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Commercial Data Interchange Framework



HONG KONG MONETARY AUTHORITY
香港金融管理局

Table of Contents

A. Background	3
B. Overview of CDI.....	4
C. CDI Participants, Authorized Users and Data Owner	5
D. CDI Rules, CDI Membership Agreement and other relevant documents.....	6
E. Expected benefits of participating in CDI.....	7
F. Types of data to be shared and use cases of CDI.....	8
G. Ongoing development of CDI	10
H. General principles of operation in CDI	10
I. Operational features.....	11
J. Fair usage in CDI.....	12
K. Support from the HKMA.....	12

A. Background

- 1 The Hong Kong Monetary Authority (“HKMA”) on 8 June 2021 unveiled “Fintech 2025”, its new strategy for encouraging the financial sector to adopt technology comprehensively by 2025 and driving fintech development of the Hong Kong Special Administrative Region (“Hong Kong”). As one of the five focus areas put forward by the strategy, the HKMA is taking the lead in enhancing Hong Kong’s existing data infrastructure and building new ones, including Commercial Data Interchange (“CDI”).
- 2 CDI is designed as a financial infrastructure to enable secure transmission of commercial data between participants of the CDI (“CDI Participants”). CDI also aims at enabling more efficient financial intermediation in the banking system, and generally enhancing financial inclusion and promoting fintech innovation in Hong Kong. It has the potential for solving long-standing pain points in the financial sector, e.g. small and medium-sized enterprise (“SME”) financing, and facilitating innovative usage of commercial data to enhance financial services.
- 3 CDI, through a linkage with the Government’s Consented Data Exchange Gateway (“CDEG”), also enables secure transmission of commercial data from Authorized Users (e.g. Government bureaux and departments (“Government B/Ds”)) to CDI Participants who hold the membership type of Data Consumer.
- 4 CDI will be the most impactful to the market and beneficial to CDI Participants (i.e. Data Provider, and Data Consumer, as described below) and Authorized Users only if a large amount of commercial data is available through the infrastructure and if a large number of users are adopting it.
- 5 It is therefore one of the objectives for the HKMA to introduce CDI to and promote the adoption of CDI by different industries in Hong Kong, through for example the development of this CDI framework. The HKMA wishes that this CDI framework could provide an anchor for companies to embark on their CDI adoption and transformation journey.
- 6 This CDI framework is intended to be high-level in order to account for the unique business needs of different users. The drafting of this CDI framework has incorporated some valuable comments from a number of banks, Data Providers and solution providers since the early development and launch of CDI. As the CDI ecosystem is ever-evolving, the HKMA will continue to work with the CDI stakeholders to review this CDI framework as necessary and to seek feedback from CDI Participants with the objective of creating a sustainable ecosystem that can continue to enhance the financial services and promote fintech innovation in Hong Kong.

- 7 From time to time, the HKMA may, at its own discretion, revise this CDI framework taking into account the latest technological and regulatory developments in Hong Kong, as well as other major economies. The interpretation of this CDI framework rests with the HKMA.

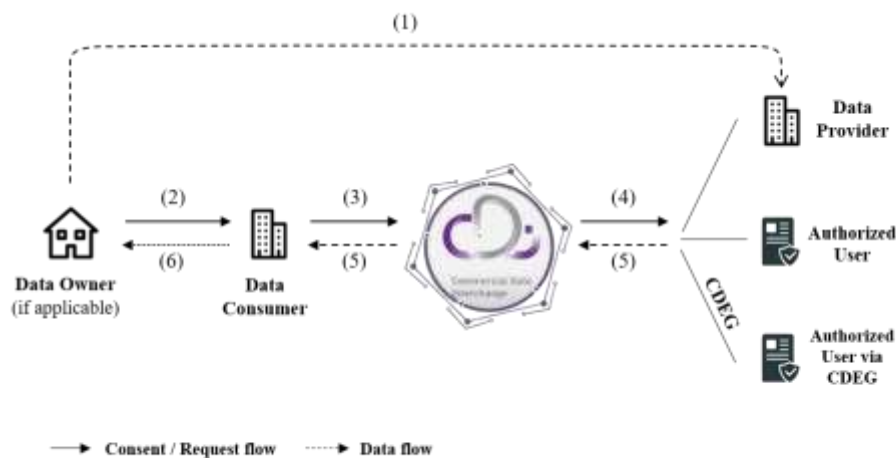
B. Overview of CDI

- 8 In its simplest form, CDI is an infrastructure that enables data exchange, and each CDI Participant has a single connection to CDI to perform data sharing with other CDI Participants and Authorized Users.
- 9 The overall CDI regime aims to encourage the exchange and use of commercial data with the below four objectives:
 - 9.1 **Integration** – connect entities from different industries to enable more scalable and efficient commercial data sharing in between;
 - 9.2 **Inclusion** – enable entities, particularly SMEs, to take more control of their own digital footprints and use their commercial data to enhance their access to financial services;
 - 9.3 **Intelligence** – allow entities to perform more comprehensive risk assessment and make more informed business decisions with additional commercial data; and
 - 9.4 **Innovation** – provide an ecosystem for entities to work together and develop innovative services and businesses with the commercial data.
- 10 To achieve the above objectives, the following features are incorporated into CDI:
 - 10.1 **Autonomy** – CDI allows independency among CDI Participants, such that each CDI Participant can continue to develop its own application and evolve independently to differentiate itself from other CDI Participants;
 - 10.2 **Data Protection and Privacy** – for protection of Data Owner’s interest, the consent of the Data Owner must be obtained prior to the sharing of commercial data who will either be the person who is the subject of the commercial data or the person who has the right or ownership over the commercial data in the case of processed commercial data and CDI does not permit the storing of the commercial data;
 - 10.3 **Diversity & Interoperability** – CDI is use case neutral to maximise the number of CDI Participants and use cases that can leverage it;

- 10.4 **Flexibility** – CDI adopts event-driven design to provide flexibility for introducing new functionalities in the future, and integrating with other fintech platforms or systems to further enhance the ecosystem; and
- 10.5 **Traceability** – CDI is backed by event logging of CDI Participants’ activities such as the sharing of consent, the submission of data request, and the provision of commercial data to enable audit trail if necessary.
- 11 As the owner of CDI, the HKMA is accountable for overseeing the development and operation of CDI. The HKMA has engaged and authorized a system operator to support the system operation of CDI. The HKMA has also engaged and authorized a business operator to manage the day-to-day governance and operation of CDI.

C. CDI Participants, Authorized Users and Data Owner

- 12 The following illustrates the different parties in the ecosystem of CDI:



1. Data Owner, through transactions or services, generates commercial data stored with Data Provider or Authorized User
2. Data Owner consents to Data Consumer's retrieval and use of commercial data
3. Data Consumer submits consent and data request to Data Provider or Authorized User via CDI and CDEG (if necessary)
4. CDI routes consent, data request and commercial data between Data Consumer and Data Provider or Authorized User directly or via CDEG
5. Data Provider or Authorized User provides commercial data to Data Consumer via CDI and CDEG (if necessary)
6. Data Consumer provides financial services to Data Owner with the use of commercial data

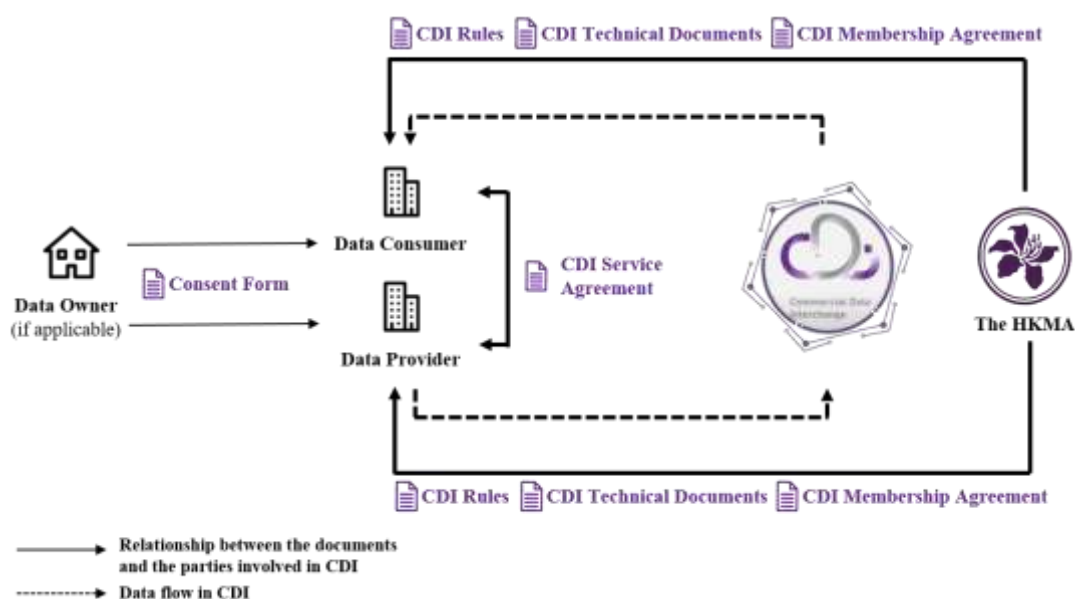
- 13 An eligible entity admitted to CDI as a CDI Participant will hold a membership type of a Data Consumer or a Data Provider or both. Specifically:

- 13.1 **Data Provider** – A CDI Participant that provides commercial data to one or more Data Consumer(s) (e.g. data analytics companies, commercial credit reference agencies, e-commerce companies, telecommunication companies, logistics and shipping companies, and Stored Value Facilities (“SVF”) Licensees); and
- 13.2 **Data Consumer** – A CDI Participant that retrieves and consumes commercial data provided by one or more Data Provider(s) (e.g. Authorized Institutions under the HKMA’s supervision) or Authorized User(s) (e.g. Government B/Ds).
- 14 Apart from CDI Participants, Government B/Ds, Government-related organisation or any other users to be specified and authorized by the HKMA (collectively, “**Authorized Users**”) may also participate in CDI.
- 15 Developed by the Office of the Government Chief Information Officer, the CDEG serves to facilitate the interflow of data within the Government and between the Government and the general public. The connection between CDI and the CDEG was made in December 2023 which aims to facilitate CDI Participants to access government data related to corporate and business operations, thereby supporting the digitalisation of the financial services industry and promoting the overall development of Hong Kong’s digital economy. With the established linkage, CDI has the ability to facilitate the transmission of commercial data between Authorized Users and CDI Participants.
- 16 In addition to CDI participants, the involvement of a **Data Owner** (if applicable) – the person who is the subject of the commercial data being shared in CDI (e.g. SMEs) or, in the case that the commercial data is processed, the person who has the right or ownership over such processed commercial data is also necessary prior to the sharing of data in CDI.

D. CDI Rules, CDI Membership Agreement and other relevant documents

- 17 In order to participate in CDI, all CDI Participants are required to:
 - 17.1 **CDI Membership Agreement** – enter into a bilateral membership agreement with the HKMA; and
 - 17.2 **Rules for Commercial Data Interchange (“CDI Rules”)** – comply with the CDI Rules, which is published by the HKMA laying out the requirements and rules for using CDI.

- 18 The other relevant documents in the participation in CDI are listed below.
- 18.1 **CDI Service Agreement** – An agreement to be entered into between a Data Consumer and a Data Provider to govern their relationship for their usage of CDI prior to the sharing of commercial data via CDI. The HKMA has developed a template agreement with sample terms and conditions for CDI Participants’ reference.
- 18.2 **Consent Form** – A form where a Data Owner provides its consent to the CDI Participants for the sharing of the commercial data involving its data. The HKMA has developed a template form with sample clauses for CDI Participants’ reference.
- 18.3 **CDI Technical Documents** – a set of documents that lays out the detailed technical specifications, requirements and guidance for CDI Participants and Authorized Users to connect to and use the CDI.
- 19 The relationship between the documents and the parties involved in CDI is illustrated below:



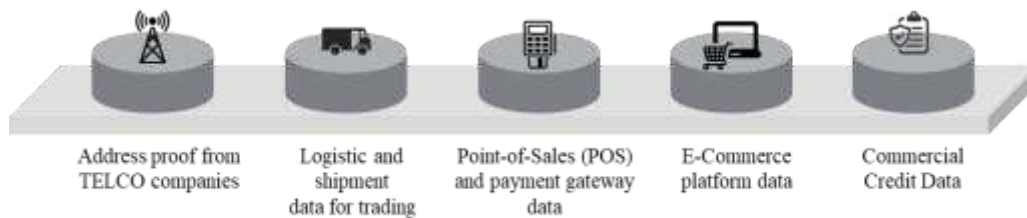
- 20 The above mentioned documents and templates will be made available to entities applying to join CDI where appropriate. Please refer to the “Support from the HKMA” section for the relevant communication protocol.

E. Expected benefits of participating in CDI

- 21 CDI is a paradigm shift in the development of Hong Kong's financial infrastructure and it facilitates the consented sharing of commercial data to enable more efficient financial intermediation in Hong Kong's financial industry. With active participation of different parties as well as the synergistic effect created collectively by the increasing number of CDI Participants, CDI makes the following possible, among others –
- (i) Service enhancement by creating an array of new financial products;
 - (ii) Strengthened trust by reducing fraud and lowering compliance costs; and
 - (iii) Efficient deployment of capital by facilitating bespoke financial services with fine-tuned pricing.
- 22 Specifically, the HKMA fully expects CDI and the synergistic effect created in CDI to provide the following benefits to different parties under the CDI regime:
- 22.1 **For Data Consumers –**
- (i) Safe and reliable environment for data consumption;
 - (ii) Easier access to the commercial data in the market;
 - (iii) Single connection to access a pool of secure Data Providers and Authorized Users;
 - (iv) New business opportunities, innovative service enhancement, and better risk management;
 - (v) Increased customer loyalty; and
 - (vi) Reduced fraud and lower compliance costs.
- 22.2 **For Data Providers –**
- (i) Safe and reliable environment for data provision;
 - (ii) More efficient matchmaking with Data Consumers to explore potential use cases of commercial data;
 - (iii) Single connection to access a pool of secure Data Consumers;
 - (iv) More opportunities to commercialise processed commercial data; and
 - (v) New value-added services to customers.
- 22.3 **For SMEs –**
- (i) Better access to financial services; and
 - (ii) More customised financial services.

F. Types of data to be shared and use cases of CDI

- 23 The HKMA encourages Data Consumers to explore business use cases and innovative fintech solutions with the various types of commercial data offered by Data Providers and Authorized Users in CDI. On the other hand, Data Providers are welcomed to communicate with the HKMA on their provision of any types of commercial data in CDI. Examples are listed below:



- 24 To facilitate the search for suitable commercial data, the HKMA maintains a centralised list of available commercial data in CDI for CDI Participants' reference.
- 25 To give prospective CDI Participants a better idea of how CDI can help in different business contexts, below are some existing and potential use cases of CDI:
- 25.1 CDI can enable Data Consumers to obtain more comprehensive and up-to-date information about SMEs, such as e-payment and transaction records of these SMEs, and to better understand their latest operating conditions and business prospects. By leveraging different types of alternative data, Data Consumers can make better informed credit decisions, the credit assessment and approval processes can be streamlined.
- 25.2 Apart from enhancing loan approval processes, CDI also has a crucial role to play in digitalising and streamlining various banking processes, such as Know Your Customer (KYC) and risk management. For instance, Data Consumers can obtain group insurance data of a company covering the number of employees of such company and its changes via CDI, and use such data as such company's proof of operation.
- 25.3 By obtaining company search records via the CDI-CDEG linkage, Data Consumers can gain access to data that help reveal the shareholding structure and directorship of a company, thereby streamlining banking processes in onboarding, fraud detection and KYC.
- 25.4 Potential use cases for cross-border data sharing with user consent can also be explored, with a view to addressing existing pain points in crossborder banking services, such as SME account opening and financing, to facilitate cross-border trading.

G. Ongoing development of CDI

- 26 To maximise the benefits and impact of CDI, the HKMA intends to continuously drive the CDI adoption, encourage CDI Participants' participation, onboard more Government B/Ds, and increase the variety and amount of commercial data available for sharing via CDI.
- 27 Firstly, the HKMA will continue to explore collaboration with other financial regulators and industry associations to provide the necessary support and promote the CDI adoption among institutions under the supervision of the regulators, and the association members, thereby increasing the number of participants in CDI. For instance, the HKMA is working closely with the Insurance Authority to enable cross-sectoral data sharing, with a view to fully unlocking the potential of data across the financial services industry.
- 28 Secondly, the HKMA is also working closely with other Government B/Ds to explore the possibility of enabling access to different types of government data. With the CDI-CDEG linkage successfully established and the Companies Registry onboarded as the first government data source of CDI in December 2023, the HKMA will continue to explore data sharing opportunities with other Government B/Ds.
- 29 Thirdly, the HKMA will collaborate with the existing CDI Participants, as well as interested companies, to probe into new use cases of CDI and realise the most value out of the commercial data available for sharing via CDI.
- 30 Lastly, the HKMA will explore integrations with other fintech initiatives or networks to enhance the user experience of CDI.

H. General principles of operation in CDI

- 31 The operation flow of each commercial data flow from a Data Provider to a Data Consumer via CDI shall follow the general principles as described below:
 - 31.1 Prior to the sharing of commercial data, –
 - 31.1.1 the pair of Data Consumer and Data Provider shall enter into a commercial agreement, with reference to the CDI Service Agreement template, to set out their respective obligations and liabilities for the data sharing and usage;

- 31.1.2 for certain type of commercial data , prescribed consent must be obtained from the Data Owner, with reference to the Consent Form template, in which the Data Owner shall be explicitly informed about the purpose and scope of the data collection, the Data Owner’s rights in relation to the collected commercial data, the effective period of the consent, etc.. The mechanism for obtaining such consent, e.g. the format of the consent and medium for collection, may be determined based on CDI Participants’ own business operation and needs; and
- 31.1.3 the Data Consumer and/or Data Provider shall exercise due diligence on the relevant consent according to their business operation and needs, in order to ensure the validity and accuracy of the consent obtained.
- 31.2 During the transmission of commercial data –
 - 31.2.1 the pair of Data Consumer and Data Provider shall record the activities in relation to the sharing of commercial data , e.g. the sharing of consent, the submission of data request, and the provision of commercial data; and
 - 31.2.2 the provision, retrieval and use of the commercial data shall be conducted in accordance with the details specified in the consent obtained, e.g. the purpose and scope of the data collection.
- 32 In the case of commercial data that is shared by Authorized Users, a CDI Participant shall additionally follow all applicable requirements of the relevant Authorized User, including the acceptance of the terms and conditions for the retrieval of commercial data from such Authorized User (“Authorized User Service T&C”). All requests for commercial data from an Authorized User via CDI shall be in accordance with the applicable Authorized User Service T&C.

I. Operational features

Onboarding check

- 33 In order to maintain a stable and secure environment for data sharing and to enable trust between different CDI Participants, an entity that wishes to participate in CDI will need to satisfy a standardised onboarding process before being able to connect to CDI and become a CDI Participant.
- 34 Each applicant is expected to be vetted against the criteria below:

- 34.1 the applicant is fit and proper to use CDI;
- 34.2 the applicant does not pose any material risk, including security risk, or threat to CDI; and
- 34.3 the applicant has foreseeable contribution to CDI and the applicant's participation in CDI promotes fintech innovation in Hong Kong.

Secure connectivity

- 35 To protect the connections and data transfers to and from CDI, multiple layers of security measures can be implemented. Examples are as follows:
 - (i) access control to allow only authorized entities (e.g. CDI Participants and Authorized Users) to connect with CDI and perform data request and data sharing;
 - (ii) facilitation of end-to-end encryption for commercial data transmission through CDI to prevent unauthorized parties from accessing or modifying the commercial data being transmitted; and
 - (iii) no storage of commercial data in CDI to minimise the risk exposure of commercial data.

J. Fair usage in CDI

- 36 For the purpose of facilitating the development of CDI, the HKMA expects that many-to-many data sharing relationships will be established among CDI Participants, and thus exclusive arrangements between CDI Participants are not encouraged.
- 37 In order to promote fair usage of CDI, CDI Participants are expected to act in accordance with applicable laws and regulations, e.g. Competition Ordinance (Cap 619 of the Laws of Hong Kong). In particular, Data Providers are expected to adopt a fair charging model and avoid any unfair arrangement with any Data Consumer.

K. Support from the HKMA

- 38 The HKMA endeavours to support and facilitate CDI adoption activities in the industry and provide responses to any related enquiries. For enquiries, please contact the CDI Team at cdi.hub@hkma.gov.hk.

- 39 For any parties that wish to learn more about CDI, please visit the CDI website at: <https://cdi.hkma.gov.hk/>.