

Figure 3.1: OBIC Impact Sphere



Source: DinarStandard analysis based on world bank, SESRIC, COMCEC data

A. Private sector lending boost of estimated \$220 billion to OIC economies: Effective credit reporting systems have been empirically seen to increase private sector lending by as much as 7-8% of GDP according to an authoritative empirical study of 129 countries, undertaken by the World Bank and Harvard University¹ as showed by Djankov et al. (2007). Full and effective availability of credit information and associated system can boost private sector lending within least developed OIC member states by a conservative estimate by \$220 billion a year. This estimate is for the 38 OIC member countries with credit information available on less than 15% of adult population.

B. Reduce rates of non-performing loans by 7.75 percentage points: Studies have shown that the availability of full credit information can reduce the rates of non-performing loans by 7.75 percentage points, based on empirical evidence in Latin America². Based on this evidence, we can estimate a similar impact on reduction of non-performing loans on OIC member countries.

C. FDI boost: Given the strong correlation of FDI growth and strong financial credit information systems, the OIC members can most certainly also see positive direct impact on Foreign Direct Investments (FDI.) An improving credit system will

1. Djankov, S., McLiesh, C., & Shleifer, A. (2007). Private credit in 129 countries. *Journal of financial Economics*, 84(2), 299-329.

2. Turner, M. A., & Varghese, R. (2010). The economic consequences of consumer credit information sharing: efficiency, inclusion, and privacy. *The Policy & Economic Research Council*.

increase foreign investors' confidence in the domestic investments. In addition, in 2019, OIC countries were able to attract only US\$ 107 billion in FDI inflow which is only 6.9% of global amount compared³.

D. Financial inclusion: OIC member countries suffer from highest financial system non-inclusion. While part of the reason is limited Islamic finance, a big part is inability for financial institutions to evaluate risk with through reliable credit information on MSMEs in OIC countries. On average, only 15.66 % adults in the OIC low-income countries hold a bank account at a formal financial institution which further exasperates the challenge⁴.

E. Intra-OIC trade boost: A cross-border business-credit information amongst OIC member countries will further boost existing trade linkages and preferential agreements. Nominal value of the total intra-OIC trade has grown from USD 254 billion in 2016, to USD 331 billion in 2019. The share of intra-OIC trade in total OIC trade was 19% in the same period.⁵

Figure 3.2: Setting the business intelligence Strategic Plan for OBIC



3. Statistical Yearbook on OIC Member Countries 2020, SESRIC, OIC (2020)

4. COMCEC Financial Outlook 2020, COMCEC (2020)

5. OIC Economic Outlook 2020, SESRIC, OIC (2020)

3.2. OBIC Vision & Solution Framework Based on initial feasibility study:

Through the OIC Business Intelligence Center (OBIC), OIC markets will have access to the Center's best-in-class credit intelligence enabling services. OBIC will be equipped with new technological capabilities such as blockchain and machine learning/artificial intelligence resulting in sophisticated and efficient business credit intelligence and data integrity and quality. The earlier conducted feasibility study had determined following OBIC vision & solution framework:

Enabling the OBIC vision, mission and strategic pillars are the following strategic objectives:

i. OBIC Strategic Objectives

- Build a best-in-class business intelligence ecosystem development capability to serve all OIC MCs (regulatory guidelines, data collection, security, consumer/creditor rights, cross-border data flow frameworks, PPP, Industry Association, other).
- Develop a best-in-class business intelligence database/digital platform that covers cross-border credit registry and linked credit bureau services (OIC wide with potential hub-and-spoke model).
- Provide advisory services including capacity building to MCs across the different maturity levels to drive business/credit intelligence impact across all members.
- Deliver an optimal operational model with key strategic partnerships and potential regional offices network and adoption of a model that serves all MCs at various maturity levels.
- Establish a strong business model for the center to ensure long-term impact and sustainability.
- (Future phase) Establish an OIC-wide rating agency that will provide reliable, affordable, and independent creditworthiness of the MCs, including risk profile.
- Effective information sharing among member states' crime prevention bodies to create a clean financial ecosystem across the OIC.

3.3. OBIC Implementation Plan Report

This **OBIC Implementation Plan Report** is a follow-up to the feasibility Report already completed and it **details an** implementation plan that includes elaborated solution proposition, select pilot programs, with a 3-year plan covering 6 key implementation report objectives that will serve all member countries.

The goal of this Report is to present an actionable implementation plan gaining approval at COMCEC's 37th Standing Committee in Nov 2021, such that OBIC can fully launch by Q4 2024.

Below are the six key objectives that this Implementation Plan Report addresses:

1. Hub's analysis: Evaluate and identify high potential MCs to host one of the hubs/offices of the OBIC (Tier A and B Member Countries/ MCs).
2. Pilot programs: Summarize the OBIC solution bundles, and for 3 High Potential MCs, prepare pilot programs in context of their specific need/ situation, including a proposed solution bundle to initiate with each.
3. Communication and marketing plan/strategy: develop this plan/strategy for engaging with the target MCs.
4. Governance structure: Propose OBIC governance structure.
5. Funding strategy/plan: Propose this strategy/plan for the OBIC with details of funds sourcing, management, and utilization over the first few years of the OBIC.

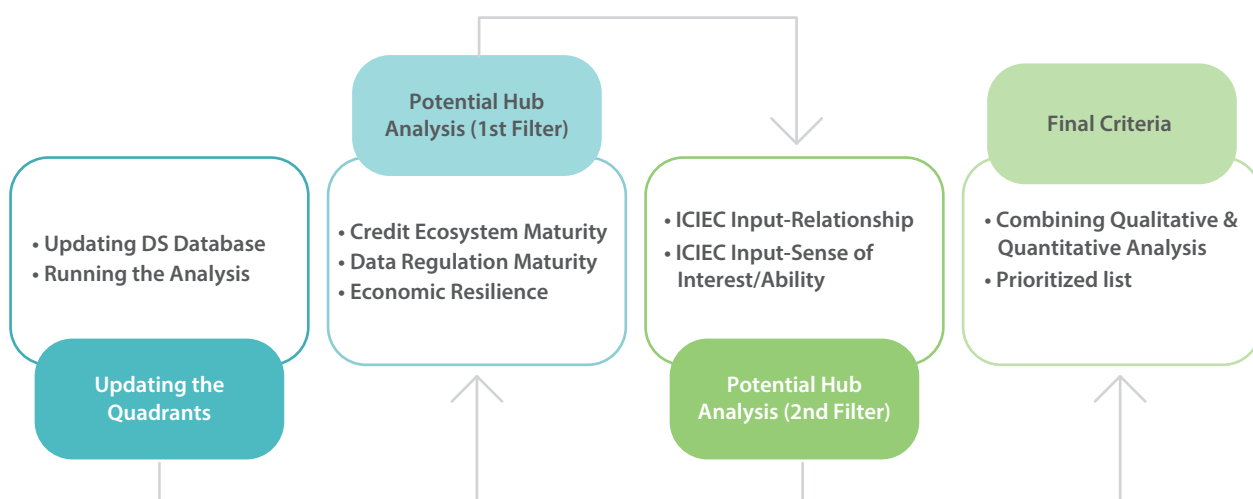
3.4. Evaluation of OIC Countries for the Hub & Spoke OBIC Strategy

As determined in the feasibility, OBIC would execute its strategy operationally leveraging a Hubs and Spoke model.

The Hub & Spokes model is optimal for a group of countries of differing economic status, whereby for select lower-income countries establishing individual CRSPs (Credit Reporting Service Provider) would not be economically viable. Under the Hub & Spokes structure, a single, internationally operating CRSP is set up to serve multiple small markets⁶. The Hub & Spokes model in *Western African Credit Bureau and AnaCredit* (see Case Study chapters 5 & appendix) projects are an example of how developing countries become part of this opportunity.

In order to evaluate the high potential OIC MC hubs, following four steps were undertaken (See Appendix for detailed approach.)

Figure 3.3: Steps taken to identify OBIC hubs & spokes



i. OIC Credit Intelligence Maturity Quadrants

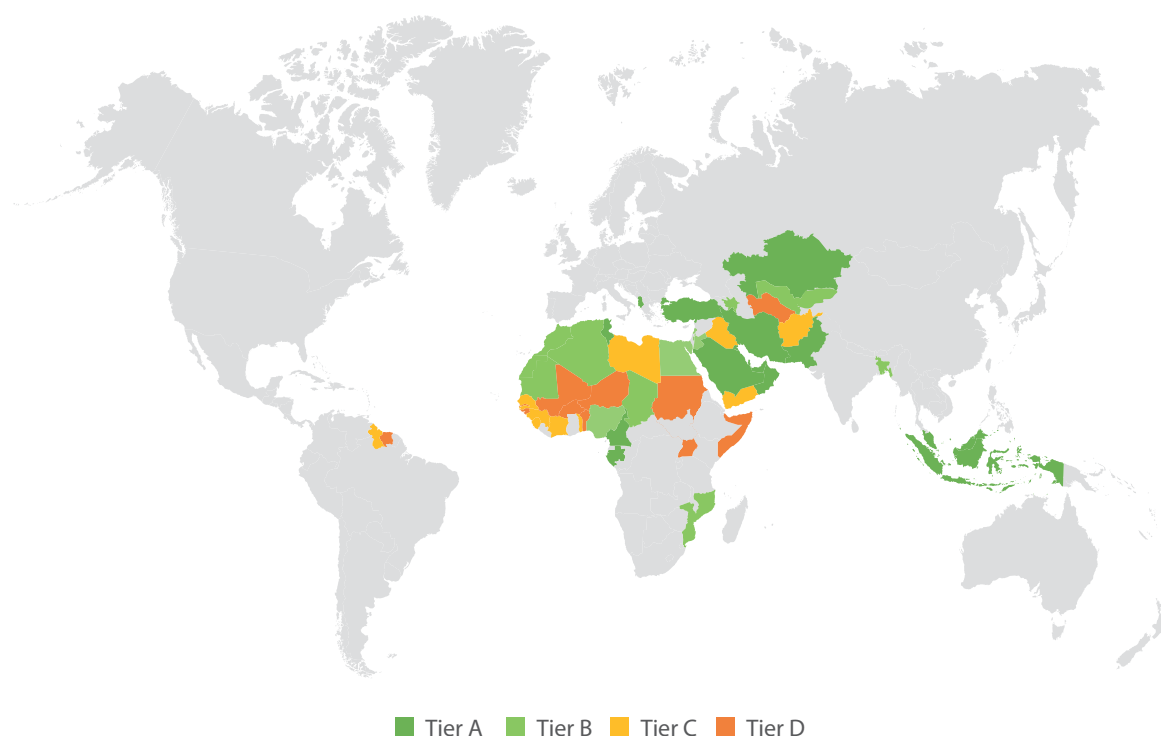
A corner stone of OBIC's strategy has been the OBIC Credit Maturity Quadrant that support identification of hubs and spokes as well as levels of services that OBIC could provide to all OIC member countries. This quadrant determines a grouping of IsDB member countries based on credit ecosystem maturity stage. This framework was developed in the original feasibility report in 2018. For the purpose of this Implementation plan the data has been updated to reflect the latest picture.

Based on the global benchmarking with OIC countries adoption of credit registries and credit bureaus, a four-quadrant segmentation of the different OIC markets maturity levels are presented below. The methodology and data are illustrated in Appendix A & B.



A corner stone of OBIC's strategy has been the OBIC Credit Maturity Quadrant that support identification of hubs and spokes as well as levels of services that OBIC could provide to all OIC member countries.

6. European Central Bank Archives, https://www.ecb.europa.eu/press/pr/date/2003/html/pr030310_2.en.html

Figure 3.4: Updated OIC Credit Intelligence Maturity Quadrants⁷Table 3.1: OIC Business Intelligence Maturity Quadrants – Updated & Sorted According to Scores⁸

Tier A	Tier B	Tier C	Tier D
Albania	Algeria	Afghanistan	Benin
Brunei Darussalam	Azerbaijan	Cote d'Ivoire	Burkina Faso
Cameroon	Bahrain	Djibouti	Gambia
Comoros	Bangladesh	Guinea	Guinea-Bissau
Gabon	Chad	Guyana	Mali
Indonesia	Egypt	Iraq	Niger
Iran	Jordan	Libya	Somalia
Kazakhstan	Kyrgyz Republic	Senegal	Sudan
Kuwait	Mauritania	Sierra Leone	Suriname
Lebanon	Morocco	Togo	Turkmenistan
Malaysia	Mozambique	Yemen	Uganda
Maldives	Nigeria		
Oman	Tajikistan		
Pakistan	Uzbekistan		
Palestine			
Qatar			
Saudi Arabia			
Tunisia			
Turkey			
United Arab Emirates			

7. Source: DinarStandard Analysis

8. Source: World Bank Data, Dinarstandard Analysis

Table 3.2: Top 15 Hub Potential Countries⁹

Country Name	Credit Ecosystem Maturity Tier	Hub Attractiveness (Percentile Score)	ICIEC FIT #1 - Relationship Strength (Percentile Score)	ICIEC FIT #2 - Able, expressed interest (Percentile Score)
Malaysia	Tier A	100.00%	89.29%	94.64%
United Arab Emirates	Tier A	96.43%	89.29%	87.50%
Brunei	Tier A	94.64%	82.14%	94.64%
Indonesia	Tier A	98.21%	89.29%	73.21%
Turkey	Tier A	67.86%	89.29%	94.64%
Egypt	Tier B	92.86%	82.14%	73.21%
Pakistan	Tier A	60.71%	89.29%	87.50%
Saudi Arabia	Tier A	51.79%	89.29%	94.64%
Senegal	Tier C	57.14%	89.29%	87.50%
Iran	Tier A	83.93%	57.14%	73.21%
Kuwait	Tier A	82.14%	57.14%	73.21%
Nigeria	Tier B	42.86%	82.14%	87.50%
Bangladesh	Tier B	78.57%	57.14%	73.21%
Qatar	Tier A	75.00%	57.14%	73.21%
Morocco	Tier B	53.57%	82.14%	57.14%

ii. Identification of High Potential MCs as Hubs and Spoke

For the Implementation plan purpose, we identified a shortlist of countries that would be OBICs potential 'hubs' from which three initial pilot program countries were identified to initiate pre-launch pilot programs. Other potential member country 'hubs' would also be welcome to be part of the pilot programs.

In order for OBIC to succeed, the hubs strategy requires that selected MCs must be the one who have local need and are able to support its execution across regional 'spokes' and other member countries. The high potential hubs will serve as models to expand services to other OIC member countries.

The potential Hubs were identified based on having:

- a mix of credit ecosystem maturity, with a need to enhance their credit ecosystem further
- with a spread-out geographical location who needs to enhance cross-border credit intelligence
- have a resilient economic growth, which needs sustaining in the long run

Based on a mix of quantitative and qualitative analysis, 15 member countries from Credit Ecosystem Tier A, B and C were identified to be high potentials for OBIC Hubs as shown in Table 3.2 above.

To determine OBIC hubs, we considered the geographic and language mix of the OIC countries. Djibouti, Somalia & Sudan are part of Eastern Africa, however their predominant language is Arabic, and they are geographically closer to MENA region potential hub. So they are covered under the MENA hub. Likewise, Guyana & Suriname are in the Latin America & Caribbean region, but because of their geographical location, they are covered under the Sub-Saharan Hub.

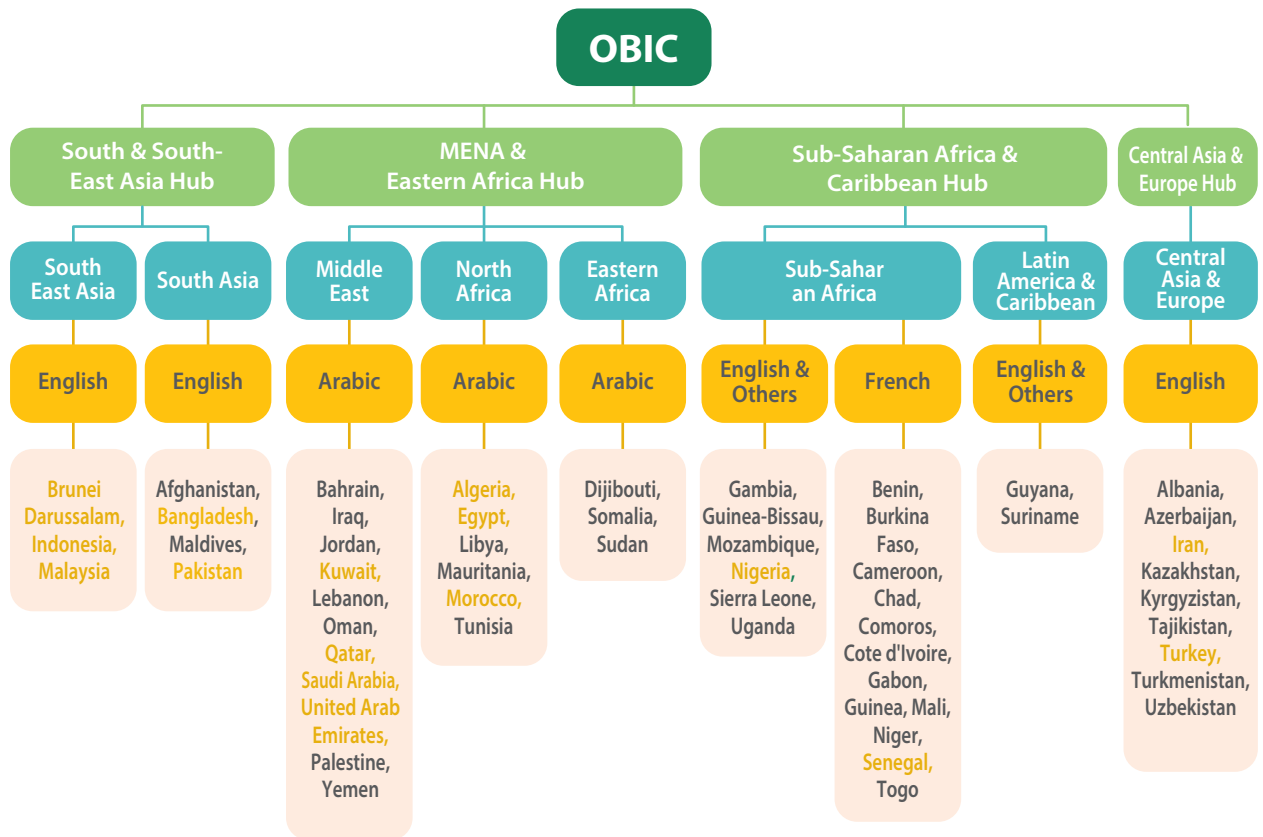
Following is a proposed coverage map to enable regional OBIC hubs and spoke that will

- 1) give OBIC Cross OIC Credit Intelligence Database regional coverage and data inputs needed, and
- 2) give language specific regional coverage and capability (Arabic, English and French)

Light green corresponds to the hub level, and the following two levels correspond to the potential spoke level. The top 15 countries according to the DinarStandard hub analysis are colored in Yellow.

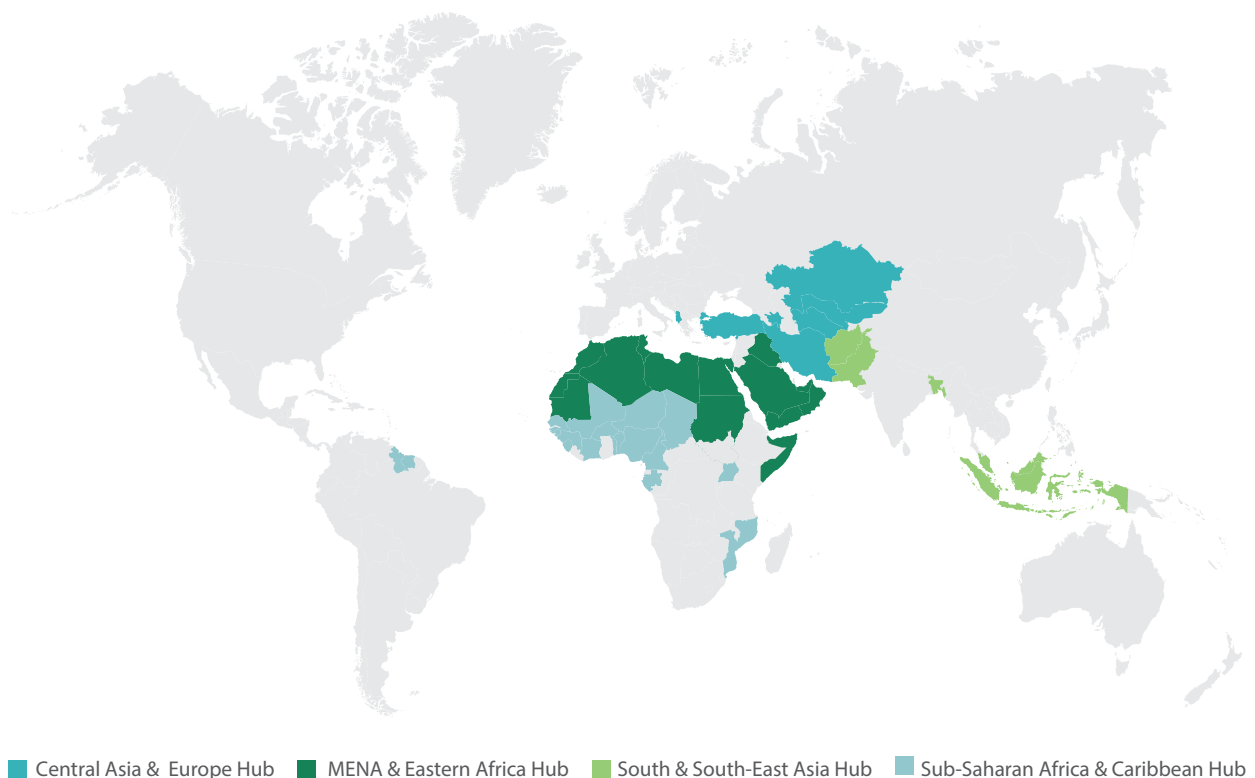
9. DinarStandard analysis

Figure 3.5: OIC hub coverage for member countries based on language and geographical location



Following that, the below figure illustrates a regional coverage map for OBIC.

Figure 3.6: OBIC Coverage Map with Potential Hubs



4

Pilot **Programs**

For OBIC's successful implementation and adoption, select Pilot Programs with select MC's have been determined to be a key part of the implementation strategy. The goal of the Pilot Programs would be to test and apply OBIC's services and value to select MC interested and needing to invest in such a program. Other high potential OBIC hubs would be welcome to be part of the initial Pilot programs.

A key component of the Pilot Program is the actual OBIC Services being referred to as 'OBIC Solution Bundle' that will be piloted by the Pilot member countries. This chapter begins with the elaboration of the 'OBIC Solution Bundle' and then a profile of the Pilot Programs for select member countries.

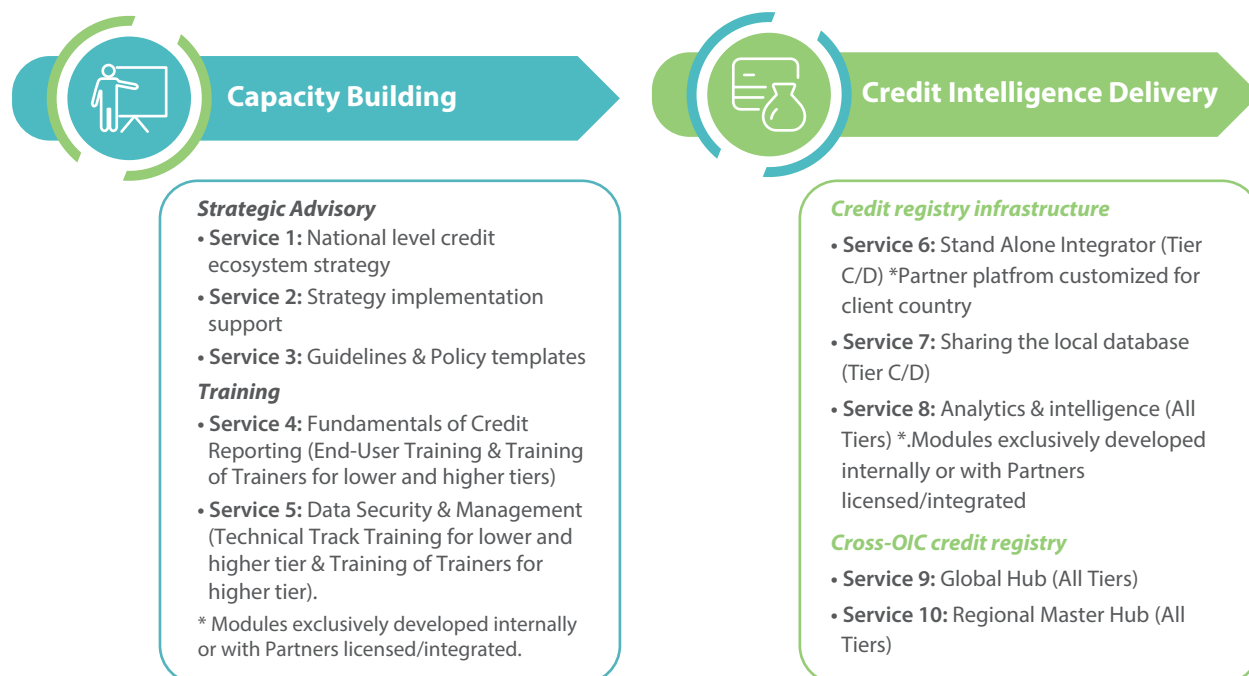
4.1. OBIC Solution Bundle

Against the backdrop of the preamble and the stated OBIC vision, objectives and services framework that were summarized in the "Report OIC Business Intelligence Center" presented November 2019 at 35th Session of the Standing Committee for Economic and Commercial Cooperation of the Organization of Islamic Cooperation (COMCEC), below is a further elaborated OBIC Services or 'Solution Bundle':

OBIC looks to offer a solution bundle, which

- o Is comprised of two major Solution Categories, namely 'Capacity Building' & 'Credit Intelligence Delivery' with a total of 10 related service offerings
- o OBIC Solutions will be tailored to each country's specific needs and credit ecosystem maturity level to ultimately contribute to facilitating trade

Figure 4.1: OBIC Services (Solution Bundle)



A key component of the Pilot Program is the actual OBIC Services being referred to as 'OBIC Solution Bundle' that will be piloted by the Pilot member countries. This chapter begins with the elaboration of the 'OBIC Solution Bundle' and then a profile of the Pilot Programs for select member countries.

For each of the 10 OBIC services, please find below the service profile:

Table 4.1: Service 1: National level credit ecosystem strategy

CAPACITY BUILDING: Strategic Advisory	
Service 1: National level credit ecosystem strategy	
Description	A credit-reporting ecosystem plan requires core strategic support in developing and least developed countries. The Strategic Advisory service will help develop a custom national level credit ecosystem strategy
When you need it	When the country does not have a comprehensive national level credit ecosystem strategy
Tier Levels	Tier C, D Countries – Central Banks - Every country's central bank needs guidance on overall credit ecosystem strategy, impact, and technique. This service is for those OIC MC's Central Bank that need such a strategy, expand it, or need to refresh it.
Key Components	<ul style="list-style-type: none"> • Deliverable: National Credit Ecosystem Strategic plan (Short, medium, long-term) • Approach: Local market gap and opportunity analysis, OBIC credit ecosystem framework-based evaluation, operational planning needs, implementation plan, communications and budgeting (<i>See Appendix for sample TOC</i>) • Methodology: OBIC's experts network-based research, stakeholder engagement; Best Practices inputs
Case Study	IFC helped Algeria (Bank of Algeria), and Bangladesh (Bank of Bangladesh) (CIB) with developing national credit ecosystem strategy. ¹⁰

Table 4.2: Service 2: Strategy implementation support

CAPACITY BUILDING: Strategic Advisory	
Service 2: Strategy implementation support	
Description	Implementation support for the countries with national level credit ecosystem strategy
When you need it	When the country approves the strategy and needs help implementing it
Tier Levels	Tier Levels: C/D
Key Components	<ul style="list-style-type: none"> • 3-5 year rollout plan • Skill Building • Training of trainers, who will train staff of financial intermediaries to transfer financial knowledge to general population living in urban and rural areas • Training for counselors (loan officers), to provide consultations to existing and potential borrowers • Awareness campaign support
Case Study	Tajikistan was helped by IFC to implement its national credit strategy framework ¹¹

Table 4.3: Service 3: Guidelines & Policy templates

CAPACITY BUILDING: Tools & Resources	
Service 3: Guidelines & Policy templates	
Description	A credit-reporting ecosystem plan requires guidelines and policy templates support in developing and least developed countries.
When you need it	When the country does not have adequate tools & resources
Tier Levels	Tier C/D
Key Components	<ul style="list-style-type: none"> • Guidelines: Data Management • Guideline: Reporting Templates • Guideline: User consent • Guideline: Operational Phase Staffing <ul style="list-style-type: none"> o Templates: Operational Phase Staffing (<i>See Appendix for sample</i>)
Case Study	A dedicated IFC team has supported several nations in their establishment of new credit registries or bureaus through relevant tools & resources. ¹²

10. IFC Credit Reporting Knowledge Guide 2012

11. IFC Credit Reporting Knowledge Guide 2012

12. IFC Credit Reporting Knowledge Guide 2019

Table 4.4: Service 4: Fundamentals of Credit Reporting

CAPACITY BUILDING: End- User Training & Training of Trainers (for lower and higher tiers)	
Service 4: Fundamentals of Credit Reporting	
Description	A credit-reporting and business intelligence ecosystem requires training support in terms of fundamentals of credit reporting and business intelligence
When you need it	When the country needs human capital equipped with the fundamentals of credit reporting and business intelligence
Tier Levels	All Tiers, with priority for Tiers B, C and D. A developing country's stakeholders need fundamental training support in terms of credit reporting, business intelligence, trade and investment information and statistics.
Key Components	<p>Structure of Sample Capacity Building Programme:</p> <p>Day One – Session One: Introduction to the OIC Business Intelligence Center (OBIC):</p> <p>Module1- What is OBIC?</p> <p>Module2- The Importance of Business Intelligence and Credit Information</p> <p>Module3- The Business Intelligence Gap in the OIC Member Countries</p> <p>Module4- ICIEC Strategic Initiative for Establishing the OBIC</p> <p>Module5- OBIC's Vision and Strategic Pillars</p> <p>Module6- Impact of the OBIC on the Economic and Commercial Development of the OIC Member Countries</p> <p>Day One – Session Two: Fundamentals of Credit Reporting:</p> <p>Module1- Economic Importance of Credit Information</p> <p>Module2- General Principles of Credit Reporting</p> <p>Module3- Legal Framework of Credit Reporting</p> <p>Module4- Credit Reporting Service Providers</p> <p>Module5- Products, Value Added Services, and Impact of Disruptive Technologies</p> <p>Module6- Role of Credit Reporting Ecosystems in Supporting Business Decisions.</p> <p>Day Two – Session One: Fundamentals of Business Intelligence:</p> <p>Module1- Principles of Business Intelligence</p> <p>Module2- Business Intelligence Concepts, Tools and Applications</p> <p>Module3- Key Concepts of Data, Data Warehousing, Data Mining, Data Analysis, Data Visualization and Utilization</p> <p>Module4- Understanding the BI Process</p> <p>Module5- How Do Organizations Use BI to support Business Decisions and Business Growth</p> <p>Day Two – Session Two: Efficient Utilization of Statistical Sources of Information on Credit, Trade and Investment:</p> <p>Module1- Accessing and Managing Information Database</p> <p>Module2- Utilization of Data for supporting business decisions</p>
Case Studies	Sessions of the Programme will use Case Studies to apply the information and knowledge gained during each Session.
Delivery	The Programme will start with Virtual Sessions to enable the maximum possible number of potential participants attend the course, and at later stage, and on-demand, face-to-face Session may be organized.
Language	The Programme will be delivered in 3 languages (English, Arabic and French), but in the early stages, only English language will be used, with simultaneous translation (Arabic and French), and at a later stage, it will be delivered in Arabic and French.

Table 4.5: Service 5: Data Security & Management

CAPACITY BUILDING: Technical Track Training (for lower and higher tier) & Training of Trainers (for higher tier)	
Service 5: Data Security & Management	
Description	Credit data requires precision in terms of data security and management
When you need it	When the country understands the need for data security and management and needs help implementing it
Tier Levels	All tiers
Key Components	<ul style="list-style-type: none"> • Fundamentals of Technical Support for Databases & Information Centers • The Evolving Credit Reporting Cyber Landscape • Global Credit Reporting Cyber security Landscape • Cyber security Guidelines • Incident Response, Disaster Recovery, And Business Continuity • Risk Management and Compliance • Audit • Incident Response • Data Loss Prevention (DLP) • Preventive Controls
Case Study	Selected Case Studies will be used for practical application of knowledge and skills gained during each Session.

Table 4.6: Service 6: Stand Alone Integrator

Credit Intelligence Delivery: Credit registry infrastructure	
Service 6: Stand Alone Integrator (Tier C/D)	
Description	A credit-reporting ecosystem with partner platform customized for client country
When you need it	When the country does not have a proper credit registry system yet
Tier Levels	Tier C/D : Central Banks
Key Components	<ul style="list-style-type: none"> • Building a credit registry (through infrastructure development, from scratch or as enabler) • Delivering the credit registry intelligence
Case Study	Scenario includes IFC's service in Egypt (in setting up I-Score), Algeria (Bank of Algeria), and Bangladesh (Bank of Bangladesh) (CIB). ¹³

Table 4.7: Service 7: Sharing the local database

Credit Intelligence Delivery: Credit registry infrastructure	
Service 7: Sharing the local database (Tier C/D)	
Description	A least-developed country's central bank needs help in collecting data and providing it
When you need it	When the country needs a credit registry partner to provide data on its own jurisdiction
Tier Levels	Tier C/D : Central Banks
Key Components	<ul style="list-style-type: none"> • data related to the counterparty (e.g. LEI code, address, number of employees, balance sheet total, etc.) • data related to instrument (e.g. type of instruments, currency, non performing status, interest rate type, payment frequency, etc.) • data related to the collateral or other mitigation techniques (e.g. type of protection, real estate collateral location, original protection value, etc.) or • accounting data (e.g. accumulated impairment amount, source of encumbrance, status of forbearance and renegotiation, etc.).
Case Study	Rime (Aman Union Database), CRIF (Bayan), Creditinfo (SIMAH) provide service to credit registries and bureaus in different countries ¹⁴

Table 4.8: Service 8: Analytics & intelligence

Credit Intelligence Delivery: Credit registry infrastructure	
Service 8: Analytics & intelligence (All Tiers)	
Description	<ul style="list-style-type: none"> • Making sense of the data, and deriving insights from it • Modules exclusively developed internally or with Partners licensed/integrated
When you need it	When the country understands the need for data analytics and need help
Tier Levels	Tier B/C/D
Key Components	<ul style="list-style-type: none"> • Advanced analytics • Risk analytics • Integrated Insights • Collections Prioritization Score • Composite Risk Score • Cyber Risk Rating • Delinquency Score • High Risk/Fraud Score • Supplier Evaluation Risk • Supplier Stability score • Total Loss Predictor • Detailed Trade Risk Insight • Maximum Credit Recommendation • Overall Business Risk • Small Business Risk Insight (SBRI)
Case Study	D&B, Rime is helping different countries and corporates ¹⁵

13. IFC Credit Reporting Knowledge Guide 2019

14. DinarStandard analysis

15. DinarStandard analysis and the companies' websites

Table 4.9: Service 9: Global Hub with Analytics

Credit Intelligence Delivery: Cross-OIC credit registry	
Service 9: Global Hub with analytics (All Tiers)	
Description	A credit-reporting ecosystem plan requires integration with cross border global credit data
When you need it	When the country does not have access to global credit registry
Tier Levels	All Tiers
Key Components	All of Service 8 plus <ul style="list-style-type: none"> • Multi-CRSP Environments • Link with Collateral Registries • Advanced Analytics aided by AI, blockchain • Access to all pan-OIC credit intelligence
Case Study	Anacredit, UEMOA Credit Bureau Project ¹⁶

Table 4.10: Service 10: Regional Master Hub with Analytics

Credit Intelligence Delivery: Cross-OIC credit registry	
Service 10: Regional Master Hub with Analytics (All Tiers)	
Description	A credit-reporting ecosystem plan requires integration with cross border regional credit data
When you need it	When the country does not have access to regional credit registry
Tier Levels	All Tiers
Key Components	All of Service 8 plus <ul style="list-style-type: none"> Multi-CRSP Environments Link with Collateral Registries Advanced Analytics Limited to regional pan-OIC credit intelligence
Case Study	Anacredit, UEMOA Credit Bureau Project ¹⁷



16. DinarStandard analysis; case studies are discussed in this document

17. DinarStandard analysis; case studies are discussed in this document

4.2. Pilot Program 1: Saudi Arabia



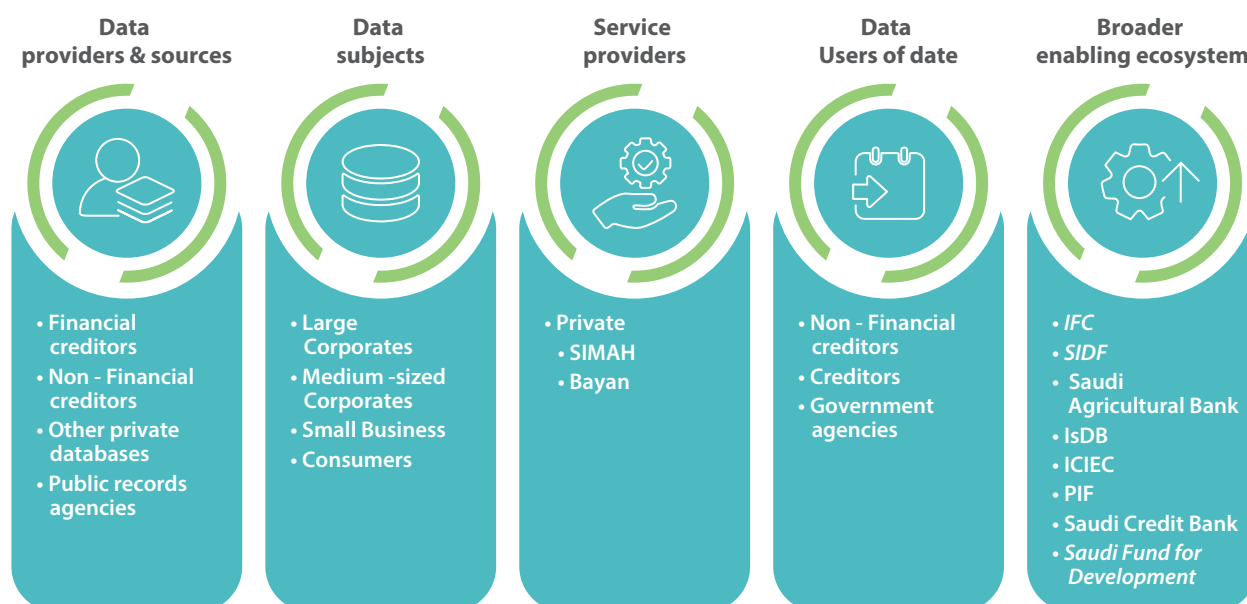
i. Saudi Arabia credit ecosystem – current state & stakeholders

Saudi Arabia was ranked 62nd among 190 economies in the World Bank's Ease of Doing Business 2020 report. It scored 60 on a 1-100 scale for 'getting credit' indicator with 56.7% of adult population covered by credit bureau coverage¹⁸.

The Saudi Arabian Monetary Agency (SAMA) granted Bayan Credit Bureau a license to operate as a private credit bureau in 2015. CRIF, the company's technology partner, aids it in the provision of business credit information focused on local and international reporting and credit risk systems. The credit bureau platform was created by CRIF. Additionally, Bayan received business information and iTrade platforms from CRIF.¹⁹

Saudi Credit Bureau (SIMAH) was established in 2002 and began operations in 2004 as Saudi Arabia's first national credit bureau authorised to offer consumers and corporations with comprehensive credit information services and added value products. For its different platforms such as SIMATI, SIMAT and MOARI, it makes use of big data from more than 323 major data suppliers.²⁰

Figure 4.2: Saudi credit reporting ecosystem²¹



ii. Saudi Arabia ecosystem – gaps & needs

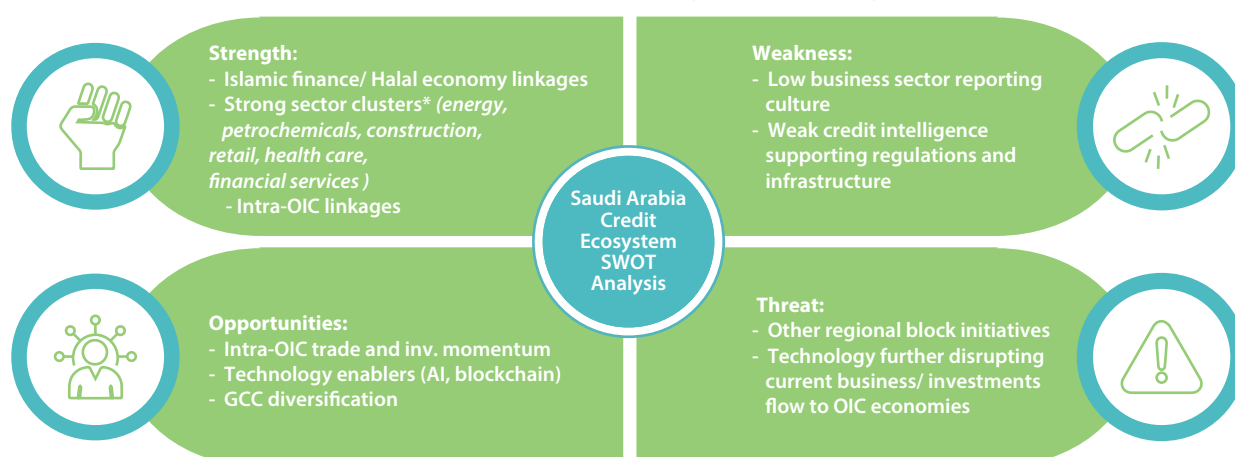
The country's outstanding infrastructure and favorable economic climate make it an attractive investment destination for international corporations from across the world. Saudi Arabia's leadership has shifted the country's economy away from reliance on oil and toward other sources of revenue. A variety of non-oil industries are anticipated to contribute to Saudi Arabia's economic development during the projection period. These sectors include retail, health care, education, residential housing, and financial services. However, low business sector reporting culture may hamper its progress. Also, other regional initiative may challenge its progress. Regardless, coupled with the Intra-OIC trade, technology enablers, and GCC diversification, it can overcome those weaknesses and challenges.

18. World Bank Doing Business Report 2020

19. <https://www.crif.com/news-and-events/news/2017/november/crif-at-the-launching-ceremony-of-bayan-credit-bureau-in-saudi-arabia/>

20. <https://www.simah.com/en/aboutus/Pages>

21. World Bank, IFC, DinarStandard analysis and synthesis

Figure 4.3: Saudi Arabia Credit Ecosystem SWOT Analysis²²

iii. OBIC proposed Pilot program approach for Saudi Arabia

Key areas of OBIC Solution Bundles for Saudi Arabia are proposed below: As per OBIC Strategic Objectives through the Four Strategic Pillars, the stated vision and implementing the mandate, OBIC will offer following services summarized in a solution bundle below:

Table 4.11: OBIC Service Offerings – Saudi Arabia

Service	Year 1	Year 2	Year 3	Comment
CAPACITY BUILDING: Strategic Advisory				
Service 1: National level credit ecosystem strategy	√	√	×	Refresh or input
Service 2: Strategy implementation support	√	√	×	Refresh or input
CAPACITY BUILDING: Tools & Resources				
Service 3: Guidelines & Policy templates	√	√	×	Refresh or provide tertiary support
CAPACITY BUILDING: Training				
Service 4: Fundamentals of Credit Reporting	√	×	×	Refresh if needed
Service 5: Data Security & Management	√	√	×	State of the art training to familiarize with the concepts and best practices with applications
CREDIT INTELLIGENCE DELIVERY: Credit registry infrastructure				
Service 6: Stand Alone Integrator	×	×	×	They already have established credit registries
Service 7: Sharing the local database	√	√	√	Can be in collaboration with Bayan or SIMAH
Service 8: Analytics & intelligence	√	√	√	Unique value proposition as OBIC will provide advanced analytics
CREDIT INTELLIGENCE DELIVERY: Cross-OIC credit registry				
Service 9: Global Hub	√	√	√	Unique value proposition as OBIC will provide advanced analytics based on global data
Service 10: Regional Master Hub	√	√	√	Unique value proposition as OBIC will provide advanced analytics based on regional data

22. DinarStandard analysis

4.3. Pilot Program 2: Turkey



i. Turkey credit ecosystem – current state & stakeholders

Turkey was ranked 33rd among 190 economies in the World Bank's Ease of Doing Business 2020 report. It scored 75 on a 1-100 scale for 'getting credit' indicator with 80.2% of adult population covered by credit registry coverage²³.

In world bank Turkey improved credit availability by expanding the security interest to goods, proceeds, and replacements of the original collateral; secured creditors now have absolute precedence over other claims, such as labor and tax, both outside and within bankruptcy procedures. With the publication of telecoms company debt defaults, Turkey made credit information more accessible²⁴.

With the adoption of new legislation on secured transactions, Turkey has made it easier to get credit by creating a single collateral registry as well as permitting out-of-court enforcement. An updated data protection legislation was also passed in Turkey, which made its credit information system even better²⁵.

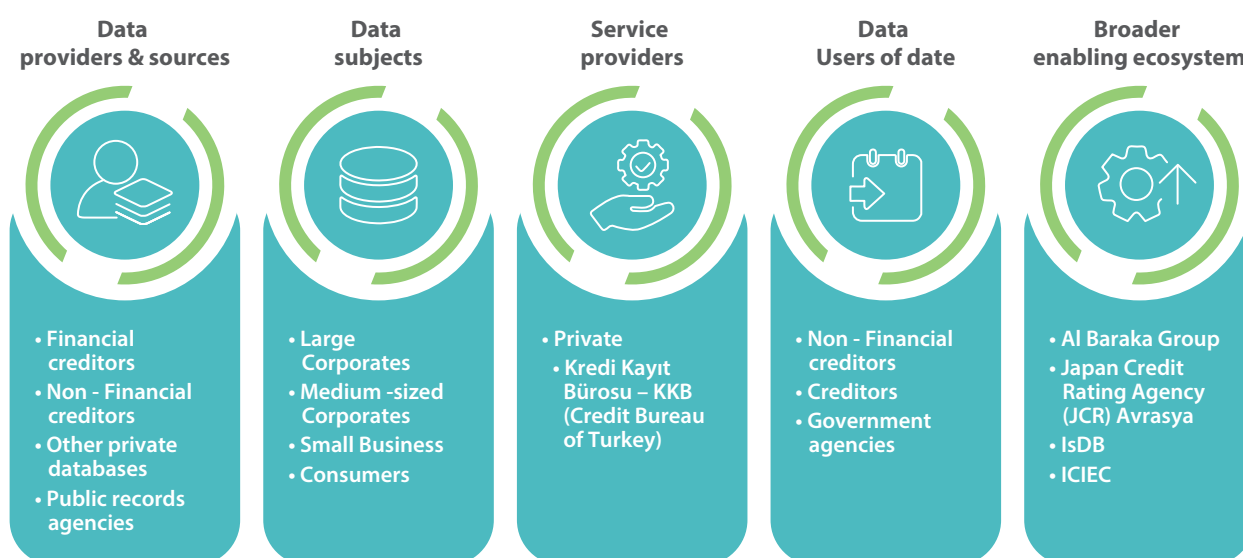
Turkish credit ecosystem mainly comprises of data providers such as financial creditors, non-financial creditors, private databases and most importantly, public record agencies. Subject of those data are mainly large corporates, medium sized corporates, small business and consumers. Until 2013, the

Turkish central bank's Risk Centralization Division successfully completed the job of credit reporting. As part of a reorganization in 2013, this division's responsibilities were moved to the Banks Association of Turkey Risk Center (BAT-RC). This reform's goal was to free up the central bank so it could concentrate on its core responsibilities while leaving risk center operations to a more specialized organization Banks Association of Turkey Risk Center (BAT-RC began operations in June 2013 and the credit bureau (Kredi Kayıt Bürosu-KKB) manages related services on behalf of BAT-RC as the primary data providers in credit reporting in Turkey²⁶. Main data users of the credit information in Turkey mostly ranges from non - financial creditors, financial creditors and government agencies. Turkey is also part of a broader credit ecosystem with membership of IsDB-ICIEC, and in 2019, Borsa Istanbul and other Turkish finance institutions bought 85.05% of Japan Credit Rating Agency (JCR) Avrasya²⁷.

ii. Turkey ecosystem – gaps & needs

Turkey benefits from strong Islamic finance, Halal economy linkages. However, its comparatively weak credit intelligence infrastructure holds it back. Moving forward, increased Intra-OIC trade and technology enablers enhanced by the ongoing Trans-Caspian East-West-Middle Corridor Initiative shortly named as "The Middle Corridor" will open doors for new opportunities²⁸.

Figure 4.4: Turkish credit reporting ecosystem²⁹



23. World Bank Doing Business Report 2020

24. World Bank Doing Business Report 2019

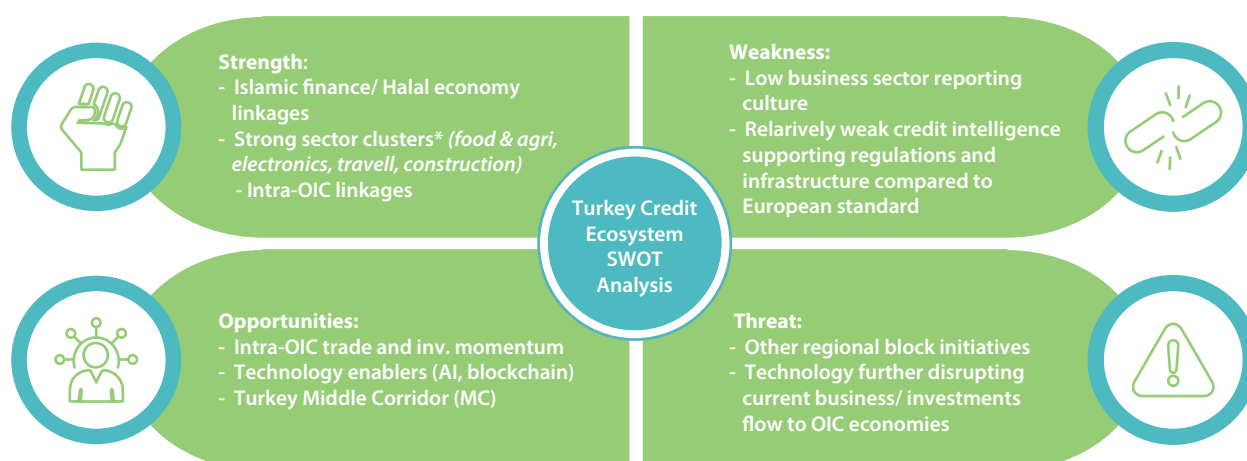
25. World Bank Doing Business Report 2019

26. https://www.tcmb.gov.tr/wps/wcm/connect/blog/en/main+menu/analyses/changes_in_credit_reporting_systems_in_turkey#dipnot7

27. <https://www.sabah.com.tr/ekonomi/30/11/2019/turkiye-jcr-avrasyayi-satin-aldi>

28. https://www.mfa.gov.tr/turkey_s-multilateral-transportation-policy.en.mfa

29. World Bank, IFC, DinarStandard analysis and synthesis

Figure 4.5: Turkish Credit Ecosystem SWOT Analysis³⁰

iii. OBIC proposed Pilot program approach for Turkey

Key areas of OBIC Solution Bundles for Turkey are proposed below: As per OBIC Strategic Objectives through the Four Strategic Pillars, the stated vision and implementing the mandate, OBIC will offer following services summarized in a solution bundle below:

Table 4.12: OBIC Service Offerings – Turkey

Service	Year 1	Year 2	Year 3	Comment
CAPACITY BUILDING: Strategic Advisory				
Service 1: National level credit ecosystem strategy	✓	✓	✗	Refresh or provide input on improvement
Service 2: Strategy implementation support	✓	✓	✗	Refresh or provide input on improvement
CAPACITY BUILDING: Tools & Resources				
Service 3: Guidelines & Policy templates	✓	✓	✗	Refresh or provide tertiary support
CAPACITY BUILDING: Training				
Service 4: Fundamentals of Credit Reporting	✓	✗	✗	Refresh if needed
Service 5: Data Security & Management	✓	✓	✗	State of the art training to familiarize with the concepts and best practices with applications
CREDIT INTELLIGENCE DELIVERY: Credit registry infrastructure				
Service 6: Stand Alone Integrator	✗	✗	✗	May not be interested
Service 7: Sharing the local database	✓	✓	✓	Can be in collaboration with KKB
Service 8: Analytics & intelligence	✓	✓	✓	Unique value proposition as OBIC will provide advanced analytics
CREDIT INTELLIGENCE DELIVERY: Cross-OIC credit registry				
Service 9: Global Hub	✓	✓	✓	Unique value proposition as OBIC will provide advanced analytics based on global data
Service 10: Regional Master Hub	✓	✓	✓	Unique value proposition as OBIC will provide advanced analytics based on regional data

30. DinarStandard analysis

4.4. Pilot Program 3: Indonesia



i. Indonesia credit ecosystem – current state & stakeholders

Indonesia was ranked 73rd among 190 economies in the World Bank's Ease of Doing Business 2020 report. It scored 70 on a 1-100 scale for 'getting credit' indicator. Indonesia has credit registry and credit bureau coverage of 30.9% and 40.4% of adult population respectively.³¹

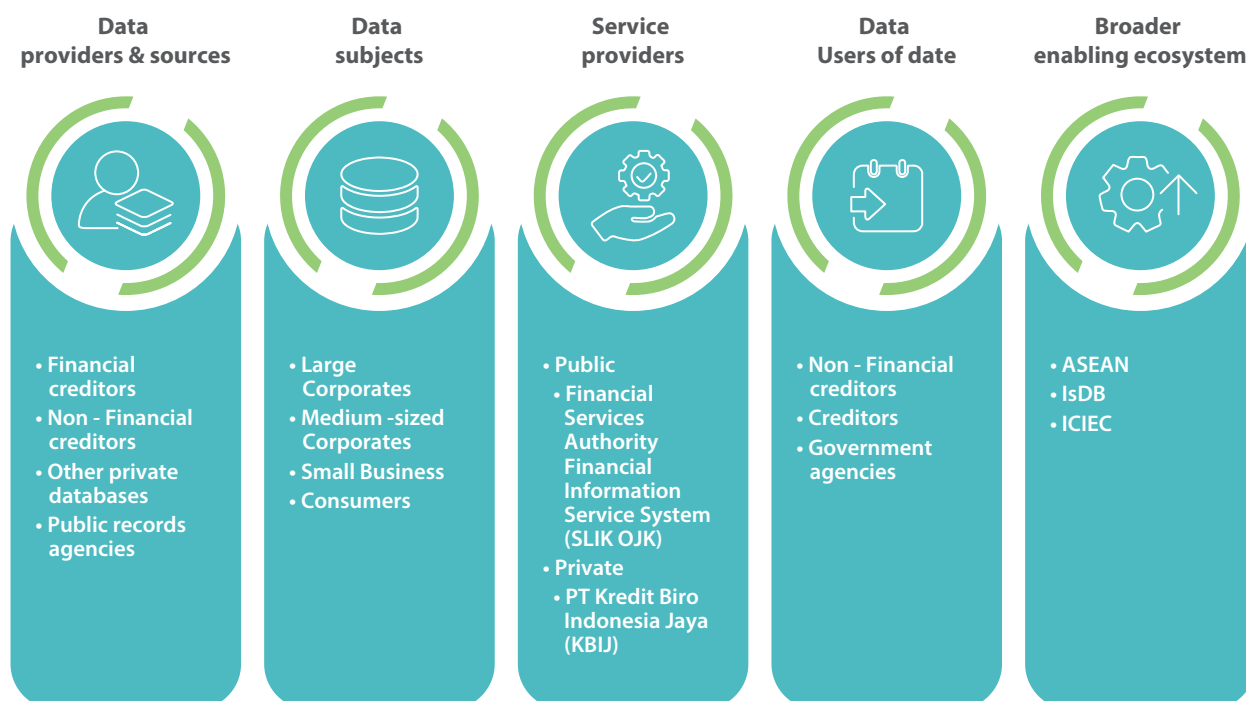
In 2019, the distribution of data from merchants and utility firms increased Indonesia's access to credit information. Both Jakarta and Surabaya will benefit from this change. Before that in 2017, when the establishment of a modern collateral registry improved Indonesia's access to credit.³²

Financial Services Authority Financial Information Service System (SLIK OJK). Banks and other financial organizations utilize SILK to gather information on potential borrowers' credit histories. Identities of the debtor, collateral, owners and managers (commercial entities) who are the debtors, the amount of financing obtained, and history of credit installment payments

and poor credit are all information that is shared in the OJK SLIK transaction. The Credit Information Bureau (BIK) is made up of banks and financial organizations that share information. BIK managed the BIK before it was moved to OJK. Every month, BIK members provide consumer information to the OJK database. After then, OJK collects the information on a regular basis and incorporates it into the OJK SLIK platform³³.

After receiving an operating license from the Indonesian authority OJK on December 22, 2015, KBIJ became the country's first private credit bureau to conduct business in the country. It seeks to offer a single platform for lending institutions to exchange and acquire, under authorized circumstances, credit payment information on an individual or a business. In 2020, Indonesia's first consumer credit score created utilizing actual credit data (data from credit bureaus) and machine learning algorithm was released by KBIJ on the Indonesian financial market as "SKORKU." OCFT, a prominent financial technology as-a-service platform, is KBIJ's technology partner and the company that created the scoring model³⁴.

Figure 4.6: Indonesian credit reporting ecosystem³⁵



31. World Bank Doing Business Report 2020

32. World Bank Doing Business Report 2019

33. <https://www.ojk.go.id/id/tentang-ojk/Pages/Tugas-dan-Fungsi.aspx>

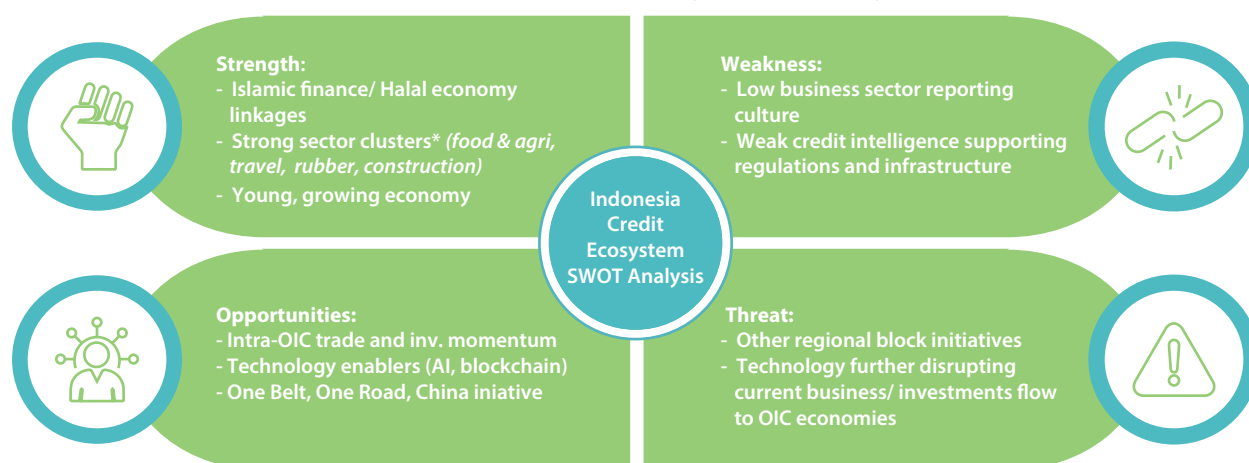
34. <https://www.finextra.com/pressarticle/81984/indonesian-bureau-kbij-introduces-consumer-credit-scoring-tech>

35. World Bank, IFC, DinarStandard analysis and synthesis

ii. Indonesia ecosystem – gaps & needs

Retail, health, education, communications, and financial services have all seen significant development in Indonesia, world's fourth-most populous nation as a result of consumer-related market possibilities. Indonesian consumers are among the most confident in the world, and the country's 270 million people are under the age of 25, making up roughly 41% of the population. Nearly half of Indonesian non-financial companies get their funding from overseas in the form of loans, bonds, and other kinds of credit.³⁶ However, Indonesia is faced with Low business sector reporting culture. Nonetheless, being part of the One Belt, One Road initiative, they can use the opportunity to bolster their economy and trade.

Figure 4.7: Indonesian Credit Ecosystem SWOT Analysis³⁷



iii. OBIC proposed Pilot program approach for Indonesia

Key areas of OBIC Solution Bundles for Indonesia are proposed below: As per OBIC Strategic Objectives through the Four Strategic Pillars, the stated vision and implementing the mandate, OBIC will offer following services summarized in a solution bundle below:

Table 4.13: OBIC Service Offerings - Indonesia

Service	Year 1	Year 2	Year 3	Comment
CAPACITY BUILDING: Strategic Advisory				
Service 1: National level credit ecosystem strategy	√	√	×	Refresh or provide input on improvement
Service 2: Strategy implementation support	√	√	×	Refresh or provide input on improvement
CAPACITY BUILDING: Tools & Resources				
Service 3: Guidelines & Policy templates	√	√	×	Refresh or provide tertiary support
CAPACITY BUILDING: Training				
Service 4: Fundamentals of Credit Reporting	√	×	×	Refresh if needed
Service 5: Data Security & Management	√	√	×	State of the art training to familiarize with the concepts and best practices with applications
CREDIT INTELLIGENCE DELIVERY: Credit registry infrastructure				
Service 6: Stand Alone Integrator	×	×	×	May not be interested
Service 7: Sharing the local database	√	√	√	Can be in collaboration with KBIJ or OJK SLIK
Service 8: Analytics & intelligence	√	√	√	Unique value proposition as OBIC will provide advanced analytics
CREDIT INTELLIGENCE DELIVERY: Cross-OIC credit registry				
Service 9: Global Hub	√	√	√	Unique value proposition as OBIC will provide advanced analytics based on global data
Service 10: Regional Master Hub	√	√	√	Unique value proposition as OBIC will provide advanced analytics based on regional data

36. <https://www.trade.gov/country-commercial-guides/indonesia-market-opportunities>

37. DinarStandard analysis

5

Governance **Structure**

To make OBIC to be successful, it is important to follow established best practices followed around the world. Hence, we first benchmark global best practices, then propose an operational structure for OBIC in different stages.

5.1. Benchmarking of global best practices

i. Hub-and-Spokes (H&S) Options in the UEMOA Credit Bureau Project

The H&S system was a natural choice for the West African Economic and Monetary Union (UEMOA) area because of the region's unique requirements and the potential for economies of scale. The Central Bank of West African States (BCEAO) might have considered the following factors as we came to learn from the case study.

The benefits of the Hub-and- Spokes approach for OBIC as learned from UEMOA case study:

- Development expenses are drastically reduced, with an emphasis on cost savings owing to the redundancy of numerous components (including hardware, backups, disaster recovery, licenses, troubleshooting and staff training).
- If independent and stand-alone full-scale credit bureaus are set up in the OBIC countries, it would need a shorter time to market (12-18 months) than the 24–36-month time frame now required at the least.
- Provides continuous, high-quality updates, as opposed to occasional, and delayed ones.
- Provides business continuity (system mirroring) by preventing the development expenses from spiraling out of control.
- Increased efficiency and cost-effectiveness in development are both possible because of this.
- Products, technical expertise and sophisticated value-added services are used in the most advanced markets to provide a competitive advantage.
- Data loading, data administration, and management reporting are all very costly activities that may be performed at the hub to save money.
- Provides cross-border lenders with service consistency throughout the OIC region/area (standardization of services and systems, economies of scale).



Development expenses are drastically reduced, with an emphasis on cost savings owing to the redundancy of numerous components (including hardware, backups, disaster recovery, licenses, troubleshooting and staff training).

- All nations and credit industries may be included gradually and smoothly, regardless of volume or size (web-based technology).

ii. The AnaCredit Project

- A cross-border credit information sharing initiative for the whole eurozone, AnaCredit was launched in 2014 to facilitate the exchange of information on companies with cross-border credit risks.
- As a result of the AnaCredit project, various data collection activities by various devices will be integrated and centrally located on a single platform to provide borrowers with a comprehensive view of their financial situation (such as exposure information, accounting information, prudential information, provisions and interest rates).
- To establish a unique European Reporting Framework, the project brings together several data collecting efforts such as AnaCredit, FINREP (Financial Reporting in the EU and the UK), and COREP (Common European Reporting Framework) (Common Reporting Framework in the EU).
- First, only information on legal entities will be gathered. The scope will thereafter be expanded to include information about people (with loan exposures above the threshold).
- They are used for analysis in the supervision of loans at the individual borrower level and are maintained by national central banks (NCBs) and include national-level data enabling the interchange of information on outstanding credit in financial circuits.

Key Learnings from AnaCredit Project for OBIC:

- OBIC reporting requirements may pose some challenges to the credit industry (especially banks), however. Sourcing data from multiple and various data sources and certifying its completeness could be challenging.
- Multi-entity financial institutions in particular might struggle to tackle this multijurisdictional aspect of the regulation.
- These challenges can be approached in two ways: (i) apply short-term tactical fixes, and (ii) take a strategic approach by taking a long- term view of the opportunities underlying this project.



5.2. OBIC Operational & Governance model

i. Organizational structure

The organisation, with its strong management, business development, marketing and technological capabilities will be overseen by an executive board consisting of stakeholders from MCs, ICIEC, SESRIC and ICD.

Figure 5.1: Overview of Proposed Organizational Structure for OBIC

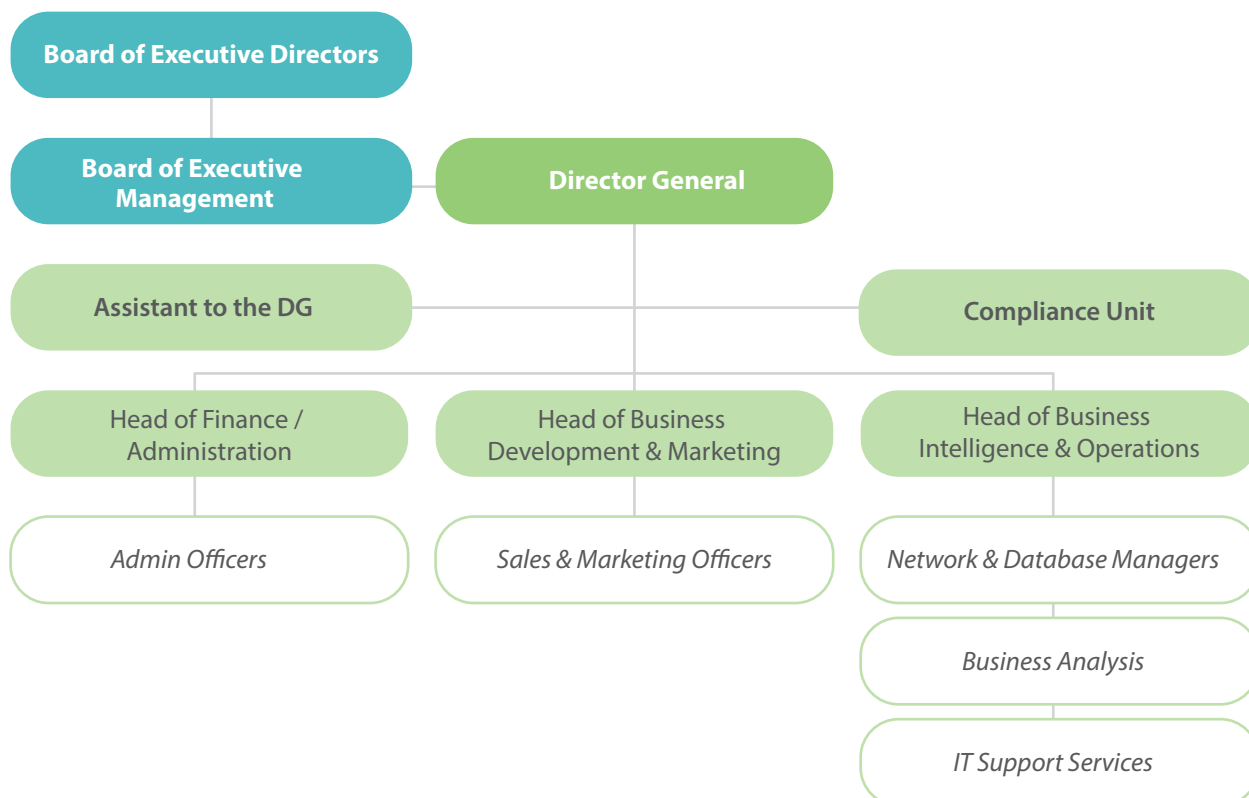


Table 5.1: Detailed Proposed Organizational Structure for OBIC

Core function	Constituents	Core remit (based on World Bank) ³⁸
(1) Board of Executive Directors	Chairman	<ul style="list-style-type: none"> Oversee and approve the strategic direction of OBIC Provide policy oversight to enable implementation of the business plan Appoint Director General Provide close oversight of the Board of Executive Management
	Members of the Board: <ul style="list-style-type: none"> ICIEC representative ICDT representative SESRIC representative <Other members nominated by MCs> 	
(2) Board of Executive Management	<ul style="list-style-type: none"> Chairman –ICIEC representative Director General (to be determined) Representatives from central banks, ministries and public policymakers Representatives from ECAs (2 by each Regional Hub) Representatives from private sector (2 from each regional hub) 3 Representatives of voluntary 	<ul style="list-style-type: none"> Oversee the delivery of OBIC Strategic Plan Implement and oversee all organizational, legal and compliance aspects of OBIC operations
(3) Day-to-day Management	Director General	<ul style="list-style-type: none"> Delivery of overall OBIC Strategic Plan
	Assistant to the Director General	
	Compliance	<ul style="list-style-type: none"> Internal process audit External compliance Oversee data quality and dispute resolution process
(4) Finance and Administration	Head of Finance and Administration	<ul style="list-style-type: none"> Finance and administrative operations Human resources functions (recruitment, compensation, performance management, career development)
	Admin officers	
(5) Business Development and Marketing	Head of Business Development and Marketing	<ul style="list-style-type: none"> Market segmentation Product development Branding Advertising and Sales
	Sales and Marketing Officers	<ul style="list-style-type: none"> Client relationships Sales and marketing plan Promotion Market research Media affairs
(6) Business Intelligence and Operations	Head of Technology	<ul style="list-style-type: none"> Vendor relations Data management Technology management Network and database security operations Customer services
	Network and database managers	<ul style="list-style-type: none"> Data validation and quality checking Data uploading Emergency updates
	Business analysts	<ul style="list-style-type: none"> Database design and user functionality Data sourcing Data procurement and access partnerships
	IT support	<ul style="list-style-type: none"> Housekeeping System administration Subscriber and internal Help Desk

38. Credit Reporting Knowledge Guide. 2011: IFC.

ii. Credit Intel Delivery – Operational Stages

1st Stage: Building the Database

When a new credit bureau is formed, it must begin the long process of building up its records database. If no data is available, a records database must be built from scratch. Additionally, the regulator may demand that all businesses regulated by the agency obtain borrower permission to share their history and new credit data with the bureau. Before establishing the bureau, this procedure should occur in order to fill the database with historical records.

2nd Stage: Acquiring the users

A common tendency in developing economies is for credit bureaus to be developed first by the banking sector. Most of the push behind this strategy comes from the fact that banks are primary suppliers of credit and are overseen by a single, well-defined supervisor. Thus, begin by uploading the first lenders' (banks) data, in the first stage.

3rd Stage: data diversification takes place.

The agency works to include more data, including as electoral rolls, personal identities, court judgements, telephone numbers, and corporate registrations. This data type is valuable to members, as it may be predictive of future borrower behavior or a one-stop gateway to data repositories. While these statistics serve to convey information, they also are important for data mining and modeling.

4th Stage: user diversification is in progress

Banks should initiate proactive activities in relation to creating credit bureaus, even if this starts off with their user base. But, eventually, non-banking creditors, such as telecommunications and microfinance lenders, should be part of the mix. As new users are introduced into the company, the makeup of the databases will be affected, and this will alter the quality of the predictive data. In a number of nations, telecoms companies extending to include the inquiry database has helped increase the prediction ability of the database due to the pattern of telecommunications payments predicting future bank credit defaults.

5th Stage: Database maturity takes shape

Data source availability and the quantity and kind of users both influence how Credit bureau databases change. A database usually grows in both depth and breadth. Before the data in the core database may be predictive of a future result, it must grow through the several phases described above. Because of the ever-changing nature of the database, goods and services that have additional value, such as value-added products and services, are subject to regular monitoring and constant adjustment. While today's statistics may not be applicable one year from now, the general economic situation may change, and therefore these estimates may be inaccurate.

6th Stage: Service expansion takes place

There are no restrictions when it comes to when VAS may be included. Expanded credit reports and other simple services, such as background checks, may be provided in the early stages of Stage 2 and 3, even at minimal cost. As databases and user bases mature, more advanced products like credit scoring are generally built. When the level has progressed to the 3rd or 4th stage, this level is most likely to occur. Another, broader suite of goods (a can) may be considered only after the bureau has reached Stage 5.

iii. The OBIC reporting data model

a. Sources of Data

An unnecessary constraint on the data sources is to be avoided in regulating consumer credit reporting. All relevant data should be obtained for an examination of creditworthiness, including information found in public records. Data that is not relevant, however, may be disallowed. Regarding the creditworthiness analysis, collecting information on ethnicity, medical status, or religion maybe banned since it is judged unnecessary in some countries (for example, South Africa). Potential Data sources are listed as follows:

- o Insurance banks operating in one country
- o Mortgage financing companies
- o Leasing companies
- o Insurance companies
- o MSME's commercial credit institutions
- o Asset management companies
- o Post-payments or installments (telecommunications and utilities provider, retailers, healthcare provider)

Data proliferation is a new trend that has sparked the development of fintech startups and other financial services sector. New entrants in the credit industry engage with granting credit and gathering information on borrowers; therefore, they serve as prospective data sources for the credit reporting system. Once these new participants have gathered relevant data and satisfied all the requirements laid forth, their data should be integrated into the system for managing the exchange of credit information, thereby minimizing the possibility of fragmentation. Whenever a new source of data is discovered, it is subject to the general principles for credit reporting on data collection, handling, treatment, and security, which are described in the General Principles for credit reporting (World Bank) relating to the collection, handling, treatment, and security of data, data sharing networks, and technologies. Moreover, the additional responsibilities associated with protecting this confidential information would still apply.

b. Protection of Data

The legal framework may also set requirements to guarantee the accuracy, confidentiality, and security of the data in a credit report database to produce a credit report. Data security may



Data proliferation is a new trend that has sparked the development of fintech startups and other financial services sector. New entrants in the credit industry engage with granting credit and gathering information on borrowers; therefore, they serve as prospective data sources for the credit reporting system.

be threatened by hacks, physical tampering and inappropriate handling by CRSPs. It is recommended that all CRSPs (consumer, credit registries, and commercial) will be required to have in place measures to validate the information they collect, and they will also be restricted in the amount of information that can be accessed. In addition, they will need to provide security against theft, corruption, and loss of information. As a matter of consumer protection, credit reporting services and data suppliers have a legal duty to be accurate and secure.

Credit reporting service providers are often subject to stringent regulations regulating their activities, which include active measures to safeguard data against loss, corruption, abuse, or theft. In order to protect IT security, implement measures such as implementing safeguards for administrative access, monitoring who has access to authorized personnel, providing training for employees and technical contractors, and establishing rules for employees on information misuse and other security breaches. The regulations do not typically mandate the security measures for each credit reporting service. A legal requirement is often framed as a duty on the part of the data security practitioner to use appropriate procedures and implement technologies to deal with all of the factors involved in data security.

An important aim is to formalize the flow of information from the core banking system to the OBIC, which is why the OBIC reporting data model has been developed. So the data model includes an entity-relationship (ER) model, which is a key component that contains all the information required to meet reporting needs. The fundamental cube concept is based on

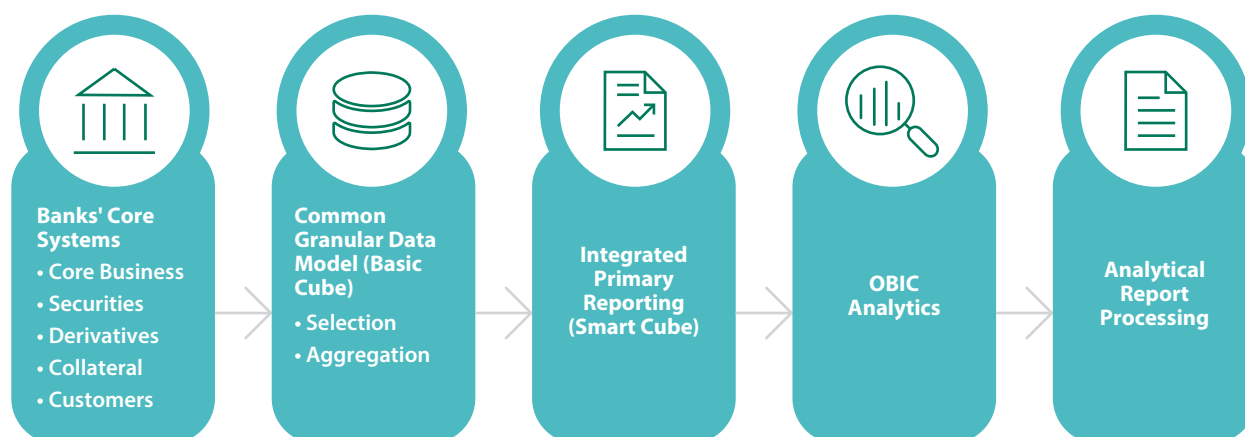
OeNB, which was created by OeNB and Austrian banks together. A formal pseudo-code method enriches the fundamental cube and generates the following main reporting frameworks:

- Data gathered by the OBIC is used to produce different secondary statistics using smart cubes, which are multi-dimensional reporting frameworks. The OBIC reporting data model includes a description of various reporting frameworks.
- The OBIC gathers this data in the form of data templates, such as those required by the EBA for supervisory reporting.

Data from core systems of banks is fed into the basic cube, which is then utilized to fulfill reporting requirements in smart cubes or supervisory reporting templates by applying harmonised enrichment algorithms and transformation rules to the data.

The OBIC reporting data model's goal is to provide a single, comprehensive explanation of the reporting data's contents, thus reducing the amount of opportunity for ambiguity. As a result, the basic cube was created as a normalized, logical data model, and the transformation rules describing how the basic cube derives reporting needs were defined in a formal language. In addition, verbal explanations of the algorithms are provided to aid comprehension. Text-only descriptions have a tendency to leave room for ambiguity or to fall short in some situations. Because it is based on OBIC reporting data, the model serves as a comprehensive reporting handbook for all reporting frameworks covered by it.

Figure 5.2: The data flow in OBIC reporting data model³⁹



39. Adapted from OeNB

c. The basic cube

Entity-relationship models (ER models) are the foundation of the basic cube since they provide a consistent input for various reporting systems. This kind of representation requires that the basic cube's contents are shown without repetition. As a result, it means that all necessary data are generated from a single, granular database, which suggests uniformity in the reporting data of a certain bank.

It is important to note that under AnaCredit, the carrying amount of a loan that is utilized for internal accounting reasons must be reported loan by loan. To report supervisory financial information, the same value is utilized to aggregate data points (FINREP).

Joint reporting models also imply data consistency across various reporters since the data are organized and processed the same way across all cases of report submission. Modeling data from the reporting agent's point of view results in the basic cube, which is as near to a core banking system as feasible.

Each box in the ER model represents a distinct kind of information in the fundamental cube. There is a basic cube model for each reporting agent's instrument in the business case. Examples of these instruments are loans, deposits, securities, and derivatives. In order to satisfy various reporting requirements, several variables are accessible at the instrument level, such as the kind of instrument, the issuance and maturity date, the purpose of a loan and the accounting categorization.

d. Data processing

To produce reporting data, data from the basic cube must be processed and aggregated. The rules for transformation and aggregation are represented as algorithms or choose statements in a formal language. Enrichment is the initial stage in the processing process. Once the comprehensive input information has been utilized to deduce features important to various reporting needs, the enriched information is represented as "enriched information" in the basic cube.

Many aggregated reporting systems, for example, demand that loans, deposits, and securities be broken down by their original and/or residual maturities. Different dates are included as characteristics for each instrument in the basic cube, such as the date of genesis, first settlement and ultimate maturity date. This criterion is met by the basic cube. During the enrichment process, the basic cube's original and residual maturity are both determined. The initial maturity of a loan, for example, is equal to the number of days between the ultimate maturity date and the date of origin. It is also necessary to consider the creditor's rights to demand the repayment of the exposure if there is no specified ultimate maturity date. In order to meet all applicable reporting standards, the calculation results are kept as maturity buckets.

e. Smart cubes

Using smart cubes, data will be collected just once, but various statistics will be generated from it. In the smart cube reporting architecture, each business case is reported just once. Because many statistical needs utilize overlapping characteristics or criteria for breakdowns, the notion of multiple uses for data makes logical. Financial institutions' balance sheets, as well as interest rates charged by financial institutions, need breakdowns comparable to those used in the balance of payments, according to data from the European Central Bank (ECB). Most statistics, for example, differentiate between different kinds of loans. Even the reporting framework categories vary somewhat, a common list, perhaps more detailed, can be represented in the loan smart cube. A single-loan data cube has more information than this one, but it is less precise.

With smart cubes, OBIC analysts may explain developments to reporting agents without having to ask for additional aggregated data, as is frequently the case with more traditional cubes. Using the loan smart cube, analysts can explain a rise in interest rates as the result of loans that have gone past due.

Smart cube structure may incorporate three kinds of financial information (such as securities, loans, and deposits) plus an extra



cube holding anchor values for data quality checks in the early stages of the project (see Turner et al, 2014). Instrument kind, loan purpose, and country of final risk are just a few examples of information that may be stored in these cubes, which can have up to 36 different dimensions. Additionally, several values are provided for each data entry, including the outstanding nominal amount, the new business amount, and the average interest rate. All dimensions of the cube are defaulted to break down all values but certain values and attributes have a granularity limit that only allows the combinations of characteristics important for secondary statistics to be used. For example, only credit for consumption and financing for home acquisition are reported as effective interest rates to consumers.

iv. Legal Framework

The legislative and regulatory framework in essence should:

- Set the regulations for credit reporting services on a fair, competitive and effective market.
- Ascertain CRSPs, data suppliers, users and data subjects' rights and duties.

- Deliver explicit guidance on the data types that may be gathered and shared (permissible purposes).
- Provide information on data security requirements, retention periods and other issues related to compliance.
- Ascertain consumer rights
- Offer credit reporting data as a foundation for consumer concerns.
- Set compliance guidelines and measures in case of non-compliance.
- Set the regulator/supervisor function

The legal and regulatory framework for credit reporting in nations in which it exists usually covers the following fields:

- Data collection, preservation, disclosure
- Safety of data
- Access rules, including privacy and allowable purpose
- CRSP management
- Consumer rights (privacy, precision, procedures for redress)
- Monitoring and enforcing
- Entry and exit requirements for CRSPs

Below is template of rights and obligations of CRSPs, data providers, users, and data subjects according to IFC:

Table 5.2: Rights and Obligations of CRSPs, Data Providers, Users, and Data Subjects⁴⁰

CRSPs' rights and obligations	<ul style="list-style-type: none"> • Record, maintain, collate, synthesize, and/or process information properly and accurately • Protect information against loss and damage • Protect information against unauthorized access, uses, modification, or disclosure • Retain information for the relevant periods • Grant data subjects access to their own credit reports • Provide consumers information on dispute resolution mechanisms • Ensure timely correction of incorrect data • Enforce subscriber agreements • Maintain a help desk
Data providers' rights and obligations	<ul style="list-style-type: none"> • Obtain and store consent from data subjects when collecting data (as applicable) • Inform data subjects of purpose and use of data collection • Protect information against loss and damage • Protect information against unauthorized access, uses, modification, or disclosure • Retain information for the relevant periods • Correct erroneous data in an expedient manner • Ensure restricted access to credit information and continuous training for employees handling credit information data
Users' rights and obligations	<ul style="list-style-type: none"> • Comply with reciprocity principles • Restrict inquiries to those allowed by law • Maintain records and be able to demonstrate queries were requested for permissible purposes • Use information only for permissible purpose • Disclose information obtained from a CRSP only to authorized parties • Keep information obtained from CRSPs confidential • Appoint a CRSP relationship manager • Dispose of confidential information in appropriate manner
Data subjects' rights and obligations	<ul style="list-style-type: none"> • Provide accurate information • Access own credit reports and monitor information • Dispute inaccurate information

40. IFC Credit Reporting Knowledge Guide 2019

5.3. Strategic Recommendations

- a) Determine who will be the project's champion and who will take the reins: When several markets are involved, the development of credit reporting systems becomes more complicated. It needs to be made sure the central bank of the country/region or another important monetary system regulator plays a critical supporting role throughout the project, especially in its outset. Building capability in credit reporting best practices is one of the major project tasks since the regulator is most significant driver and only authority with complete control of project. As a result, regulators are among the most enthusiastic supporters of a private credit bureau, since it is the greatest instrument available to the lending sector for controlling portfolio risk. Based on previous experience, there is no such thing as a successful credit bureau initiative without the regulators' unwavering support and involvement. Instead, a slew of initiatives failed due to a lack of sponsorship.
- b) Apply a graduated approach to strategy. There are several ways to control consumer credit reporting, but legislation is the best since it is simple to go beyond with the requirements, making it almost difficult for these companies to function. It is not uncommon for regulators familiar with overseeing and regulating financial institutions to use the same methods when policing companies that offer credit reporting services. These companies do not need the same kind of provisioning as deposit-taking banks, reserve requirements, oversight, or any of those things. They are more like technical entities than deposit-taking banks. Lawmakers should aim to establish proportional controls on credit reporting service providers while maintaining a healthy balance between consumer data protection and the rights of consumers. Rather than being the cause of errors and issues, data suppliers and users must be the focus of PCB oversight (e.g., poor data quality, insufficient data sharing, disrespect for consumer rights, disregarded consent, unrecognized duty to ask, etc.). The whole credit system is put at risk by a single data supplier who is unconcerned about the quality of their data.
- c) Strike a balance between the protection of customer privacy and the ability to share credit information. Consumer privacy is a relative notion in today's world of enormous digital data flows, where people share information freely through social networks. There should be a focus on ensuring that credit information sharing is done only for the reasons specified in legal and regulatory frameworks and that information is not shared, compromised, or hacked in a careless or intentional manner. It is the responsibility of credit reporting service providers (private bureaus, public registries) and data suppliers to ensure the safety and security of credit information flows. By implementing a procedure to guarantee compliance, the privacy of those who provide the data is also protected.
- d) Come to an agreement on a medium-term plan that is well-defined. Set a clear medium-term credit reporting strategy and action plan based on professional guidance and execute it regularly. The plan should be founded on best practices and have a long-term, comprehensive goal. As a result, it must take into account and use the obvious synergies that already exist while avoiding duplication, overlap, or even worse—competition between the two system. They complement one another, yet they serve distinct purposes and provide different services. When it comes to promoting financial inclusion, private credit bureaus work for lenders, while the public credit register helps regulators better carry out their duties (maintaining financial stability, conducting micro- and macro- prudential supervision, developing monetary policies). Both methods are required for a successful credit reporting system.
- e) Maintain uniformity among the members of the implementation team. Creating a private credit bureau is a labor-intensive and time-consuming undertaking. When dealing with new regulators, it is important to educate them on the PCB ecosystem so that they can make informed decisions. It is possible that the project will go on for three to five years. There should be no changes to the central bank's management staff, especially the project leader. With top strategic members changing or leaving, not only is the project timetable delayed, but the strategy laid forth at the outset as well as the project's results may be jeopardized as well. Ensure that the project team and regulator have clear and consistent lines of communication. In order to come up with a timely resolution, the project's goals should be reviewed frequently and any implementation delays should be identified and resolved. At the start of the project, a time line must be created, agreed upon with the regulator, and reviewed with the client or other relevant stakeholders. This time line must then be continually monitored throughout the project.

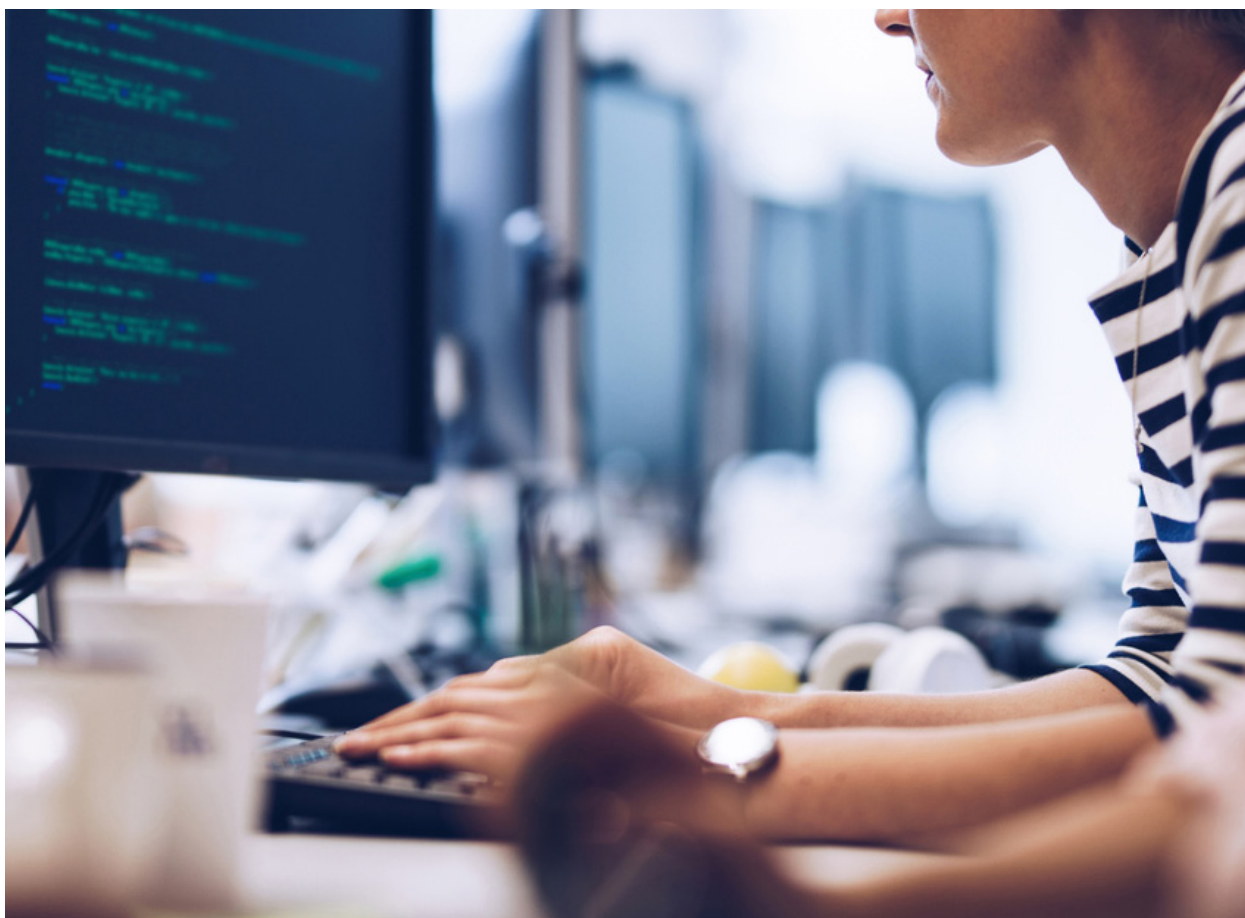
5.4. OBIC Success Factors & Solution Mitigation:

a. Success Factors

- A strong legal and regulatory framework is required to properly implement OBIC financing and consulting services. A credit ecosystem advisory framework is also required, as are consumer rights and obligations.



There should be a focus on ensuring that credit information sharing is done only for the reasons specified in legal and regulatory frameworks and that information is not shared, compromised, or hacked in a careless or intentional manner



- A framework like this may help the OIC's AML and CTF initiatives succeed. This helps to a clean financial environment for all OIC nations.
- This is essential when deciding on OBIC governance and ownership, such as a private, public, joint venture, or even a local-foreign collaboration.
- Advances in data collection, dissemination, and analysis depend on sophisticated technology. According to previous studies, credit bureaus lack IT system development competence.
- Legal status: Many unregistered companies exist in OIC member countries, resulting in inaccurate credit reports.
- A credit bureau association in OIC member countries is required for information sharing and networking among industry players.
- In certain MCs, the market size is small, limiting the use of CIBs. In Sub-Saharan Africa, a country of 15 to 20 million people may have 200,000 credit records. Economies of scale exist in CIBs.
- Data volume, credit data availability and quality in OIC are low. A critical quantity of accurate and current data is required to make automated judgements. A lack of consistency among OIC members is another problem.
- High cost of information: Obtaining and confirming information adds to the cost of information.
- Rather than country-specific credit information, cross-country credit information meets the needs of all nations worldwide.

b. Solution Mitigations

- There are data protection laws, consumer protection laws, and bank secrecy laws. This also relates to the country's collateral system and bankruptcy laws.
- The proposal suggests an executive committee consultation to determine the appropriate ownership structures to ensure significant regional involvement.
- Solid cooperation are encouraged to build a strong technological foundation.
- The facility will also assist MCs improve their credit maturity.
- The center's marketing operations would bring together stakeholders from various marketing channels.
- OBIC will help bridge the data collection and sharing gap in the ecosystem, which will have economic implications.

6

Implementation **Strategy**



6.1. Stakeholder mapping

A stakeholder is “a person, community, or organization that has anything to gain or lose from the results of a reform program or activity. Stakeholders may help or hinder reform. They push for change or stay in support of the status quo. In addition, audiences who are indirectly impacted by the change are also stakeholders.

Ascertaining a strong group of stakeholders helps promote long-term and sustained support for the change. To ensure that stakeholders are on board, the OBIC project team should identify and get the support of important stakeholders early on.

Stakeholders may include in OBIC, among other projects:



6.2. OBIC Credit Reporting Working Group (OCRWG)

- As we saw in the UEMOA credit bureau project, although IFC played a key role designing the project strategy and content, project execution would not have been feasible without the full cooperation of (Central Bank of West African States) BCEAO. This project was so large that the team needed to develop the capacity of local working groups that could subsequently offer training and awareness campaigns throughout the area, doubling their impact and generating results in less time. It is within this context that

a UEMOA Credit Reporting Working Group (UCRWG) was first created and chaired by the BCEAO. This body included representatives from all major stakeholders with an interest in the credit reporting system (such as representatives of the Bankers Association, MFIs Association, and other authorities/governmental agencies involved in information sharing, as well as regulated/nonregulated lenders and international experts). In OBIC case, it is IsDB which can play pivotal role.

- An effective way to promote the plan for establishing a modern, competitive, non-fragmented credit reporting sector and to enable a constructive conversation between regulators and market players is to utilize the OCRWG, which may be headed by IsDB Group.

An OBIC CRWG may have the following goals in the OBIC context:

- Encourage the OIC nations to create a reliable and efficient regional credit reporting system.
- Create a formal forum for developing and proposing ideas to help the credit reporting business grow or improve
- Talk to others in business and government on how credit reporting may be improved (including other supervisory bodies, government, policy makers, lenders, and donors).
- Revision of the legal and regulatory framework: serve as a sounding board for new ideas.
- Set up task forces to address particular problems in the creation of good credit reporting systems. Create sub-task forces.
- As a result of establishing an OCRWG, key stakeholders will be better informed, buy-in will be obtained, the project plan will be tested, banks and other prospective users will have better budgeting capabilities.
- While working on this project, the OCRWG will improve collaboration between market players and regulators in the credit reporting industry, as well as encourage joint efforts toward implementing the credit reporting systems infrastructure. While it played a significant role in facilitating the exchange of data, identifying the impact of various options on the businesses and daily operations of end users, and advocating for standardization of procedures, it was also in charge of promoting knowledge and awareness education about credit reporting systems.
- Thus, national Credit Reporting Working Groups may be established in each country, coordinated by the regional group and headed up by the country's national regulatory authority. Workgroups for specific subjects, with a strict technical emphasis, may be formed and benefit from worldwide best practices.
- Secretariat of the OBIC CRWG will be in charge of overseeing the activities of the task forces and making decisions on the different proposals and reports they produce. Because of its small size, the OBIC CRWG can operate with basic rules and make decisions quickly. It will also have a small secretariat and chairman.



- Every stakeholder in the credit reporting system will be represented by OBIC CRWG, including consumers' rights activists, representatives of public databases, registries and government agencies as well as experts and other supervisors. Task force reports will not have decision-making authority, but they will offer the regulatory authorities' Credit Bureau team and management with essential background and reference on necessary changes for the development of the credit reporting system.
- Stakeholder members appointed to the OBIC CRWG will be credit risk and credit reporting systems experts who are actively involved in their fields. They will act as a direct representative of their respective organizations' senior management (or report directly to them).

6.3. Communication Templates

Keeping the project team and regulator well-informed and well-communicated. There should be frequent discussions on the project's goals and objectives, and any implementation delays should be identified and addressed to come up with a timely solution.

- Before starting any project, a schedule must be established, agreed upon with the regulator, and reviewed with the client or other relevant stakeholders.
- This schedule must then be closely maintained throughout the project.
- The central bank of the country/region or other major monetary system regulator should play a vital supporting role throughout the project and in particular in the early stages of any initiative of a similar type.
- A key activity of the project is to build regulator capacity in credit reporting best practices, since the regulator is a key driver and has complete control over the initiative.
- A private credit bureau is also of importance to regulators since it is the greatest instrument available to the lending sector for controlling portfolio risks. Based on previous experience, there is no such thing as a successful credit bureau initiative without the regulators' unwavering support and involvement. Instead, a slew of initiatives failed due to a lack of financial support.

6.4. Identification of key Marketing distribution channels

According to the *General Principles for Credit Reporting* as the broad framework for drafting specific operational regulations (World Bank 2011). Many major regulatory problems may be resolved by achieving agreement on few basic concepts.

- Procedures that help license or register service providers to guarantee they have the financial and technical capability and necessary business expertise to offer a cost-effective credit reporting service
- Ensuring that service providers adhere to minimal standards of maintaining data correctness (mandating that service providers follow certain rules that stipulate required levels of data accuracy, while also providing opportunities for service providers to use alternative validated techniques)
- Sources of data (the industry stakeholders should strive to agree on the scope of data sources)
- Ensuring service providers comply to customer privacy protections (laws on disclosure, and definitions of "permissible purposes" should be explicitly established in the regulations)
- Having a procedure for protecting consumer rights (the redress mechanisms and process to be followed in the event of a complaint must be clearly set out in the rules)
- Periodic audit provision
- Responsibilities to help consumers.

In order to strengthen new risk management technologies (such as the bureau score) and consumers' rights that have rarely existed before, awareness, financial education, and training are the project's cement. They will also foster a more open and holistic view of how controlled data flow can improve people's lives as well as the common good. While there is no set timeline for such programs, they are often carried out in three stages to ensure consistency: prevention, awareness, and action.

Level 1: Consultation with regulatory authorities (before and during the development)

Level 2: Working with the credit providers (before, during and after the development)

Level 3: With the participation of the general public (by the end of the development and later)

6.5. Implementation Work Plans for Phases

OBIC will be implemented in three phases. They are:

- **Short-Term Work Plan (For Phase 1 - November 2021 to November 2022)**

In this phase, mainly the focus will be on the pilot projects along with a shortlist for hub selection with special focus on securing the funding.

- **Medium-Term Work Plan (For Phase 2 – December 2022 to November 2023)**

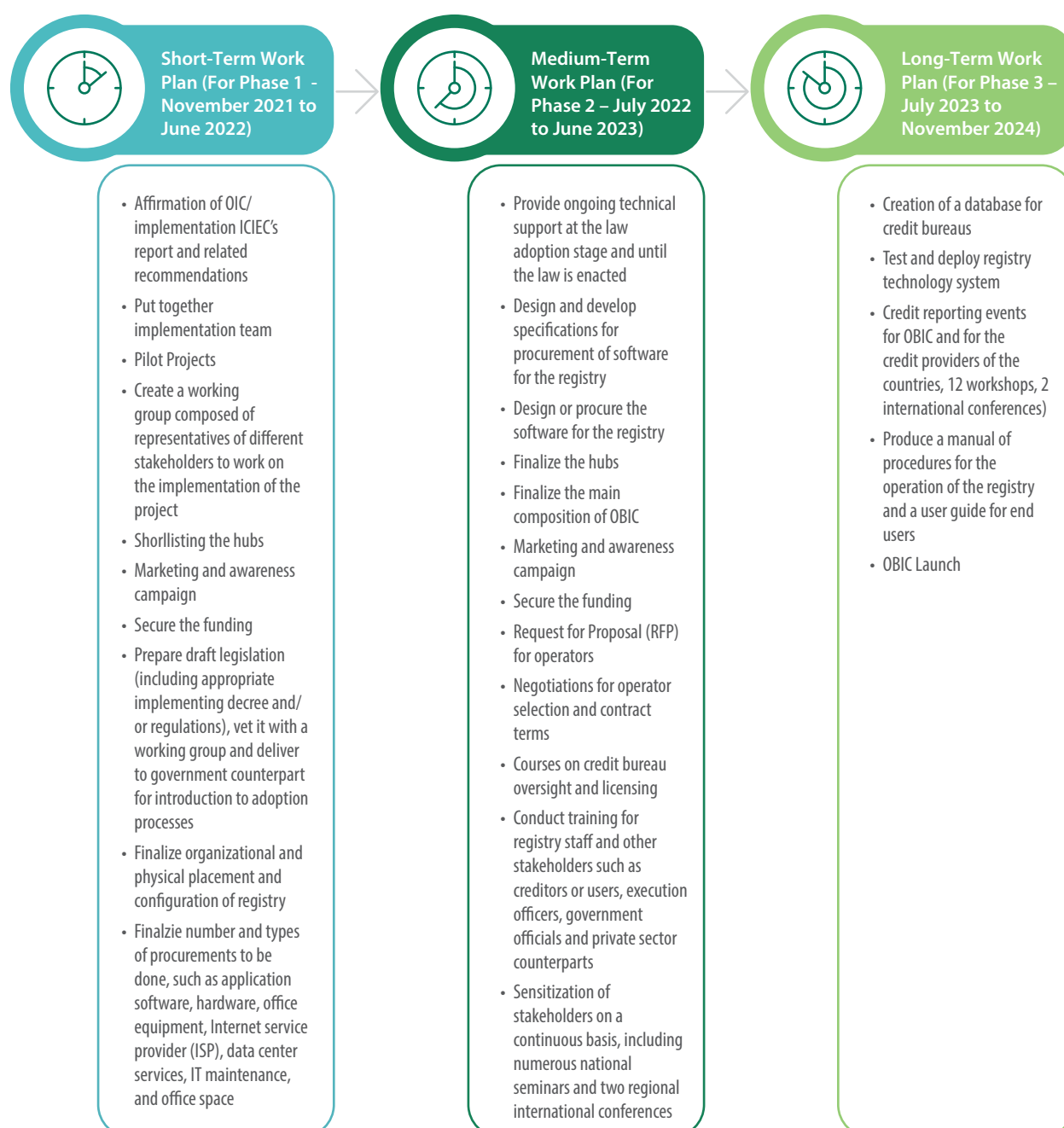
In this phase, the focus will be more on finalizing the hubs, the main composition of OBIC, along with an extended drive to secure the funding if not met in Phase 1.

- **Long-Term Work Plan (For Phase 3 – December 2023 to November 2024)**

This phase will deal with creation of a database for credit bureau, testing and deploying registry technology system, and producing a manual of procedures for the operation of the registry and a user guide for end users culminating in OBIC official launch.

Below figure details the work plan

Figure 6.1: OBIC 3-Phased Work Plan



7

Funding

Strategy / Plan

7.1. Sourcing of funds

Financing source can come from

- Host countries on a quid pro quo basis where they cover part of the costs and expenses in exchange for their financial institutions to get OBIC services for a discount
- IsDB Group, OIC member countries in exchange for shares in the business intelligence center

As OBIC is launched, and reaches a substantial scale, the working capital can be generated from its own revenue stream

7.2. Financial Overview

- Financial profile: OBIC will require an estimated \$7.97 million in investment capital, out of which \$4.24 million will be required to launch the project, with additional \$3.73 million requiring within the first year of operations.
- This is an increase from the initial estimate, presented to 35th COMCEC meeting in 2019, where it was estimated that \$5.8 million in investment capital, \$3.9 million from it within first year, will be required.
- This increase is attributed to
 - o the shifting global situation because of Covid-19
 - o a more realistic understanding of the market after benchmarking with global best practices
 - o change in financial model as the licensing fee component of the revenue stream was excluded
- The center is expected to generate an operating profit in year 6 and revenue reaching \$4.40 million.
- Cash flow generation: The Center begins generating profit and cash in Year 6, with profitability reaching, driven by the following:
 - Revenue generation: Revenues reach \$4.40 million by Year 6, ramping up following the launch of the cross-OIC platform in Year 1, which is projected to reach 1,500 users within five years of launch and represent 30% of revenues by year 5.
 - Direct costs: External project management costs and data acquisition costs are expected to represent 37% of revenues in Year 1, declining to 14% of revenues by Year 5 as OBIC operational infrastructure matures, and as the center benefits from scale.
 - Indirect costs: Largely fixed costs spanning personnel, marketing and database management costs, starting at \$1.44 million in Year 1 and growing to \$3.08 million by Year 5, driven by increasing sophistication and scale of the technology infrastructure, and the build-out of the team to 20 individuals by Year 5.
 - Detailed breakdown of the revenue and costs along with the assumptions are illustrated in Appendix E.
 - Financial requirements: The Center requires \$7.97 million investment over a two-year period, \$4.24 million of which will be needed to build a robust, scalable database, and with \$3.73 million to sustain operations in the first five years, primarily to support:
 - o Initial platform investment cost of \$3 million
 - o Personnel costs (\$1.8 million through Year 3) and
 - o Ongoing technology maintenance (\$2.1 million) and marketing costs (\$5.17 million) for both through Year 2.

Figure 7.1: Overview of OBIC financial profile, \$ in 000s

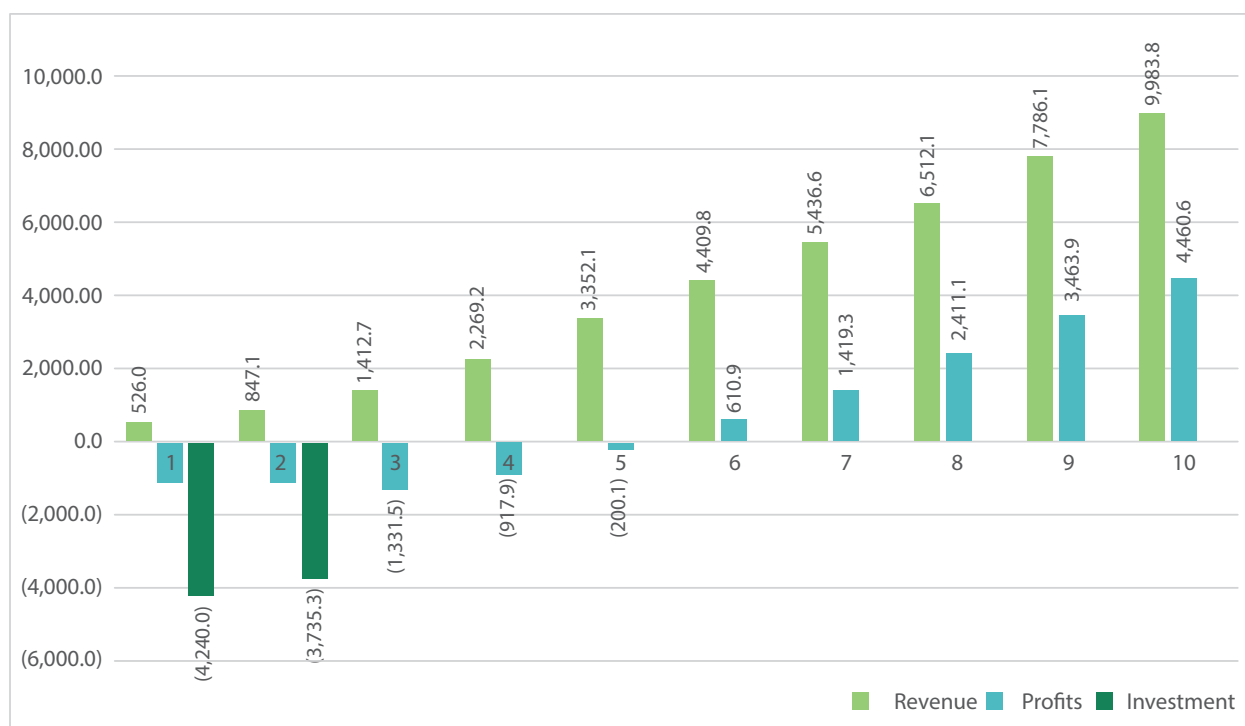


Table 7.1: OBIC operating profit and cash flows

OBIC 10 year financial projections

\$ 000s	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenues											
Capacity Building: Strategy		240.0	358.3	514.2	705.6	883.9	1,106.1	1,308.1	1,519.6	1,796.4	2,035.1
Capacity Building: Resources & Training		240.0	323.9	464.8	659.1	825.7	1,059.0	1,252.5	1,455.0	1,759.4	1,993.2
Credit Intel Delivery - Local Level		17.3	61.8	162.6	339.2	615.9	841.8	1,078.5	1,326.6	1,586.4	1,858.3
Credit Intel Delivery - Cross-OIC database		28.8	103.0	271.1	565.4	1,026.5	1,402.9	1,797.5	2,211.0	2,643.9	3,097.2
Total revenues		526.0	847.1	1,412.7	2,269.2	3,352.1	4,409.8	5,436.6	6,512.1	7,786.1	8,983.8
Direct costs											
Project external direct costs		(192.0)	(204.7)	(274.1)	(368.5)	(427.4)	(519.6)	(588.9)	(654.4)	(746.7)	(805.7)
Data acquisition costs		0.0	(12.0)	(21.0)	(30.0)	(37.5)	(40.0)	(37.5)	(30.0)	(17.5)	(20.0)
Total direct costs		(192.0)	(216.7)	(295.1)	(398.5)	(464.9)	(559.6)	(626.4)	(684.4)	(764.2)	(825.7)
Costs of operation											
Personnel	(142.0)	(389.5)	(432.9)	(831.4)	(958.1)	(1,018.3)	(1,043.7)	(1,069.8)	(1,096.6)	(1,124.0)	(1,152.1)
Technology	(600.0)	(650.0)	(900.0)	(1,150.0)	(1,400.0)	(1,650.0)	(1,700.0)	(1,750.0)	(1,800.0)	(1,850.0)	(1,900.0)
Marketing	0.0	(263.0)	(254.1)	(282.5)	(226.9)	(201.1)	(264.6)	(326.2)	(260.5)	(311.4)	(359.4)
Other operating costs	(3.0)	(140.0)	(161.0)	(185.2)	(203.7)	(217.9)	(231.0)	(244.9)	(259.5)	(272.5)	(286.2)
Total indirect costs	(745.0)	(1,442.5)	(1,748.0)	(2,449.1)	(2,788.7)	(3,087.3)	(3,239.3)	(3,390.9)	(3,416.6)	(3,557.9)	(3,697.6)
Operating profit	(745.0)	(1,108.5)	(1,117.6)	(1,331.5)	(917.9)	(200.1)	610.9	1,419.3	2,411.1	3,463.9	4,460.6
Platform investment costs	(3,000.0)										
Working capital (half of first year)	(131.5)										
Working capital (ongoing)		(10.5)	(16.9)	(28.3)	(45.4)	(67.0)	(88.2)	(108.7)	(130.2)	(155.7)	(179.7)
Net cash flow	(3,876.5)	(1,119.0)	(1,134.5)	(1,359.7)	(963.3)	(267.2)	522.7	1,310.6	2,280.9	3,308.2	4,280.9

Table 7.2: OBIC Investment Profile

\$ 000s	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
<u>Total investment needed, \$5000s</u>												<u>Total</u>
Platform investment costs	(3000)											(3,000.0)
Working capital needs	(131.5)	(168.1)										(299.6)
Operational lossess/ shortfall	(1,108.5)	(3,567.1)										(7,975.3)
Investment	(4,240.0)	(3,735.3)										



8

Appendix

Appendix A: Approach for Hubs Identification

Overview:

- Before the analysis, DinarStandard database was updated using the latest data downloaded from the World Bank database. 2019 was used as analysis datapoint as Covid-19 affected the indicators unnaturally in 2020 & 2021.

CREDIT MATURIITY TIERS		
Criteria	Indicator	Data Source
1 Credit Registry Maturity	Public credit registry coverage (% of adults)	World Bank, Doing Business project (http://www.doingbusiness.org/).
2 Credit Bureau Maturity	Private credit bureau coverage (% of adults)	World Bank, Doing Business project (http://www.doingbusiness.org/).

HUB PRIORITIZATION - FIRST FILTER (Quantitative)		
Criteria	Indicator	Source
1 Credit Registry Maturity	Public credit registry coverage (% of adults)	World Bank, Doing Business project (http://www.doingbusiness.org/).
2 Credit Bureau Maturity	Private credit bureau coverage (% of adults)	World Bank, Doing Business project (http://www.doingbusiness.org/).
3 Data-Regulation Maturity	Government Effectiveness: Percentile Rank	World Bank database
4 Economic Growth Strength	GDP per capita growth (annual %)	World Bank national accounts data, and OECD National Accounts data files.

HUB PRIORITIZATION - SECOND FILTER (Qualitative)		
Criteria-Indicator		Source
1	Hub Analysis - First Filter	1 st filter analysis
2	ICIEC FIT #1 - Relationship Strength (relationship, willingness)	ICIEC Management input
3	ICIEC FIT #2 - Sense of Ability/Interest (able, expressed interest)	ICIEC Management input

3-Step Process:

- The previous OIC business intelligence maturity (2018) quadrants was updated using the latest data. The analysis is shown on **Appendix B**. The indicators were percentile scored before the analysis.
- Next, potential hub MCs were analyzed by adding two key indicators for data-regulation maturity and economic growth strength. These were then added to the credit ecosystem maturity indicators. Thus, the ranking of MCs in terms of potential hub suitability was obtained. The analysis is presented in **Appendix C**. The indicators were percentile scored before the analysis.
- In regard to the qualitative analysis, which is ICIEC fit, two qualitative indicators were added for ICIEC to fill in:
 - ICIEC FIT #1 - Relationship Strength (relationship, willingness) (1-5, 1 being highest)
 - ICIEC FIT #2 - Sense of Ability/Interest (Able, expressed interest) (1-5, 1 being highest)

After getting ICIEC management's input, the quantitative and qualitative analysis were combined, and a final score for hub prioritization was obtained. The combined analysis is presented in **Appendix D**. The indicators were percentile scored before the analysis.

Appendix B: Updated Credit Ecosystem Maturity Tiers⁴¹

Score Percentile	Tier
Over 65%	A
Between 40-65%	B
Between 25-40%	C
Less than 20%	D

Country Name	Region	Public Credit Registry Coverage (percentile score)	Private Credit Bureau Coverage (percentile score)	Max (of Private & Public)	Percentile Rank	Credit Ecosystem Maturity Tier
Afghanistan	South Asia	54.74%	0.53%	54.74%	32.14%	Tier C
Albania	Europe & Central Asia	89.36%	0.53%	89.36%	92.86%	Tier A
Algeria	Middle East & North Africa	60.64%	0.53%	60.64%	44.64%	Tier B
Azerbaijan	Europe & Central Asia	0.53%	64.89%	64.89%	55.36%	Tier B
Bahrain	Middle East & North Africa	0.53%	63.30%	63.30%	53.57%	Tier B
Bangladesh	South Asia	62.77%	0.53%	62.77%	51.79%	Tier B
Benin	Sub-Saharan Africa	0.53%	40.96%	40.96%	10.71%	Tier D
Brunei Darussalam	East Asia & Pacific	93.62%	0.53%	93.62%	98.21%	Tier A
Burkina Faso	Sub-Saharan Africa	0.53%	41.49%	41.49%	12.50%	Tier D
Cameroon	Sub-Saharan Africa	83.51%	0.53%	83.51%	91.07%	Tier A
Chad	Sub-Saharan Africa	59.57%	0.53%	59.57%	42.86%	Tier B
Comoros	Sub-Saharan Africa	69.68%	0.53%	69.68%	67.86%	Tier A
Cote d'Ivoire	Sub-Saharan Africa	0.53%	54.79%	54.79%	33.93%	Tier C
Djibouti	Sub-Saharan Africa	52.13%	0.53%	52.13%	25.00%	Tier C
Egypt	Middle East & North Africa	67.02%	57.98%	67.02%	64.29%	Tier B
Gabon	Sub-Saharan Africa	79.26%	0.53%	79.26%	83.93%	Tier A
The Gambia	Sub-Saharan Africa	0.53%	0.53%	0.53%	3.57%	Tier D
Guinea	Sub-Saharan Africa	56.38%	0.53%	56.38%	35.71%	Tier C
Guinea-Bissau	Sub-Saharan Africa	0.53%	40.43%	40.43%	8.93%	Tier D
Guyana	Latin America & Caribbean	0.53%	57.45%	57.45%	37.50%	Tier C
Indonesia	East Asia & Pacific	80.32%	62.23%	80.32%	85.71%	Tier A
Iran	Middle East & North Africa	90.96%	75.53%	90.96%	94.64%	Tier A
Iraq	Middle East & North Africa	53.72%	0.53%	53.72%	28.57%	Tier C

41. DinarStandard Analysis

Jordan	Middle East & North Africa	61.70%	55.32%	61.70%	50.00%	Tier B
Kazakhstan	Europe & Central Asia	0.53%	77.66%	77.66%	80.36%	Tier A
Kuwait	Middle East & North Africa	71.81%	58.51%	71.81%	71.43%	Tier A
Kyrgyz Republic	Europe & Central Asia	0.53%	61.17%	61.17%	46.43%	Tier B
Lebanon	Middle East & North Africa	74.47%	0.53%	74.47%	75.00%	Tier A
Libya	Middle East & North Africa	53.19%	0.53%	53.19%	26.79%	Tier C
Malaysia	East Asia & Pacific	91.49%	84.57%	91.49%	96.43%	Tier A
Maldives	South Asia	75.53%	0.53%	75.53%	76.79%	Tier A
Mali	Sub-Saharan Africa	0.53%	42.55%	42.55%	16.07%	Tier D
Mauritania	Sub-Saharan Africa	65.96%	0.53%	65.96%	60.71%	Tier B
Morocco	Middle East & North Africa	0.53%	58.51%	58.51%	41.07%	Tier B
Mozambique	Sub-Saharan Africa	64.89%	0.53%	64.89%	55.36%	Tier B
Niger	Sub-Saharan Africa	0.53%	44.68%	44.68%	17.86%	Tier D
Nigeria	Sub-Saharan Africa	61.17%	50.53%	61.17%	46.43%	Tier B
Oman	Middle East & North Africa	78.72%	0.53%	78.72%	82.14%	Tier A
Pakistan	South Asia	69.15%	45.21%	69.15%	66.07%	Tier A
Palestine	Middle East & North Africa	76.60%	0.53%	76.60%	78.57%	Tier A
Qatar	Middle East & North Africa	81.38%	0.53%	81.38%	87.50%	Tier A
Saudi Arabia	Middle East & North Africa	0.53%	73.94%	73.94%	73.21%	Tier A
Senegal	Sub-Saharan Africa	0.53%	48.94%	48.94%	21.43%	Tier C
Sierra Leone	Sub-Saharan Africa	57.98%	0.53%	57.98%	39.29%	Tier C
Somalia	Sub-Saharan Africa	0.53%	0.53%	0.53%	3.57%	Tier D
Sudan	Sub-Saharan Africa	0.53%	42.02%	42.02%	14.29%	Tier D
Suriname	Latin America & Caribbean	0.53%	0.53%	0.53%	3.57%	Tier D
Tajikistan	Europe & Central Asia	0.53%	65.43%	65.43%	58.93%	Tier B
Togo	Sub-Saharan Africa	0.53%	50.00%	50.00%	23.21%	Tier C
Tunisia	Middle East & North Africa	81.91%	0.53%	81.91%	89.29%	Tier A
Turkey	Europe & Central Asia	95.21%	0.53%	95.21%	100.00%	Tier A
Turkmenistan	Europe & Central Asia	0	0.00%	0.00%	1.79%	Tier D
Uganda	Sub-Saharan Africa	0.53%	45.74%	45.74%	19.64%	Tier D
United Arab Emirates	Middle East & North Africa	70.21%	68.09%	70.21%	69.64%	Tier A
Uzbekistan	Europe & Central Asia	0.53%	65.96%	65.96%	60.71%	Tier B
Yemen	Middle East & North Africa	53.72%	0.53%	53.72%	28.57%	Tier C

Appendix C: Hub Analysis First Filer (Quantitative)⁴²

Country Name	Region	Public Credit Registry Coverage (percentile score)	Private Credit Bureau Coverage (percentile score)	Government Effectiveness (percentile score)	GDP Per Capita Growth Annual (percentile score)	Score	Percentile Rank
Afghanistan	South Asia	54.74%	0.53%	7.21%	52.53%	28.75%	26.79%
Albania	Europe & Central Asia	89.36%	0.53%	50.48%	67.17%	51.89%	87.50%
Algeria	Middle East & North Africa	60.64%	0.53%	33.65%	17.17%	28.00%	23.21%
Azerbaijan	Europe & Central Asia	0.53%	64.89%	46.15%	53.54%	41.28%	64.29%
Bahrain	Middle East & North Africa	0.53%	63.30%	63.94%	7.58%	33.84%	35.71%
Bangladesh	South Asia	62.77%	0.53%	23.56%	98.48%	46.34%	78.57%
Benin	Sub-Saharan Africa	0.53%	40.96%	36.06%	83.84%	40.35%	62.50%
Brunei Darussalam	East Asia & Pacific	93.62%	0.53%	87.02%	69.70%	62.72%	94.64%
Burkina Faso	Sub-Saharan Africa	0.53%	41.49%	22.12%	68.69%	33.21%	33.93%
Cameroon	Sub-Saharan Africa	83.51%	0.53%	19.23%	42.93%	36.55%	44.64%
Chad	Sub-Saharan Africa	59.57%	0.53%	5.77%	28.28%	23.54%	8.93%
Comoros	Sub-Saharan Africa	69.68%	0.53%	3.85%	21.72%	23.94%	12.50%
Cote d'Ivoire	Sub-Saharan Africa	0.53%	54.79%	35.10%	79.29%	42.43%	66.07%
Djibouti	Middle East & North Africa	52.13%	0.53%	24.04%	96.97%	43.42%	71.43%
Egypt	Middle East & North Africa	67.02%	57.98%	36.54%	78.28%	59.96%	92.86%
Gabon	Sub-Saharan Africa	79.26%	0.53%	16.35%	49.49%	36.41%	39.29%
Gambia, The	Sub-Saharan Africa	0.53%	0.53%	29.33%	73.23%	25.91%	19.64%
Guinea	Sub-Saharan Africa	56.38%	0.53%	21.15%	67.68%	36.44%	41.07%
Guinea-Bissau	Sub-Saharan Africa	0.53%	40.43%	6.25%	59.60%	26.70%	21.43%
Guyana	Latin America & Caribbean	0.53%	57.45%	37.50%	91.92%	46.85%	80.36%
Indonesia	East Asia & Pacific	80.32%	62.23%	60.10%	82.32%	71.24%	98.21%
Iran	Middle East & North Africa	90.96%	75.53%	32.21%	2.02%	50.18%	83.93%
Iraq	Middle East & North Africa	53.72%	0.53%	9.62%	62.12%	31.50%	32.14%
Jordan	Middle East & North Africa	61.70%	55.32%	56.73%	35.35%	52.28%	89.29%
Kazakhstan	Europe & Central Asia	0.53%	77.66%	57.69%	75.76%	52.91%	91.07%
Kuwait	Middle East & North Africa	71.81%	58.51%	52.88%	13.64%	49.21%	82.14%

42. DinarStandard Analysis

Kyrgyz Republic	Europe & Central Asia	0.53%	61.17%	25.00%	64.14%	37.71%	50.00%
Lebanon	Middle East & North Africa	74.47%	0.53%	17.79%	2.53%	23.83%	10.71%
Libya	Middle East & North Africa	53.19%	0.53%	2.40%	41.41%	24.39%	14.29%
Malaysia	East Asia & Pacific	91.49%	84.57%	79.33%	70.20%	81.40%	100.00%
Maldives	South Asia	75.53%	0.53%	42.79%	82.83%	50.42%	85.71%
Mali	Sub-Saharan Africa	0.53%	42.55%	13.94%	55.05%	28.02%	25.00%
Mauritania	Sub-Saharan Africa	65.96%	0.53%	34.62%	73.74%	43.71%	73.21%
Morocco	Middle East & North Africa	0.53%	58.51%	47.60%	45.45%	38.02%	53.57%
Mozambique	Sub-Saharan Africa	64.89%	0.53%	18.75%	19.19%	25.84%	17.86%
Niger	Sub-Saharan Africa	0.53%	44.68%	20.19%	58.59%	31.00%	30.36%
Nigeria	Sub-Saharan Africa	61.17%	50.53%	13.46%	20.71%	36.47%	42.86%
Oman	Middle East & North Africa	78.72%	0.53%	62.50%	5.56%	36.83%	46.43%
Pakistan	South Asia	69.15%	45.21%	25.96%	17.68%	39.50%	60.71%
Palestine	Middle East & North Africa	76.60%	0.53%	23.08%	16.16%	29.09%	28.57%
Qatar	Middle East & North Africa	81.38%	0.53%	75.00%	18.18%	43.77%	75.00%
Saudi Arabia	Middle East & North Africa	0.53%	73.94%	64.42%	12.63%	37.88%	51.79%
Senegal	Sub-Saharan Africa	0.53%	48.94%	50.96%	53.03%	38.36%	57.14%
Sierra Leone	Sub-Saharan Africa	57.98%	0.53%	12.50%	77.27%	37.07%	48.21%
Somalia	Sub-Saharan Africa	0.53%	0.53%	1.44%	24.75%	6.81%	1.79%
Sudan	Sub-Saharan Africa	0.53%	42.02%	5.29%	6.06%	13.48%	3.57%
Suriname	Latin America & Caribbean	0.53%	0.53%	30.77%	26.77%	14.65%	7.14%
Tajikistan	Europe & Central Asia	0.53%	65.43%	14.42%	92.42%	43.20%	69.64%
Togo	Sub-Saharan Africa	0.53%	50.00%	15.87%	70.71%	34.28%	37.50%
Tunisia	Middle East & North Africa	81.91%	0.53%	48.56%	23.74%	38.69%	58.93%
Turkey	Europe & Central Asia	95.21%	0.53%	54.33%	20.20%	42.57%	67.86%
Turkmenistan	Europe & Central Asia	0.00%	0.00%	11.06%	88.89%	24.99%	16.07%
Uganda	Sub-Saharan Africa	0.53%	45.74%	31.25%	74.75%	38.07%	55.36%
United Arab Emirates	Middle East & North Africa	70.21%	68.09%	88.94%	29.29%	64.13%	96.43%
Uzbekistan	Europe & Central Asia	0.53%	65.96%	34.13%	80.81%	45.36%	76.79%
Yemen	Middle East & North Africa	53.72%	0.53%	0.96%	0.00%	13.80%	5.36%

Appendix D: Hub Analysis Second Filer (Combined Quantitative & Qualitative)⁴³

Country Name	Region	Hub Analysis 1st Filter (Percentile Score)	ICIEC FIT #1 - Relationship Strength (Percentile Score)	ICIEC FIT #2 - Sense of Ability/ Interest (Percentile Score)	Updated Prioritization (after giving equal weight to Hub Analysis 1st Filter & 2 ICIEC Fit indicators)
Afghanistan	South Asia	26.79%	1.79%	1.79%	10.12%
Albania	Europe & Central Asia	87.50%	1.79%	1.79%	30.36%
Algeria	Middle East & North Africa	23.21%	57.14%	73.21%	51.19%
Azerbaijan	Europe & Central Asia	64.29%	57.14%	57.14%	59.52%
Bahrain	Middle East & North Africa	35.71%	57.14%	57.14%	50.00%
Bangladesh	South Asia	78.57%	57.14%	73.21%	69.64%
Benin	Sub-Saharan Africa	62.50%	39.29%	1.79%	34.52%
Brunei	East Asia & Pacific	94.64%	82.14%	94.64%	90.48%
Burkina Faso	Sub-Saharan Africa	33.93%	1.79%	1.79%	12.50%
Cameroon	Sub-Saharan Africa	44.64%	1.79%	1.79%	16.07%
Chad	Sub-Saharan Africa	8.93%	1.79%	1.79%	4.17%
Comoros	Sub-Saharan Africa	12.50%	1.79%	1.79%	5.36%
Cote d'Ivoire	Sub-Saharan Africa	66.07%	57.14%	1.79%	41.67%
Djibouti	Middle East & North Africa	71.43%	39.29%	1.79%	37.50%
Egypt	Middle East & North Africa	92.86%	82.14%	73.21%	82.74%
Gabon	Sub-Saharan Africa	39.29%	1.79%	1.79%	14.29%
Gambia, The	Sub-Saharan Africa	19.64%	1.79%	1.79%	7.74%
Guinea	Sub-Saharan Africa	41.07%	1.79%	1.79%	14.88%
Guinea-Bissau	Sub-Saharan Africa	21.43%	1.79%	1.79%	8.33%
Guyana	Latin America & Caribbean	80.36%	1.79%	1.79%	27.98%
Indonesia	East Asia & Pacific	98.21%	89.29%	73.21%	86.90%
Iran	Middle East & North Africa	83.93%	57.14%	73.21%	71.43%
Iraq	Middle East & North Africa	32.14%	39.29%	1.79%	24.40%
Jordan	Middle East & North Africa	89.29%	39.29%	57.14%	61.90%
Kazakhstan	Europe & Central Asia	91.07%	57.14%	1.79%	50.00%

43. DinarStandard Analysis

Kuwait	Middle East & North Africa	82.14%	57.14%	73.21%	70.83%
Kyrgyzstan	Europe & Central Asia	50.00%	1.79%	1.79%	17.86%
Lebanon	Middle East & North Africa	10.71%	57.14%	73.21%	47.02%
Libya	Middle East & North Africa	14.29%	39.29%	1.79%	18.45%
Malaysia	East Asia & Pacific	100.00%	89.29%	94.64%	94.64%
Maldives	South Asia	85.71%	39.29%	57.14%	60.71%
Mali	Sub-Saharan Africa	25.00%	39.29%	57.14%	40.48%
Mauritania	Sub-Saharan Africa	73.21%	39.29%	1.79%	38.10%
Morocco	Middle East & North Africa	53.57%	82.14%	57.14%	64.29%
Mozambique	Sub-Saharan Africa	17.86%	1.79%	1.79%	7.14%
Niger	Sub-Saharan Africa	30.36%	39.29%	1.79%	23.81%
Nigeria	Sub-Saharan Africa	42.86%	82.14%	87.50%	70.83%
Oman	Middle East & North Africa	46.43%	57.14%	57.14%	53.57%
Pakistan	South Asia	60.71%	89.29%	87.50%	79.17%
Palestine	Middle East & North Africa	28.57%	1.79%	1.79%	10.71%
Qatar	Middle East & North Africa	75.00%	57.14%	73.21%	68.45%
Saudi Arabia	Middle East & North Africa	51.79%	89.29%	94.64%	78.57%
Senegal	Sub-Saharan Africa	57.14%	89.29%	87.50%	77.98%
Sierra Leone	Sub-Saharan Africa	48.21%	1.79%	1.79%	17.26%
Somalia	Sub-Saharan Africa	1.79%	1.79%	1.79%	1.79%
Sudan	Sub-Saharan Africa	3.57%	1.79%	1.79%	2.38%
Suriname	Latin America & Caribbean	7.14%	1.79%	1.79%	3.57%
Tajikistan	Europe & Central Asia	69.64%	57.14%	57.14%	61.31%
Togo	Sub-Saharan Africa	37.50%	1.79%	1.79%	13.69%
Tunisia	Middle East & North Africa	58.93%	57.14%	1.79%	39.29%
Turkey	Europe & Central Asia	67.86%	89.29%	94.64%	83.93%
Turkmenistan	Europe & Central Asia	16.07%	1.79%	1.79%	6.55%
Uganda	Sub-Saharan Africa	55.36%	57.14%	57.14%	56.55%
United Arab Emirates	Middle East & North Africa	96.43%	89.29%	87.50%	91.07%
Uzbekistan	Europe & Central Asia	76.79%	39.29%	1.79%	39.29%
Yemen	Middle East & North Africa	5.36%	1.79%	1.79%	2.98%

Appendix E: 10-year Financial Projection Breakdown⁴⁴

Revenue Table

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Assumption for Baseline Data	Assumption for Growth Trajectory
Revenues													
Capacity Building: Strategy \$000s		\$240	\$358	\$514	\$706	\$884	\$1,106	\$1,308	\$1,520	\$1,796	\$2,035		
												Initial engagement number based on IFC experience in UEMOA Credit Bureau Project	Engagement increases as the program scales up
Number of engagements		3.0	5.0	7.0	9.0	11.0	13.0	15.0	17.0	19.0	21.0	Based on IFC estimates	
Value per engagement		80.0	82.0	84.1	86.2	88.3	90.5	92.8	95.1	97.5	99.9		
Low-tier value		46.4	47.6	48.7	60.3	61.8	72.4	74.2	76.1	87.7	89.9		
Value growth %		2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%		
% low tier		0%	30%	30%	30%	30%	30%	30%	30%	30%	30%		
Low tier discount		42.0%	42.0%	42.0%	30.0%	30.0%	20.0%	20.0%	20.0%	10.0%	10.0%	Incentive for Tier C & D countries	Will slowly diminish as the ecosystem develops
Capacity Building: Resources & Training \$000s													
		\$240	\$324	\$465	\$659	\$826	\$1,059	\$1,252	\$1,455	\$1,759	\$1,993		
												Initial engagement number based on IFC experience in UEMOA Credit Bureau Project	Engagement increases as the program scales up
Number of engagements		3.0	5.0	7.0	9.0	11.0	13.0	15.0	17.0	19.0	21.0	Based on IFC estimates	
Value per engagement		80.0	82.0	84.1	86.2	88.3	90.5	92.8	95.1	97.5	99.9		
Low-tier value		46.4	47.6	48.7	60.3	61.8	72.4	74.2	76.1	87.7	89.9		
Value growth %		2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%		
% low tier		0%	50%	50%	50%	50%	50%	50%	50%	50%	50%		
Low tier discount		42.0%	42.0%	42.0%	30.0%	30.0%	20.0%	20.0%	20.0%	10.0%	10.0%	Incentive for Tier C & D countries	Will slowly diminish as the ecosystem develops
Credit Intel Delivery - Local Level, \$000s													
		\$17	\$62	\$163	\$339	\$616	\$842	\$1,079	\$1,327	\$1,586	\$1,858		
												Initial program will be based on three regional hubs. The baseline is after taking into consideration the average of potential data users there	As the OBIC scales up, so are the potential users as the coverage will start to spread out As OBIC service offering increases, users will be more and more inclined to pay for annual subscription rather than one-off purchase to reduce their costs
Number of total data users (e.g. banks, insurance companies)		100	300	600	1000	1500	2000	2500	3000	3500	4000	Industry average as most users initially tend to test the offerings by purchasing on an one-off basis	
% buying subscription		25%	30%	40%	50%	60%	60%	60%	60%	60%	60%		
% purchasing one off purchase		75%	70%	60%	50%	40%	40%	40%	40%	40%	40%		
												Dun & Bradstreet charges \$149 per month on average. We put on a conservative estimate to cater for OBIC initial situation	
\$ annual per subscription		\$600	\$615	\$630	\$646	\$662	\$679	\$696	\$713	\$731	\$749		Charge will gradually increase as the service offerings increase
\$ one off spend/ annum		\$30	\$31	\$32	\$32	\$33	\$34	\$35	\$36	\$37	\$37	Industry average from Experian & FICO	Charge will gradually increase as the service offerings increase
Number of inquiries transacted/ user		30	50	50	50	50	50	50	50	50	50		
Credit Intel Delivery - Cross-OIC database, \$000s													
		\$29	\$103	\$271	\$565	\$1,027	\$1,403	\$1,798	\$2,211	\$2,644	\$3,097		
												Initial program will be based on three regional hubs. The baseline is after taking into consideration the average of potential data users there	As the OBIC scales up, so are the potential users as the coverage will start to spread out As OBIC service offering increases, users will be more and more inclined to pay for annual subscription rather than one-off purchase to reduce their costs
Number of total data users (e.g. banks, insurance companies)		100	300	600	1000	1500	2000	2500	3000	3500	4000	Industry average as most users initially tend to test the offerings by purchasing on an one-off basis	
% buying subscription		25%	30%	40%	50%	60%	60%	60%	60%	60%	60%		
% purchasing one off purchase		75%	70%	60%	50%	40%	40%	40%	40%	40%	40%		
												Dun & Bradstreet charges \$149 per month on average. We put on a conservative estimate to cater for OBIC initial situation	
\$ annual per subscription		\$1,000	\$1,025	\$1,051	\$1,077	\$1,104	\$1,131	\$1,160	\$1,189	\$1,218	\$1,249		Charge will gradually increase as the service offerings increase
\$ one off spend/ annum		\$50	\$51	\$53	\$54	\$55	\$57	\$58	\$59	\$61	\$62	Industry average from Experian & FICO	Charge will gradually increase as the service offerings increase
Number of inquiries transacted/ user		30	50	50	50	50	50	50	50	50	50		

44. DinarStandard Analysis

Costs Table

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Assumption for Baseline Data	Assumption for Growth Trajectory
Project direct costs, \$000s	\$192	\$205	\$274	\$368	\$427	\$520	\$589	\$654	\$747	\$806		DinarStandard and team experience in project profitability is used to calculate project direct costs.	
External direct costs as % of revenues	40%	30%	28%	27%	25%	24%	23%	22%	21%	20%			
Data acquisition costs, \$000s	\$0	\$12	\$21	\$30	\$38	\$40	\$38	\$30	\$18	\$20		Data collection costs based on anticipated database use per user, with prices compared to average fees paid by registries as stated in the IFC 2019 toolkit	
Number of inquiries transacted/ user/ year	30	50	50	50	50	50	50	50	50	50			
Number of total users		300	600	1,000	1,500	2,000	2,500	3,000	3,500	4,000			
Wholesale cost/ inquiry, \$		\$0.8	\$0.7	\$0.6	\$0.5	\$0.4	\$0.3	\$0.2	\$0.1	\$0.1			
Personnel costs	\$142	\$390	\$433	\$831	\$958	\$1,018	\$1,044	\$1,070	\$1,097	\$1,124	\$1,152		
Headcount	2.0	7.0	8.0	16.0	19.0	20.0	20.0	20.0	20.0	20.0	20.0	Assumed basic IsDB payscale & subsidiary headcount after the headcount was referenced against World Bank and IFC guidelines on operationalizing a credit registry	
Senior personnel	1.5	3.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		
Management	0.5	1	1	1	1	1	1	1	1	1	1		
Finance	0	1	1	1	1	1	1	1	1	1	1		
Sales	0	0	0	1	1	1	1	1	1	1	1		
Technology & IT	0.5	0	0	1	1	1	1	1	1	1	1		
Business analysis	0.5	1	1	1	1	1	1	1	1	1	1		
Junior & mid-level personnel	0.5	4.0	5.0	11.0	14.0	15.0	15.0	15.0	15.0	15.0	15.0		
Admin	0.5	1.0	1.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		
Finance	0.0	0.5	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
Sales	0.0	0.5	1.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		
Technology & IT	0.0	1.0	1.0	2.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Business analysis	0.0	1.0	1.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0		
Average salary per head, \$000s	71.0	55.6	54.1	52.0	50.4	50.9	52.2	53.5	54.8	56.2	57.6	Assuming basic wage inflation	
Senior personnel	\$84	\$86	\$88	\$90	\$93	\$95	\$97	\$100	\$102	\$105	\$108		
Junior personnel	\$32	\$33	\$34	\$34	\$35	\$36	\$37	\$38	\$39	\$40	\$41		
Wage inflation	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	Platform cost is industry average as stated in the IFC 2019 toolkit	Will gradually increase as the capacity needed increases with rising user base
Technology, \$000s	\$600	\$650	\$900	\$1,150	\$1,400	\$1,650	\$1,700	\$1,750	\$1,800	\$1,850	\$1,900		
System hardware & software	\$200	\$250	\$300	\$350	\$400	\$450	\$500	\$550	\$600	\$650	\$700		
Platform costs	\$400	\$400	\$600	\$800	\$1,000	\$1,200	\$1,200	\$1,200	\$1,200	\$1,200	\$1,200	Marketing cost will be high initially to raise awareness and create a footprint	It will slowly diminish as the OBIC presence becomes known
Marketing, \$000s	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
Share of revenues	50.00%	30.00%	20.00%	10.00%	6.00%	6.00%	6.00%	4.00%	4.00%	4.00%	4.00%		
Other operating costs, \$000s	\$3	\$140	\$161	\$185	\$204	\$218	\$231	\$245	\$260	\$273	\$286	Assumed basic industry average costs	
Office utilities and other costs	\$1	\$90	\$104	\$119	\$131	\$140	\$148	\$157	\$167	\$175	\$184		
Insurance, audit and other costs	\$2	\$50	\$58	\$66	\$73	\$78	\$82	\$87	\$93	\$97	\$102	As the program will be at infancy, growth will be significant	As the program scales up, growth will be high initially, until it starts to slow down as nears the plateau
Growth	10.00%	15.00%	15.00%	10.00%	7.00%	6.00%	6.00%	6.00%	5.00%	5.00%			

Appendix F: AnaCredit Model

Table : AnaCredit structure: templates, tables and critical data elements⁴⁵

Template	Table	# Attributes	Level of Complexity	Critical data elements
TEMPLATE 1	1. Counterparty reference data	22	High	Counterparty identification through Code LEI (Legal Entity Identifier) Enterprise size, data of enterprise size and number of employees, according to Recommendation 2003/361/EC
	2. Instrument data	23	Medium	Details on interest rate (cap, floor, type)
	3. Financial data	11	Medium	Details on interest rate (next interest rate reset date)
	4. Counterparty instrument data	1	Low	
	5. Joint liabilities data	1	Low	
TEMPLATE 2	6. Accounting data	16	Medium	Status and date of forbearance and renegotiation
	7. Protection received data	9	Medium	Detail on type of protection and real estate collateral location
	8. Instrument-protection received data	2	Medium	Third party priority claims against the protection
	9. Counterparty risk data	1	Low	
	10. Counterparty default data	2	Low	

The timeline and the main reporting requirements for the first and subsequent phases are showed in the figure below:

Table: AnaCredit reporting requirements⁴⁶

	FIRST STAGE - 1 ST SEPTEMBER 2018	SUBSEQUENT STAGES
Reporting Threshold	Amount equal to or larger than EUR 25K on any reporting reference date within the reference period	Amount equal to or larger than EUR 25K on any reporting reference date within the reference period
Approach	Instrument by Instrument	Instrument by Instrument
Population	Resident credit institutions and resident foreign branches of credit institutions	NCBs' right to grant derogations to small reporting agents, to be adopted at least two years prior to its introduction to allow sufficient time for implementation
Scope	Loans and deposits Credit granted by credit institutions to legal entities on individual basis No personal data	Extension to derivatives, other accounts receivable, off-balance-sheet items Credit extended to persons other than legal persons, including to sole proprietors On consolidated basis Personal data (ensuring the privacy rights)
Submission	To ensure the appropriate identification of counterparties, NCBs shall transmit to the ECB a first set of the counterparty reference data, six months prior to the first transmission	All templates and related tables need to be provided at the same time

45. AnaCredit: Analytical Credit Dataset of the ECB - Implementation Challenges and Approaches

46. AnaCredit: Analytical Credit Dataset of the ECB - Implementation Challenges and Approaches

Appendix G: UEMOA Credit Bureau Model

Determining which model to use for credit information sharing

When it comes to credit reporting, two types predominate:

- the indirect sharing model and
- the concept of direct sharing

As a result of the indirect sharing strategy, the central bank has an important role to play, one that goes beyond just licensing and regulating PCBs to serve as a technical bridge between the PCBs and the credit bureau customers.

According to the legislation of the UEMOA, all credit information about their customers and portfolio (with borrowers' permission) must be sent to the Regional Credit Bureau on a periodic basis by monitored organizations (microfinance institutions, banks, and non-bank financial institutions). All PCBs functioning in the market (as shown in figure 5.3) are able to expand their information services thanks to the data originally being sent by banks to the BCEAO (credit reports, bureau scores, and so on). Consolidated and validated data is sent back to the regulator, who may use it to carry out its supervisory responsibilities and confirm or supplement the data obtained with information from credit registries, before merging the two databases. By acting as a go-between, the regulator builds trust with data suppliers and consumers, encouraging them to join the credit information sharing model more readily.

In nations where the benefits of information sharing have yet to be fully grasped, this novel approach is especially encouraged, as it makes it easier to carry out effective credit reporting. It provides substantial advantages for private credit bureaus.

It also:

- Lessens the reluctance of lenders to disclose data (generally a major issue).
- Creates a national full-file, positive credit reporting system that is open to all lenders.
- Makes it possible to share information across industries.
- The use of separate/partial printed circuit boards (PCBs) prevents market fragmentation and vertical information silos.
- Prevents the emergence of a monopoly in the exchange of knowledge.
- Creates the conditions for a vibrant, competitive market for information exchange.
- Assigns a significant role to the central banks.

- Allows excellent service providers to operate as long as they meet regulators' standards.
- Provides a plethora of information to the regulator for credit monitoring.

Appendix H: Fintech & AI Case Studies in Credit Reporting⁴⁷

In response to disruptive technologies, new credit scoring firms have risen to challenge traditional credit agencies for consumer business. This kind of company tends to have a far broader client base of unbanked or underbanked customers than conventional credit bureaus, making it simpler for people to get credit. Advances in artificial intelligence (AI) and machine learning (ML) have made large-scale data mining simpler, since these companies now have access to quicker, more efficient, and less expensive techniques.

Alternative credit scoring companies utilize a variety of non-traditional data sources, including social media footprints, psychometrics, internet activity, and phone records. This covers the use of mobile money, call habits, and contacts, as well as trends in top-ups of mobile wallets and credit cards (for prepaid clients). In addition to telephone use data, advanced analytics and machine learning are used to analyze a range of data from users' phones, including messages, online browser data, and GPS location information.

However, privacy concerns, data residency issues, and efforts by local governments to control these approaches via supervisory mechanisms are slowing down the broad adoption of alternative scoring. In addition, post-causality black box methods have often sparked concerns about the possibility of bias. Despite this, alternative credit scoring firms may play an essential role in the interim in encouraging early access to the credit market to help integrate previously excluded populations.

Big data has opened the credit reporting industry to new competitors and a shifting environment because of the growth of fintech and the use of big data. In order to remain competitive, credit reporting companies like banks and other existing lenders are realizing they must do things differently.

Credit risk is assessed by alternative scoring firms, which utilize a range of methods and data sources.

- Examples of companies that use social media traces to generate credit ratings are Lenddo and Friendlyscore. Although Facebook has previously allowed credit risk evaluations by other parties, it now prohibits such access.
- Telecom data is used by First Access (including top-up habits), Tiixa (including mobile money usage), and Trusting Social (containing contacts).

47. Adapted from Disruptive Technologies in the Credit Information Sharing Industry: Developments and Implications (No. 136866, pp. 1-56). Fintech note no. 3. World Bank (2019)

- CreditVidya processes a wide variety of data from users' phones using sophisticated analytics and machine learning. The information includes things like call logs, text messages, browsing history, and GPS position data.
- Verde International develops credit scoring models for banks based on credit bureau and other data sources. Some B2B businesses tailor their underwriting technologies to meet the requirements of certain kinds of lenders or borrowers and may mix processing and scoring.
- In order to help banks lend to small companies, AMP Credit Technologies and OnDeck Capital use information from payments and other sources, and they also assist banks with the onboarding and servicing of small company loans.
- Disruptive Technologies in the Credit Information Sharing Industry: Developments and Implications (No. 136866, pp. 1-56). Fintech note no. 3. World Bank (2019)
- Doing Business 2019: World Bank (2019)
- Doing Business 2020: World Bank (2019)
- General Principles for Credit Reporting. World Bank (2011).
- OIC Economic Outlook 2020: Trade and Integration Challenges amid Rising Uncertainties. Economic Development Studies. SESRIC (2020).
- OIC Statistical Outlook 2019: SESRIC (2019).
- Prospects And Challenges of OIC Member Countries Swot Outlook 2018; SESRIC (2018).

Case Study: Use of Open Data Platforms—Bonify

Transactional data from open banking systems, such as that provided by Bonify in Germany, is being used by credit reporting service providers to generate a creditworthiness score that differs significantly from the traditional static method. Bonify keeps an up-to-date score based on both past and current transactional data, rather than only looking at the long-term statistics.

Case Study: Distributed Ledger Technologies and Biometrics in Credit Reporting

Distributed ledger technologies, such as those used by credit bureaus like Nova Credit and Creditinfo, have created "credit passports," or platforms for exchanging consumer-driven data across borders while maintaining immutability. Developed mainly to meet the needs of people and businesses with credit histories who are unable to utilize the data across borders, the credit passport allows users to carry their credit history with them wherever they travel. Use cases that go beyond cross-border information exchange may be included in this design concept.

After downloading the user's credit history and identity (ID) data using biometrics and encrypting it using blockchain technology, a mobile application will be used to share the information with foreign financial institutions through QR (quick response) codes and to transfer the data itself. In Africa, Europe, and North America, credit passports have been trialled and made available to the general public.

- Statistical Yearbook on OIC Member Countries 2020: SESRIC (2021).
- Strengthening CRS in Indonesia: Role, Challenge, & Future Development. Bank of Indonesia, (2016).
- The Analytical Credit Dataset. A magnifying glass for analysing credit in the euro area. 187. ECB Occasional Paper (2017)
- The national credit bureau: A key enabler of financial infrastructure and lending in developing economies. McKinsey & Company (2009).
- World Economic Outlook 2020. International Monetary Fund (2020).

Appendix J: Further Reference

- IFC Templates on:
 - Example of Regulation for Registry Procedures
 - Model Memorandum of Understanding with Government on credit bureau projects
 - Example of Terms of Reference for Registry IT System

Appendix I: Key Literature Used

- Arab Credit Reporting Guide. IFC & Arab Monetary Fund (2015).
- Credit Reporting Knowledge Guide. IFC (2012).
- Credit Reporting Knowledge Guide. IFC (2012).
- Credit Reporting Without Borders: A Regional Credit Reporting Project. World Bank (2019)



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ANNEX-3



In Partnership With:



OIC Business Intelligence Center (OBIC)

**Role of Credit Information Sharing & Business
Intelligence in Supporting Credit & Investment Decisions**

(A Capacity Building Programme for Users of the OBIC)



OIC Business Intelligence Center (OBIC)

Role of Credit Information Sharing & Business Intelligence in Supporting Credit & Investment Decisions

(A Capacity Building Programme for Users of the OBIC)

Draft Programme

Day One: ----- 2023

Opening Session:

- Opening Speech

Session Two:

The theme of the Session: Introduction to the OIC Business Intelligence Center (OBIC), the content of this Session will be developed and presented by ICIEC.

Day Two: ----- 2023

Session One: *The theme of the Session: Credit Information Fundamentals and Importance of Information Sharing.*

Part One: This part is titled: **Fundamentals of Credit Reporting** and will be developed and presented by -----.

Part Two: This part is titled: **Role of Credit Reporting in Credit Risk Assessment and Importance of Information Sharing** and will be developed and presented by ICIEC

Session Two: *The theme of the Session: The Role of Business Intelligence and Digital Transformation in Supporting Business Decisions.*

Part One: This part is titled: **Fundamentals of Business Intelligence** and will be developed and presented by -----

Part TWO: This part is titled: **Digital Transformation for SMEs** and will be developed and presented by the Islamic Chamber of Commerce, Industry & Agriculture (ICICIA), Pakistan.



Day Three: ----- 2023

Session One: The theme of the Session is: ***Efficient utilization of Statistical Sources of Information on Credit, Trade, and Investment***

Part One: This part is titled: **An Introduction to Collection and Analysis of Investment Data**, and will be developed and presented by the Statistical, Economic and Social Research and Training Centre for Islamic Countries (SESRIC).

Part Two: This part is titled: **An Introduction to Collection and Analysis of Trade and Credit Data** and will be developed and presented by the Islamic Centre for Development of Trade (ICDT), Morocco.

Day Three: ----- 2023

Session Two: Closing Session:

- Closing Remarks