**Annex G: Description of New System Functionalities by Component**

**Components Overview**

The system is designed to be modular and consisting of five main functional components:

1. Credit Review Terminal
2. Loan Performance Analytics
3. MFI Organizational Performance
4. External Sources/Information Repository
5. GIS Capabilities

The components utilize a set of pre-defined data variables in generating required component-level data aggregations, summarizations, and reporting. The data variables are calculated and manipulated based on uploaded formulas that are managed by Tanmeyah in a central repository in system.

Additionally, the system is supported by the System Management (SM) features to manage system configuration and parameterization, User Access Management, transaction/query logging, alerts and workflows, and End of Period Runs (i.e. periodic, component specific MFIs Core Systems’ Data Extraction, Transformation, and Uploads to Tanmeyah Shared Database)

**Component 1: Credit Review Terminal**

# General Required Functionality

1. Utilizing loan-level data from MFIs, the Credit Review Terminal is an application that assists MFIs to manage credit risks by enabling MFIs to query individuals and registered companies to obtain the status of any related microfinance loan.
2. Utilizing shared MFI blacklists, this component also indicates whether the queried is included in any of the MFIs’ blacklist.

# Data and Information Sharing

1. Each MFI will periodically share loan performance data to the system as follows:
	1. Daily update of their loan portfolio with performance and status of each active loan.
	2. Upload of historical loan performance information on closed loans (paid or written off) at initial system setup would be needed.
	3. System should continue to store loan performance information on closed loans (paid or written off) for up to five years.
2. A proposed list of Data Variables, with unified definitions across all MFIs, to be shared for each loan is defined in the design document. The vendor needs to ensure that all definitions of each variable, across all MFIs, are unified once they are displayed on the credit terminal.
3. Once updates are received from MFIs, Tanmeyah would require a process whereby it conducts an automatic data audit and validation exercise on the data shared prior to making it available to inquiries through the credit terminal application.
4. It is essential for the system to flag days where missing or inaccurate data is provided, or if an MFI fails to provide an update at any day.

# Standard & System Reporting

1. The system should allow reporting on a set of standard quality and processing reports as well as statistical usage reports to be produced on daily, monthly and quarterly basis. Examples:
	1. Quality and Processing: Quality checks on the data provided by MFIs such as: number of records shared, as well as (for each variable shared) distribution of values, averages, minimum and maximum and missing values.
	2. Statistical Summary: General statistics of usage of the system including number of inquiries, number of loans booked compared to inquiries, give insights towards the demand for MFI loans
2. As a part of audit trail functionalities needed, usage data of the credit terminal should be stored in the system for ad-hoc reporting and analysis conducted by Tanmeyah if needed.

# User Management and Accessibility

1. The terminal should be available only to authorized MFIs’ staff (who can number up to 200 in each MFI).
2. Usage of the system will be logged and tracked.
3. Only System Administrators at Tanmeyah would have full access to the access data to allow them to conduct system admin duties and produce ad-hoc reports.

**Component 2: Loan Performance Analytics**

Utilizing daily loan-level data updates from all MFIs, the Loan Performance Analytics component provides:

1. A set of standard reports describing loan performance for the sector.
2. A master dataset that could be used for enhanced analytics and reporting by allowing access to Tanmeyah and MFIs based on agreed access rights.

# General Required Functionality

The master dataset provides abilities to authorized users to conduct their own analytics and generate their custom reports through:

1. Utilizing the standard system functionalities, described below, to enable users to create customized reports with tabular and graphical representation of reports.
2. Downloading the dataset and utilizing users’ analysis and reporting software (end-user computing).
3. Standard system functionalities should allow for the following features:
	1. Dynamic selection of data variables to display in reports
	2. Define (and later edit) a set of variables calculated by the system based on variables provided in the data (e.g. balance to initial loan amount ratio)
	3. Calculate aggregate level variables (e.g. total number of loans, total portfolio loan balances, average loan balance, etc.) for a specified day or for a user-defined time interval (e.g. a month, or between two dates)
	4. Allow each MFI’s visibility to their loan portfolio performance against the sector total (e.g. MFI is able to compare their average loan balance with the average sector loan balance)
	5. Public website access: Allow public access to a separate subset of aggregated-level data on Tanmeyah website allowing public users to generate their own customized reports using web-functionality.

# Data & Information Shared

1. The system creates the master dataset by aggregating the daily updates (data shared daily from MFIs as described in component 1) to reflect loan performance for the sector.
2. The aggregation process of the daily data updates will control the granularity and scope of data variables based on Tanmeyah policy. The resulting (aggregated) dataset will be accessed by Tanmeyah as well as authorized users from different MFIs to conduct analysis and generate customized reporting.
3. The system should allow for historical performance tracking (e.g. track the total loan balance monthly across a year)

# Reporting

1. Allow creating a set of standardized statistical reports on the sector’s loan performance.
2. Standardized reports should be produced daily, monthly or on quarterly basis. These reports maybe shared with MFIs/published on website.
3. Reports will be shared with MFIs, on a monthly basis at a minimum, to give direction on sector performance to all MFIs.
4. Reports produced should take into consideration a display of historical values to allow for identification of any abnormalities or changing trends in loan performances.

# User Management & Accessibility

There will be different levels of access views through this component:

* The first level will permit full access, only accessible to Tanmeyah, allowing it to conduct detailed analytics on MFI performance in Jordan (e.g. cross lending magnitude, time-tracking of borrowers across different MFIs, etc.).
* The second level will be available for the usage of MFIs. Data at this level will not detail MFI-specific performance, it will only be possible to view performance for the sector as a whole (e.g. MFI can access the data and generate a report to show total number of loans in a city, but will not have visibility to the number of loans of a specific MFI in that city).

However, the system will enable each MFI to view their own results against the sector total, allowing MFIs to expand in utilizing analytics to identify trends, opportunities and risks in the MFI sector in Jordan while maintaining privacy and sensitive MFI-specific competitive information.

* The third level of access is for different third-party stakeholders. For this, a subset of variables available for MFIs will be available (with direct access) to external stakeholders (e.g. government entities) to allow external stakeholders the independent ability to analyze and report on the MFI sector in Jordan.

**Component 3: MFI Organizational Performance**

This component allows Tanmeyah to gather MFIs’ organizational level information, mainly financial performance of MFI as well as HR-related statistics (e.g. number of branches or employees), to produce sector-level reports that will be published and shared under Tanmeyah’s discretion with MFIs and other stakeholders.

# General Required Functionality

Tanmeyah staff will utilize the system to develop different industry and sector reports utilizing data input into the system. Required functionalities:

1. Define Variables and allow populating their values such as:
2. Defined variables with values input (manual entry) and stored for different time periods (e.g. define a variable entitled number of branches that can take values for each MFI for different years).
3. Defined variables with values calculated utilizing data from data stored on the system (e.g. a variable can be defined entitled Gross Loan portfolio, with values that are system calculated from “Component 2 – Loan Performance Analytics variables”).
4. Defined variables with system-calculated values utilizing at least one variable already stored on the system for this component whereby a formula is defined by the system user. For Example: define variable entitled “number of loans per branch” that utilizes two variables stored on the system and a formula that is defined by the system user (i.e. values of variable are calculated by the system for each MFI for different time periods by dividing the values of “number of loans” by the values of “number of branches”).
5. Conduct calculations on data stored to produce aggregate level data (e.g. Sum of values across all MFIs, weighted average of values across all MFIs).
6. Input (or later edit) values for defined variables by authorized system users at Tanmeyah (e.g. change value of “number of branches” for a specific MFI) into the system.
7. Allow users to generate end-user customized reports with tabular and graphical display with the ability to dynamically select variables to include.

# Data & Information Sharing

1. Both Tanmeyah and the MFIs might be utilizing the interface to manually enter values.

# User Management & Accessibility

1. Authorized users at MFIs to manually enter data into pre-defined form.
2. Authorized users at Tanmeyah to support component functionalities described (e.g. define variables & formulas) as well as to manually enter/edit values if required.

**Component 4: Information Repository**

This component acts as a repository for the following:

1. Collection, storing, processing and publishing of beneficial socio-economical information, industry reports, or other documents from external sources to be shared with MFIs by Tanmeyah.
2. Should allow Tanmeyah to place any other information it would like to share with MFIs such as different reports, presentations or training.

# General Required Functionality

1. Tanmeyah collects different data and information that it identifies as important to the MFI sector, and then enters the information to be stored on the system, whereby it can be retrieved later on by both Tanmeyah and MFI staff.
2. This will require the ability for Tanmeyah authorized staff to utilize this component of the system the following ways:
	1. Define Variables, which includes:
		1. Defining variables for this system components whereby their values are input (manually) and stored for different time periods (e.g. GDP for different years).
		2. Defining additional variables for this system components whereby their values are calculated by the system utilizing other variables defined in this or other system components.
		3. Variables that are calculated based on a formula that can be defined by the system user for this component.
	2. Input (or later edit) information, obtained from any source, into the system.
	3. Allow users to generate end-user customized reports with tabular and graphical display with the ability to dynamically select variables to display.
	4. Enable end-users should have the ability to download data (and results) to allow for further end-user computing.
	5. Additionally, the Tanmeyah staff should also have the ability to upload and share documents (e.g. reports, training presentations, etc.) with other MFIs through this component.

# Data Variables

1. The nature of data and information covered by this component will be very diverse and unstructured. Tanmeyah and other stakeholders will consistently find information and data that can be beneficial to the sector – thus the ability and functionality to upload and share files, as well as having the flexibility to add/edit/and modify tables with information on the system is essential.

**Component 5: GIS Reporting**

# General Required Functionality

To present and utilize information stored in the system, as well as to properly understand MFI impact as well as opportunities across different geographical areas in Jordan, the system should have GIS capabilities with the following functionalities:

1. Have a graphical representation of Jordan and its administrative divisions, each set as a reporting unit with relationship with higher-level divisions relationships defined.
2. Utilize selected data and information saved in the different components and display it across different administrative division defined (e.g. obtain number of loans in a district from component 2 and display it).

**System Management**

To effectively and efficiently manage the new Tanmeyah Database’s system features and functionalities, the system will have an improved system management features that are categorized as follows:

1. User Access Management (MFIs and Tanmeyah Level)
2. End of Period Runs (MFIs and Tanmeyah Level)
3. Internal System Parameters, Logging, and Alerts’ Customization (Tanmeyah Level only)

# User Access Management

System Features for Tanmeyah to define access rights by User Groups (Roles) for all Tanmeyah and MFIs system users and to assign the right pre-defined authority for MFIs system admin to grant their system users needed access levels by linking a User ID to the pre-defined role.

MFIs will manage all access requests to their users. All UAM activities are logged by the system supported by a feature of automatically generated Alerts of unusual Events/Issues.

Based on the pre-defined authority levels defined for each component in this design document, Access Groups (roles) will be defined having specific system access levels; for example, each Loan Officer across all MFIs will have same set of authorities and corresponding system access levels.

# End of Period Runs (MFIs and Tanmeyah Level)

The End of Period Runs (EOP) manages the extraction of data from MFI core systems and uploading it to the Tanmeyah shared database system.

All MFIs and Tanmeyah EOP Runs’ results are logged by the system supported by a feature of automatically generated alerts of unusual events/issues for System Admin/Senior Management attention.

The system should be able to accept daily updates from each MFI on loan performance as follows:

* Automatic updates;
* Manual updates (e.g. through a web-interface) that could be used by an MFI system user to upload a file (with specific layout and format)

Tanmeyah End of Period Runs will Process MFIs Organizational, Portfolio/Loan Information based on MFIs Periodic Daily Updates and other MFIs External Information directly Entered by each MFIs (e.g. Financial Information)

# Internal System Parameters, Logging, and Alerts’ Customization

1. These are features available only for Tanmeyah to define basic system parameters (system developer to define as required) and for managing all system logging/Audit Trails, and the resulting system alerts based on pre-selected rules (e.g. Events/issues) that require management attention.
2. Alerts could generate automatic messages using emails and pop-ups (require more advanced technical capabilities). All parameters changes’ results are logged by the system supported by a feature of automatically generated Alerts of unusual Events/Issues.
3. Tanmeyah will have the feature of pre-defining system events/issues that are already logged and require management attention.
4. The system could have additional features to generate emails or screen pop-up of such alerts. For example, there are some system accesses categories that require logging with an Alert Flag and notification.