dti
COMPETITIVENESS
BUREAU

CITIES &
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COMPETITIVENESS INDEX

CMCI PLATFORM
USER
MANUAL

Competitiveness Index
Data Analytics Portal

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I. INTRODUCTION

The Cities and Municipalities Competitiveness Index (CMCI) aims to build local competitiveness and strategically map out how to make cities and municipalities more competitive using a set of indicators that will serve as diagnostic tool to assess their level of competitiveness. The CMCI encourages Local Government Units (LGUs) to gather and submit data used to measure their performance on five (5) pillars: (1) Economic Dynamism, (2) Government Efficiency, (3) Infrastructure, (4) Resiliency, and (5) Innovation. This measurement tool is positioned to empower the LGUs to gauge their current level of competitiveness against global standards, identify areas for improvement and growth, and launch reforms and initiatives to further boost local competitiveness.

CMCI website has been the channel of information about the project e.g. LGU ranking results per pillar and overall, LGU information/profile, etc. Users utilize this information for various purposes which include understanding LGU competitiveness, benchmarking with other LGUs, conducting research works and identifying a suitable location site to put up businesses.

In 2021, a third-party Consultant developed for the Department of Trade and Industry – Competitiveness Bureau (DTI-CB) a mechanism, i.e. CMCI Data Analytic Platform, embedded to the CMCI Website to make the data and ranking more available and useful for the following end-users:
1. the national government and LGUs to create data-driven policies, decisions and improvementsfor national competitiveness,
2. the local and foreign investors, and
3. the academe to empower and encourage research.

The function of the CMCI Data Analytic Platform includes:
1. Data Portal
2. LGU Dashboard
3. Interactive Philippine Map
4. Compendium of Local Ordinances and Resolutions

In 2022, further improvements were done in the Platform to include automation of key processes of the CMCI program, i.e validation and computation of scores, as well as update the LDCS, to include the Innovation pillar. This paved the way for a more streamlined and simplified data gathering and validation, an increased speed in the completion of the key processes, minimized costs, and even possibly boosted data quality and decreased errors, especially in the computation of scores.

II. DATA ANALYTICS PORTAL

Given the value and volume of the CMCI data that are generated annually, creating the Platform ensures that all key information and components are available on the website, and allows for data analytics which is currently lacking in the CMCI website. The Platform provides an avenue to make the review and analysis of CMCI data be more interactive for the users to experience easiest and smartest browsing.

The Data Analytics Portal has the following features:

1. **LDCS Data Entry** – interactive data entry screen for the LGUs to input their corresponding sub-indicator data based on the configuration by DTI-CB.
   a. Data Entry Configuration – DTI-CB Web Administrator can configure how the system will validate each of the fields.
   b. Data Validation – instant validation of entered figures based on the configuration.
   c. Save Draft – saved data will be considered DRAFT as long as all the required sub-indicator fields are not yet satisfied.
   d. Submit – submission of the LDCS data to the Regional Competitiveness Committee. This button can only be triggered successfully if ALL the fields are validated successfully. Once submitted successfully, the data entry screen will be LOCKED for editing.
   e. Multi-user Edit – each LGU can have multiple users updating the LDCS data; Last user update with timestamp will be reflected per sub-indicator field;
   f. Innovation Pillar - The Innovation Pillar can now be seen as part of the CMCI competitive pillars in the front-end website, that shall be accessible for public users

2. **RCC Module** – a grid to show the consolidated data of the LGU at the regional and provincial levels. Only DTI-RCC users will have access to this functionality.
   a. Dashboard – the dashboard will show the percentage of submissions based on the number of LGUs in the region.
   b. Data Ownership – only the data of the LGUs belonging to the DTI-RCC regional assignment will be accessible by the RCC user(s).
   c. Approve – RCC users can approve the LDCS submission and an e-mail notification will be sent to the corresponding LGU user(s) that the submission has been approved;
   d. Return – RCC users can return the LDCS submission to the LGU for editing; for whatever reason or if the LGU requested it to be returned for editing; if returned, the LDCS file will be UNLOCKED and an e-mail notification will be sent to the corresponding LGU user(s) that the LDCS data had been returned;
   e. Download – download the consolidated LDCS data in Excel format;

3. **DTI-CB Module** – a grid to show the consolidated raw data of the LGU at the national level. Only DTICB users will have access to this functionality with DTI-CB Web Administrator as Super Administrator:
   a. Dashboard – the dashboard will show the over-all percentage of submissions at the national level. It will also show the dashboard of each of the RCC to easily monitor which of the RCCs that have not yet completed the consolidation of data at their level;
   b. Registration of Users – DTI-CB Web Administrator will enroll users and will trigger computation of scores
   c. Downloads – download the consolidated LDCS data in Excel format;
   d. Return Override – DTI-CB users can return the LDCS submission to the LGU for editing; this decision will override the approval of the RCC; if returned, the LDCS file will be UNLOCKED and
   e. Computation - DTI-CB Web Administrator shall trigger computation of scores

4. **LGU Data Computation** – computes the indicator scores for the latest year data and the system will simulate the resulting rank of the affected indicator, pillar, and classification. The DTI -CB Web Administrator triggers the computation of scores and ranks
5. **Messaging Function** – used for communication user and validator (Regional, Provincial and National Level)
6. **Outlier** – detects outlier on each indicator and sub-indicator (extremely high or extremely low)
7. **IPOPHIL Data** - An IP Data Registry module that automatically uploads the inputs of IPOPHIL in the IP Registration indicator under the Innovation Pillar

III. CMCI PROCESSES

Figure 1: CMCI Processes
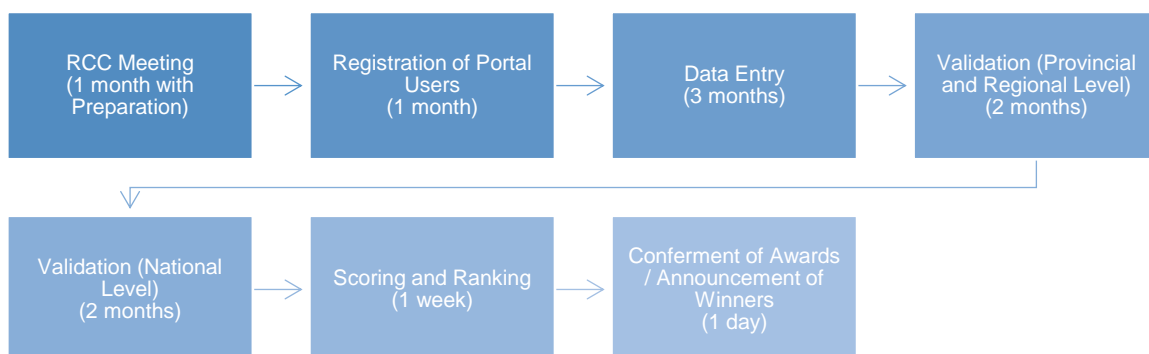
IV. ACCESSING THE BACK-END PORTAL

Figure 2 illustrates the guide on how to access the portal by all users – LGUs, DTI, validators, and IPOPhil.
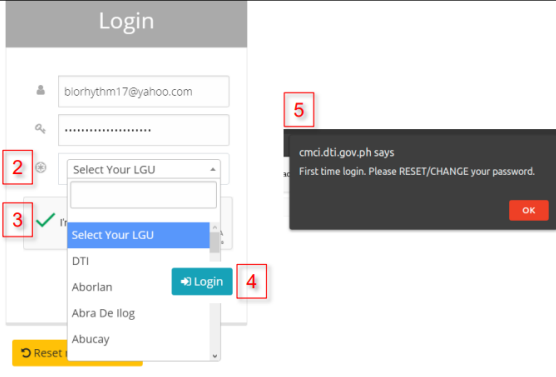
Figure 2: **Guide on How to Access the Portal**

First Login

1. When the email address that you submitted to CB is already enrolled in the CMCI portal, you can now access the portal with your enrolled email address as both the email address and default password.

1.1 To access the portal, enter your enrolled email address in the Email address field and in the Password field, or **copy+paste** your enrolled email address from the Email address field to the Password field.

2. Select your LGU from the dropdown menu.

3. Tick/check the *"I'm not a robot"* checkbox.

4. Click *"Login"*.

5. When the system detects that your email address is the same as your password, it will automatically guide you to change your password.
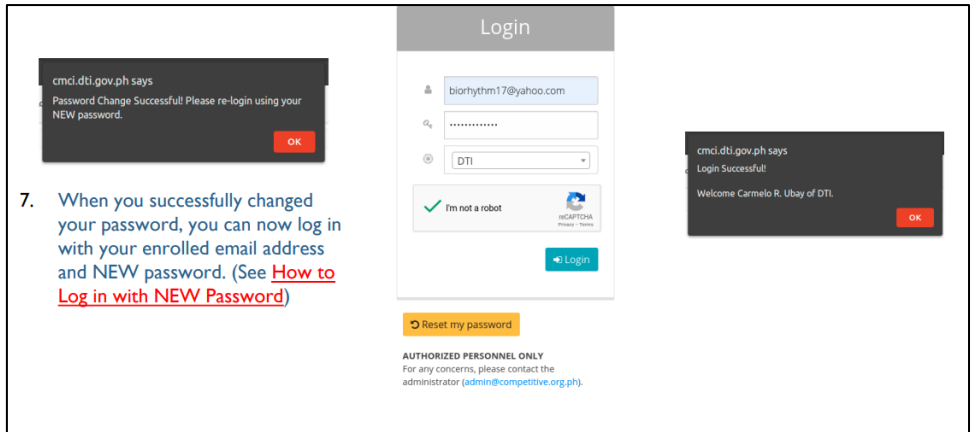
6. Change your password accordingly. Follow the recommended password requirements. Upon successful update, the system will prompt you to re-login using your NEW password.

IMPORTANT!
Please remember your password.

If you forget your password, follow the steps on How to Reset Password.

RECOMMENDED PASSWORD
For a more secured password it should have:
1. At least 6 characters long
2. At least 1 small and 1 capital letter
3. At least 1 numeric character
4. At least 1 special character

7. When you successfully changed your password, you can now log in with your enrolled email address and NEW password. (See How to Log in with NEW Password)

To complement the guide, an enrollment form is provided for the users, as below in Figure 3.

Figure 3: Enrolment Form to the CMCI Back-end Portal

Request Form: Updating and Enrollment

Read and fill out this form carefully. The information you will provide shall be used as reference for the enrollment of your account on the CMCI website. Please keep in mind that DTI-CB only allow **maximum of three (3) registered accounts per LGU**. Once the enrollment is complete, the CMCI team will inform you/your DTI Regional or Provincial Focal Persons.

josephjunaldgonzaga@gmail.com Switch account

* Indicates required question

Email *

Your email

Type of Request: *

○ My account is still updated.I want to retain the registered information.

○ We have LESS than three (3) account registered in local Portal, I want to request an additional account.

○ Our account has reached the no. of limit, I want to replace one of the accounts registered.

○ Other:

It is important to note that the LDCS level of access for registered users of the back end of the CMCI portal depends on its role. For LGU focal persons, they can only access, enter and edit data of their respective LGUs. For DTI at the provincial and regional levels, they can only access the LDCSs of LGUs under their province and regions, respectively. The DTI – CB CMCI Project Team members have access to all data at the back end of the portal, with only the Web Administrator having authority to (1) register Platform users; (2) revise entries, as necessary; and (3) trigger computation of scores and ranks. Figure 4 below illustrates the level of access:

Figure 4a: **National Level Dashboard:**
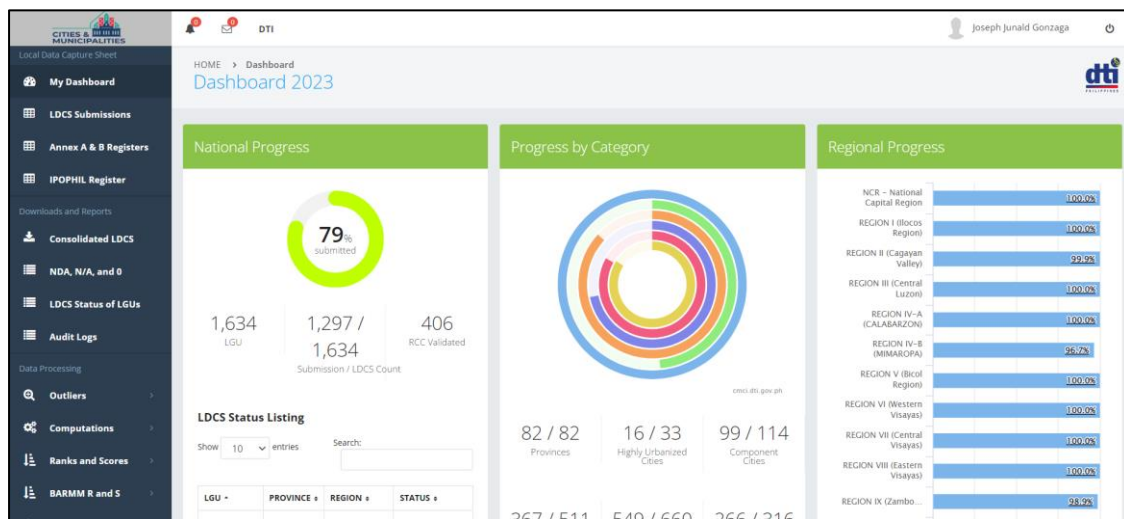
Figure 4b: **Regional Level Dashboard:**
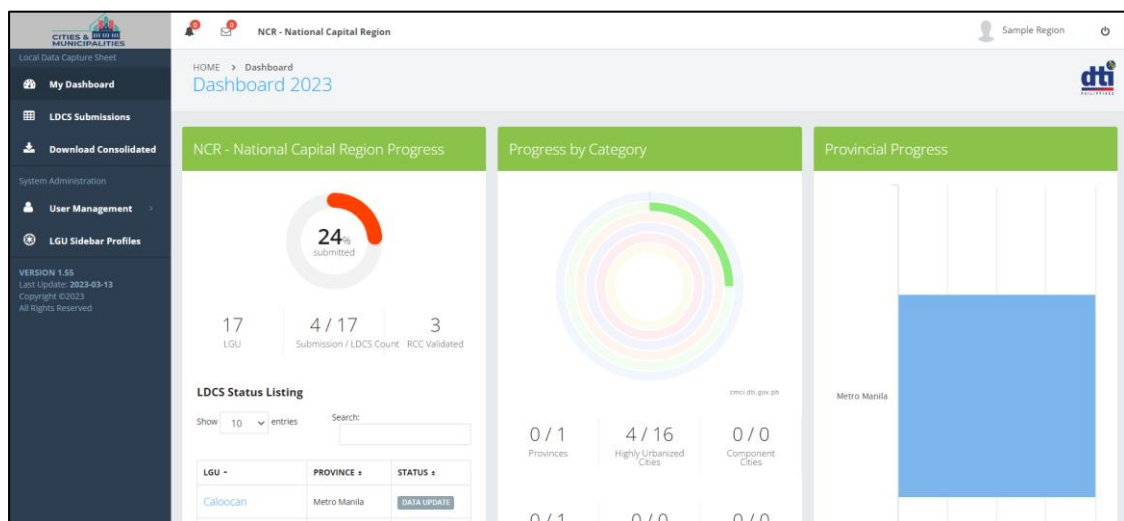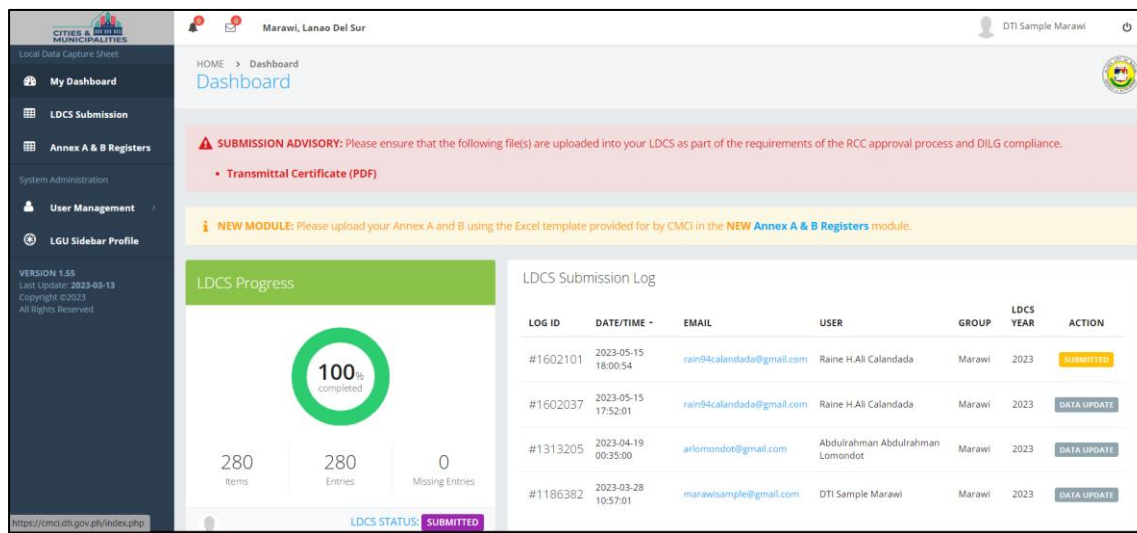
Figure 4c: **Provincial Level Dashboard:**
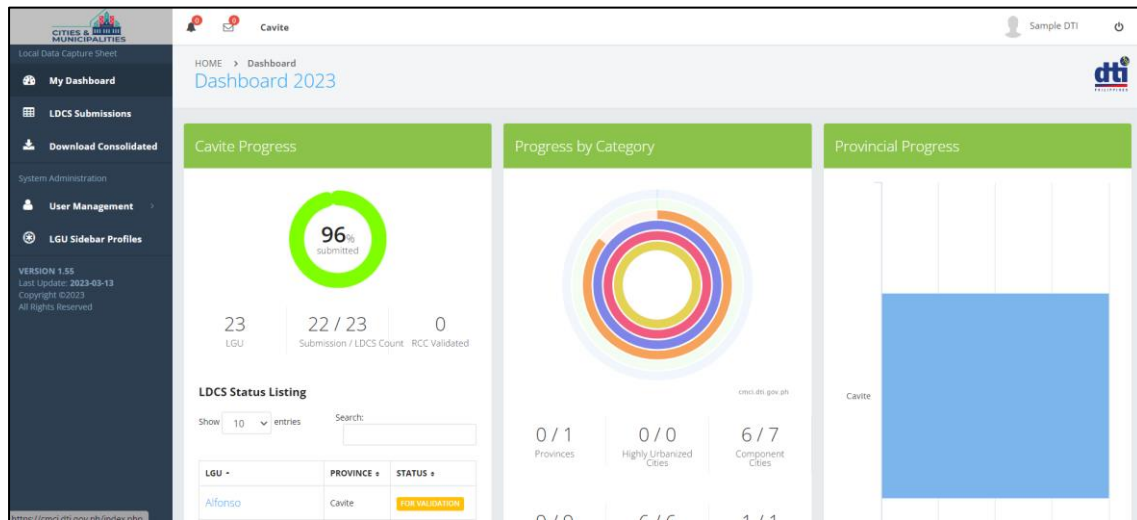
Figure 4d: **LGU Dashboard:**

Key personnel from the Intellectual Property Office of the Philippines (IPOPhil) are given access to the Platform as they shall upload data for all participating LGUs only for the Intellectual Property (IP) registration indicator under the Innovation pillar. Validators from academic institutions at the regional level may also be given access to read and download data only for their concerned region. Third-party validators are given access to read and download data at the national level. Figure 5 shows IPOPhil Register portion:

V. DATA GATHERING

The DTI uses the Regional Competitiveness Committee (RCC) mechanism to start the data gathering process. Specifically, the DTI, through its DTI-RCC meetings, will provide instructions and guidance on the data gathering process, the indicators to be included in the index's local data capture sheet (LCDS). This LCDS will thereafter be revised by the DTI, and then cascaded to LGUs via their respective RCCs. LGUs are then to fill up and submit the LDCS back to the RCCs, which will validate the inputted information in the LDCS. The LDCS template used by the LGU and the DTI are found as Annex 1 of this Manual.

Figure 4 shows the LDCS to be used annually for the purpose. The LDCS may be revised annually as approved by the DTI -RCC, to make the indicators more relevant to the signs of the times.

Figure 5: Local Data Capture Sheet Template

In regard to the data entry in the automated system, those indicators representing ratio shall automatically be calculated by the system in the portal, as well as those same indicators from different pillar. This is to reduce unwanted error in the data encoding. Moreover, to further streamline the data encoding process, a data sanity checking feature is added to the platform wherein upon data entry, the data will be automatically checked and validated based on the general guideline or rules. Example, if an indicator requires a yes or no answer, the system will only accept responses as either yes, no, or not applicable. Should it violate at least one of the assigned rules, there will be a flag error and the submission of the Local Data Capture Sheet will not be fulfilled. The error must be addressed/corrected, in order for the submission to be accepted by the system. This way, data correction already takes place at the outset of the data gathering done by the LGU.

Figure 5 shows the Annex A and B templates, which serves as supporting documents required to be uploaded into the CMCI portal. It is important to note that data gathered in Annex A and B differs in the period covered as Annex A covers data of the previous year preceding current CMCI cycle, i.e. present year minus 1. Annex B on the other hand covers data for the first quarter of the current year of the CMCI cycle, i.e. present year covering January to March.

Figure 6: **Annex A & B Template**

The Guidelines on how to fill up Annexes A & B are found as Annex 2 of this Manual.

Figure 7 illustrates a sample template of the Transmittal Certificate, another required document that every participating LGU must upload as supporting document to attest that data they submit are true, correct, and complete.

2023 Cities and Municipalities Competitiveness Index (CMCI) Program

LGU TRANSMITTAL CERTIFICATE

I declare under penalty of perjury that all information in the CMCI Local Data Capture Sheet (LDCS), Annex A, Annex B, and pertinent authentic supporting documents submitted online in the CMCI Portal are true, correct and complete based on my personal knowledge.

Any false or misleading information supplied, or production of fake/falsified documents shall be grounds to AUTOMATICALLY REVOKE my LGU's participation in the CMCI Program.

I agree that all personal data, information, or records (as defined under the Data Privacy Law of 2012 and it's Implementing Rules and Regulations) with the Department of Trade and Industry may be processed, profiled, or shared with requesting parties or for any court, legal process, examination, inquiry and audit or investigation of any authority.

Signed by:

SIGNATURE:
NAME:
DESIGNATION:
DATE:

VI. DATA VALIDATION

The validation and consolidation of LCDSs at the regional level can involve a focal research or academic institutions to support the work of the RCCs. Should access to the back-end portal be needed, these focal persons from the academe are registered the same way as the LGU and the DTI are given access. At the same time, DTI will also engage a national-level focal third party to further validate local data submitted by the RCC, with both LDCSs as well as other national-level data. The key role of such focal third parties is to ensure the quality of the data gathered from the LGUs and RCCs. Once this national-level validation process has taken place, those with questionable entries in the LDCSs are to be returned concerned LGUs, through the RCCs, which upon final review and correction will be consolidated by the third party into a national data capture sheet (NCDS). The third party shall then do sample computation of scores on the NCDS in order to come up with national rankings, subject to DTI's review and finalization. Upon finalization and after conferment, the results will then be uploaded to the DTI's CMCI website. A summit and awarding ceremony will also be held to publicly present the results and recognize the best-performing provinces, cities and municipalities.

In general, pertinent attachments may be submitted by the LGUs to be used as proof for certain indicators. Moreover, to guide the validators at the provincial and

regional level, the DTI provides a general guideline in the conduct of the validation for use by the DTI at the provincial and regional levels, and by the third party at the national level. The Validation Guidelines used at the provincial, regional and national levels are found as Annex 3 of this Manual.

In regard to the data entry in the automated system, those indicators representing ratio shall automatically be calculated by the system in the portal, as well as those same indicators from different pillar. This is to reduce unwanted error in the data encoding. Moreover, to further streamline the data encoding process, a data sanity checking feature is added to the platform wherein upon data entry, the data will be automatically checked and validated based on the general guideline or rules. Example, if an indicator requires a yes or no answer, the system will only accept responses as either yes, no, or not applicable. Should it violate at least one of the assigned rules, there will be a flag error and the submission of the Local Data Capture Sheet will not be fulfilled. The error must be addressed/corrected, in order for the submission to be accepted by the system. This way, data correction already takes place at the outset of the data gathering done by the LGU.

Aside from this, there's also a tool on the portal highlighting the extremely high and low differences for comparison among LGUs of the same classification and of current vs. past year's data. This feature can be found on the *Outliers* tab.

VII.   SCORING AND RANKING

The system does the computation of scores and ranks. To ensure the correctness of data, a third-party validator at the national level shall do random sampling computation per category. Should a discrepancy occur, both the system and the third-party validator check on the sources of the error until both come out with the same results.

VIII.   DATA BACK UP AND RECOVERY

The data collected in the CMCI portal all goes to the DTI Cloud server since the CMCI is a microsite of the DTI website. After the annual CMCI cycle, the Web Administrator downloads all collected data into the CMCI external hard drive, which is kept in a file cabinet, lock of which is only known to the Web Administrator and the Division Chief.

The Web Administrator regularly collects and updates the directory of all Portal Users for ready reference. He/She is also responsible for the daily upkeep and monitoring of data input into the portal.

Annex 1: 2023 LDCS Template:

2023 CMCI Local Data Capture Sheet.pdf

Annex 2: Guidelines on How to Fill Up Annex A and B:

2023 Guidelines for Annex A & B.pdf

Annex 3: Validation Guidelines:

2023 CMCI Validation Guidelines.pdf