

“Blockchain Network System for Assessing SMEs’ Creditworthiness”

**Fintech to Enable Development, Investment, Financial Inclusion,
and Sustainability**

Asian Development Bank

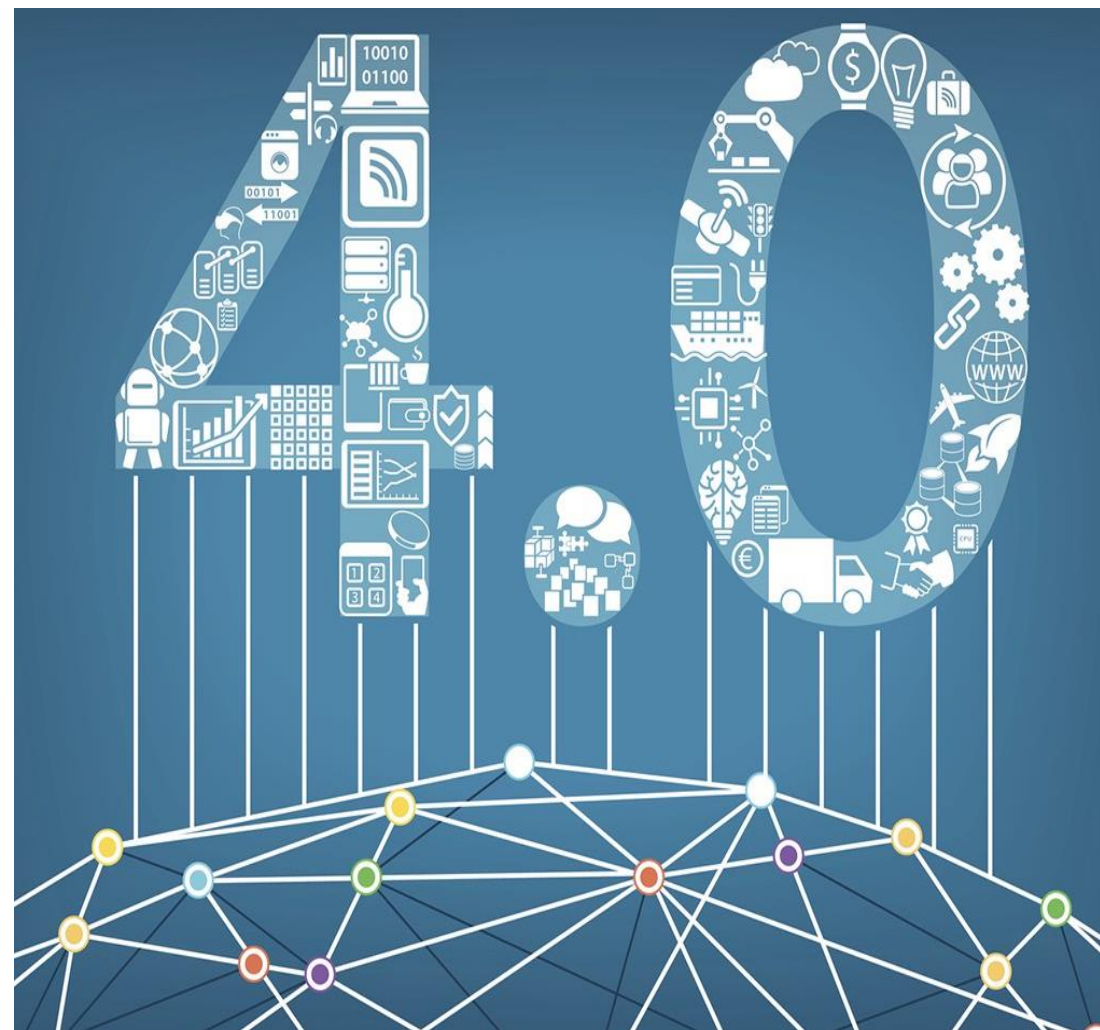
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Industry 4.0

- All businesses, including SMEs, are currently exposed to the 4th Industrial Revolution.
- Introduction of numerous online payment platforms, digital currencies, applications for financial services and products, machine learning, artificial intelligence, digital banks and distributed ledger technologies.
- World of Open Banking, Application Programming Interface (API) and shared data can expose both providers and users of funds to a wide range of fully digital financing instruments/products.



Traditional Banks' Perspective

- Banks/financial institutions' products and services have been historically the primary source of financing for SMEs.
- Traditional banks had and continue to have data problems with SMEs, as there is no single source of information for credit risk assessment (Page, 2016).
- Alternative financing products and services provided by FinTechs have been rapidly increasing around the world in delivering various funding opportunities for SMEs (Earnst & Young, 2018; SIFT, 2020; Yoshino & Nemoto, 2019).



SMEs' Perspective

- SMEs' importance to the economy, managers, customers, suppliers and other stakeholders should not be underestimated (Carter & Auken, 2006).
- SMEs that are better equipped with information and understanding of external financing arrangements do have an advantage (Australian Bureau of Statistics, 2012).
- The introduction of a single digital record for SMEs gives owner-managers the opportunity of being in charge of their proprietary data, which comes from verified sources and could be supplied to external lenders to maximize their chances and speed of accessing debt financing.



SMEs' Data in Assessing Creditworthiness

Financial Data

- Financial Statements
- Bank Accounts History
- Lease/Rental Payments History
- Utility Bills Payments
- Sales History
- Accounts Receivable
- Accounts Payables
- Collateral
- Existing Loans
- History of Loans Payments
- Previously Received Grants
- Tax Returns/Business Activity Statements

Non-Financial Data

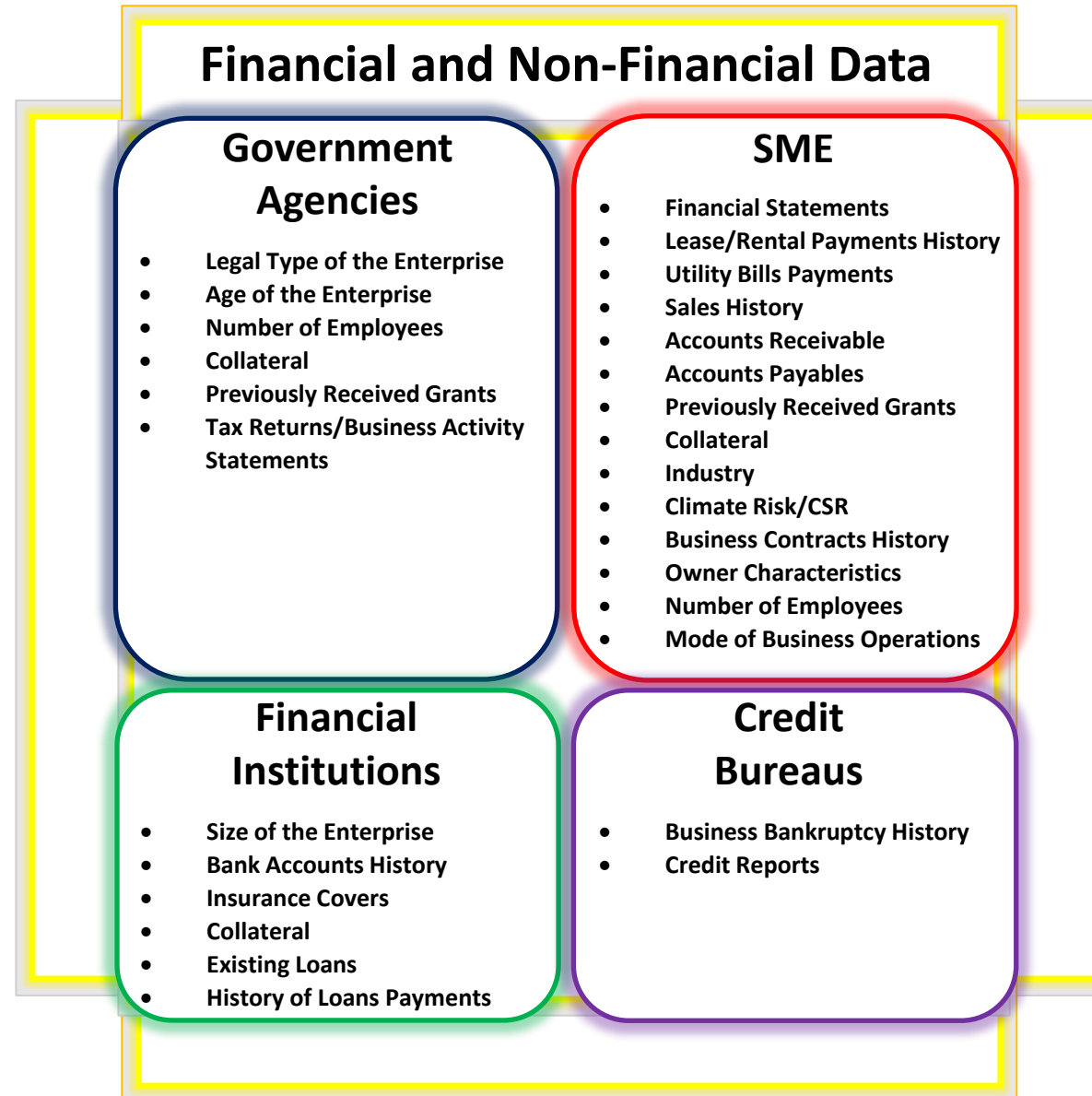
- Legal Type of the Enterprise
- Size of the Enterprise
- Industry
- Climate Risk/CSR
- Business Contracts History
- Owner Characteristics
- Age of Enterprise
- Number of Employees
- Insurance Covers
- Credit Reports
- Business Bankruptcy History
- Mode of Business Operations

Merged Data in Assessing SMEs' Creditworthiness

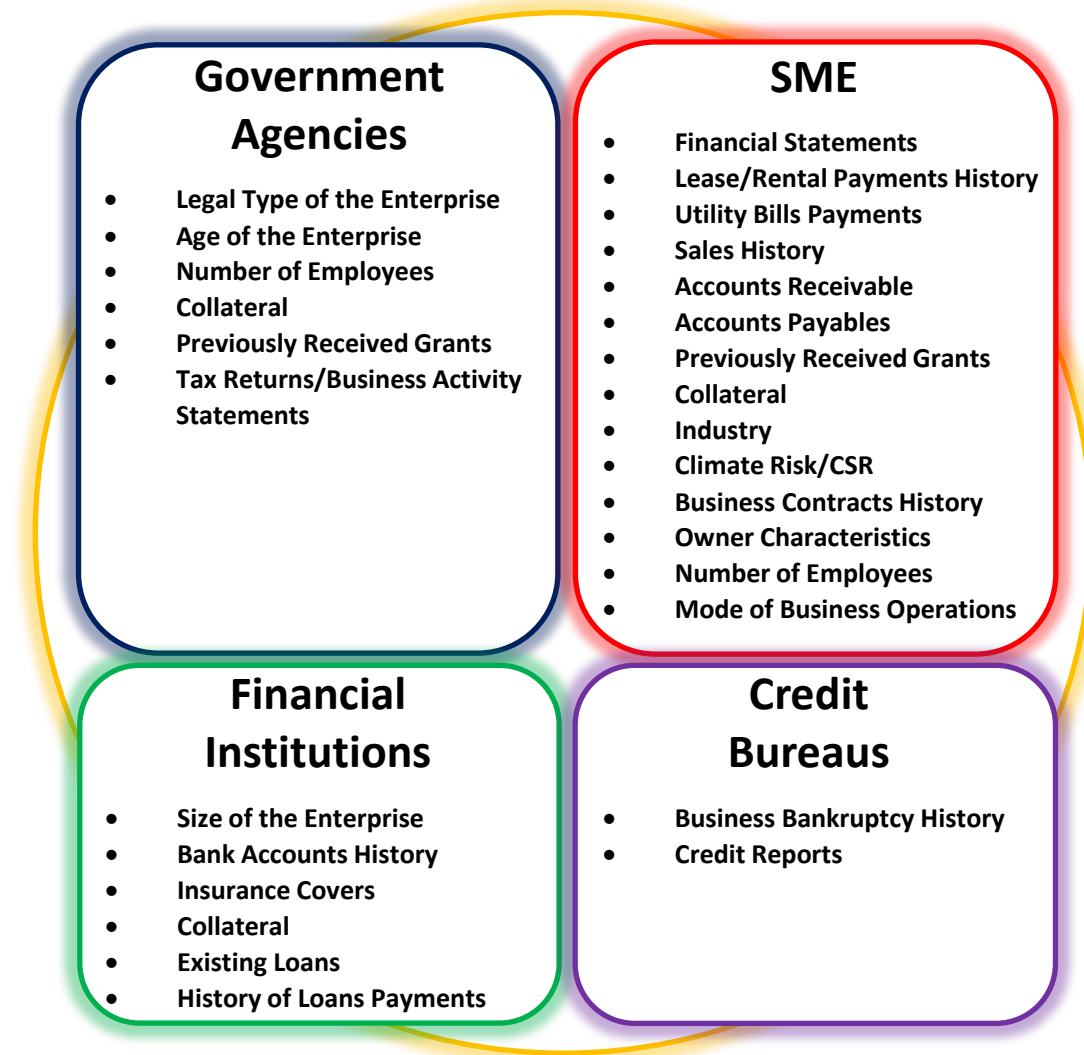
Financial and Non-Financial Data

- Financial Statements
- Bank Accounts History
- Lease/Rental Payments History
- Utility Bills Payments
- Sales History
- Accounts Receivable
- Accounts Payables
- Collateral
- Existing Loans
- History of Loans Payments
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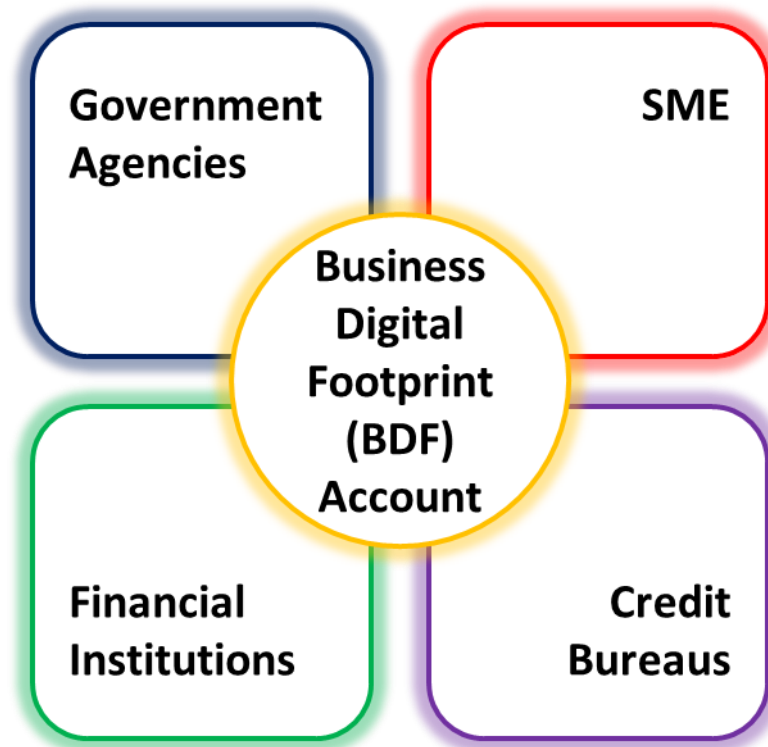
SMEs' Credit Risk Assessment Model in the Presence of the Blockchain Network System



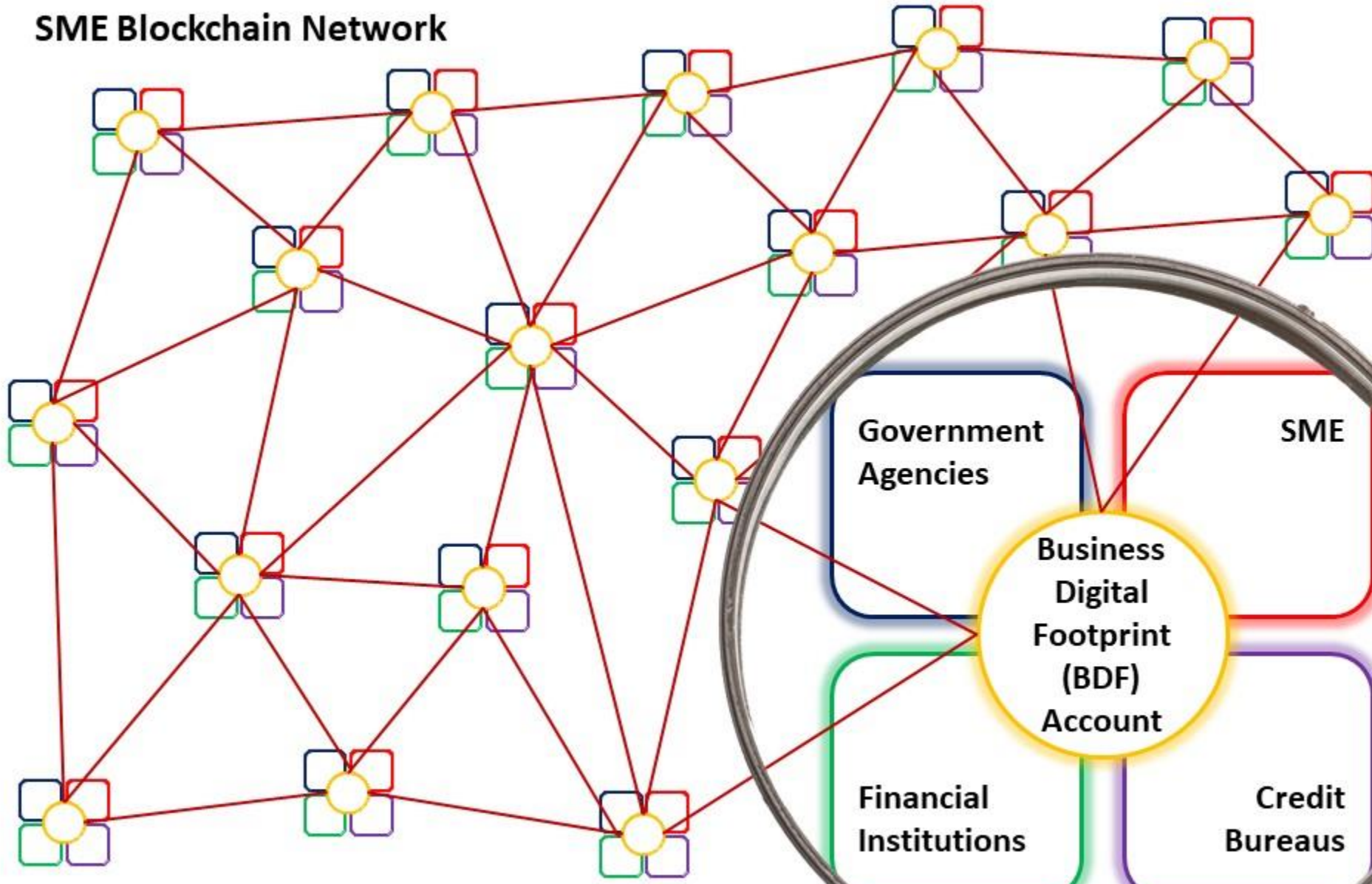
SMEs' Credit Risk Assessment Model in the Presence of the Blockchain Network



SMEs' Business Digital Footprint Account for Credit Risk Assessment



SME Blockchain Network



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Conclusions/Recommendations

- The future success of the BNS will depend on the public-private collaborations and, most importantly, adaptable, transparent and efficient policy environment.
- Data privacy and protection is of utmost importance for all the future participants in the BNS.
- From the government perspective, it is essential to improve policies surrounding data access and usage, privacy, accountability and data auditing of all the stakeholders in the BNS.
- Having multiple stakeholders in the BNS is necessary to maintain the decentralised status of the permissioned blockchain network.
- At the time of writing this paper, COVID-19 is rapidly spreading across the world, which has accelerated the necessity of having reliable digital solutions for conducting business operations and accessing funding.

Thank you



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