

Presentation material - IT system failures

November 26, 2021

Mizuho Financial Group

MIZUHO

The Mizuho logo consists of the word "MIZUHO" in a bold, white, sans-serif font, positioned above a thin, white, curved line that arches under the letters.

Measures to prevent further incidents in light of the Business Improvement Order (IT system failures) 【FG/BK】

Reference: Main contents of the Business Improvement Order 【FG/BK】

1. Promptly implement the measures Mizuho has formulated to prevent further incidents in regard to system failures.
2. Formulate a business improvement plan and promptly implement the plan.
Reassess and review the plan on an ongoing basis
3. Clarify and report on the responsibility of management in line with the causes of the system failures and other factors.

Addressed by
Jan. 17, 2022

Measures to prevent further incidents based on the corrective action order (related to Japan's Foreign Exchange and Foreign Trade Act of Japan) 【BK】

Reference: Main contents of the corrective action order 【BK】

1. Formulate effective measures to improve operations and prevent further incidents in order to fully comply with the provisions of the Foreign Exchange and Foreign Trade Act in regard to economic sanctions such as asset freezes, as well as to fully comply with the provisions of the corrective action order based on the act.

Addressed by
Dec. 17, 2021

Measures to prevent further incidents in light of the Business Improvement Order (IT system failures) (1)

FG·BK

Findings from the business improvement order

Direct causes of the recent series of IT system failures

- Insufficient verifications to ensure quality for development and system failure responses
- Failure to establish a maintenance management framework for stable operations of BK's new core IT system (MINORI), including inadequate management of external contractors, resulting in the failure to correct issues in maintenance and operations
- Insufficient verifications through drills and training in relation to the crisis response frameworks

Factors behind the direct causes

- Insufficient awareness and understanding of on-site conditions at IT locations by FG and BK executives resulted in the mistaken impression of stable MINORI operations. MINORI was advanced from the development phase to the maintenance and operations phase without adequately examining the requirements for stable system operations (including necessary measures to minimize the impact of possible emergencies) due to an overestimation of MINORI's ability to limit the impact of system failures to localized areas. Restructuring was also carried out, including reallocating personnel required for MINORI maintenance and operations, as well as expense reductions for system maintenance.
- With the mistaken impression of stable MINORI operations and insufficient awareness of the IT system risk management framework, BK executive management proceeded to reallocate personnel and entrust vendors with operations.
- The above factors resulted in greatly weakened MINORI and other IT system operations.

Issues in governance concerning IT systems

- **An underestimation of the risks of and required technical specialization related to IT systems**
- **Insufficient attention given to on-site conditions at IT locations**
- **Lack of awareness toward impacts on customers and insufficient attention given to on-site conditions at front-line offices**
- **A basic approach in which employees do not say what should be said, and only do as told**

Our measures to prevent further incidents thus far

Summary of causes identified by the Special Investigative Committee*

1. Deficient organizational capability to respond to crisis situations
2. Deficient IT system management
3. Deficient focus on the customer's perspective
4. Issues with the corporate culture

* From the Special Investigative Committee's report

Preventing further incidents (June 15, 2021)

~ Measures in response to IT system failures in February, March and the past ~

Improving multilayered IT system failure responses

- **IT System** – Set up structure suited to the characteristics of MINORI
 - Readiness to respond when “MINORI” the core banking system deviates from normal operations (Comprehensive MINORI-related inspection, and run drills for errors on actual ATMs)
 - Visualize staff portfolios and enhance organizational control
- **Response to customers / Crisis management**
 - Ensure we always consider the customer's perspective, in normal times and contingencies
 - Organizational response that accounts for customer opinion
 - Establish a framework centered on the impact on customers and settlements

Continuous enhancement of our people and organization, in step with our customers and society

Review the measures to prevent further incidents in response to IT system failures in August and September

Measures to prevent further incidents in light of the Business Improvement Order (IT system failures) (2)

Executive management is listening to the views of employees and stakeholders, and will continue to work tirelessly as a unified organization to formulate, implement, and verify further incidents in response to the factors that caused the system failures

1. Formulate and implement measures that will allow both for preventing system failures with a significant impact on customers and for minimizing impacts on customers in the event a system failure occurs
2. Assess the on-site conditions at IT locations and develop IT governance that allows for appropriate decision-making and evaluation in regard to measures to prevent further incidents
3. In terms of measures to prevent further incidents already formulated, ensure their dissemination and adoption, respond to changes in the business environment as appropriate, and develop a sustainable framework

Recognition of issues and direction of initiatives based on root causes

- Enhancing risk management in line with the systems' unique features and improving expertise
- Assessing on-site conditions at IT locations and reflecting these in executive management's allocation of resources
- Continually putting customers first
- Understanding the actual conditions at frontline offices, and integrating these approaches into our services and measures
- Establishing an organization where people can say what needs to be said
- Improving our capacity for all members to think, act, and deliver as a unified organization

Main recognition towards reviewing measures to prevent further incidents

IT System	<ul style="list-style-type: none"> ■ Build a structure suited to the maintenance and operation phases in light of the characteristics of MINORI ■ Assess the status of operations at IT locations in order to understand both operational issues and latent system risk. Further develop a framework to appropriately reflect these factors into executive management's allocation of corporate resources <ul style="list-style-type: none"> ➢ Undertake necessary inspections to ensure MINORI does not deviate from normal operations and ensure the foundational infrastructure developed with MINORI's adoption operates stably ➢ Clarify necessary maintenance and operations and allocate appropriate resources in line with actual conditions on-site(Employ experts with system infrastructure skills and establish a framework for cooperating with vendors) ➢ Enhance our ability to respond to failures in line with MINORI's unique features and enhance our system recovery management 	Utilizing external views and expertise knowledge Establish process
Response to customers / Crisis management	<ul style="list-style-type: none"> ■ Further foster awareness and behavior that gives top consideration to impact on customers both under business-as-usual and during incidents and establish an organizational framework that continually puts customers first <ul style="list-style-type: none"> ➢ Maintain close ties with frontline offices in line with specific operations and develop a framework to reflect customers' and frontline offices' views into operations and services on an ongoing basis ➢ Through coordination between IT system divisions, user divisions, and crisis management divisions, will reinforce our early warning indicator management and enhance our ability to respond to failures 	
Continuous enhancement of our people and organization	<ul style="list-style-type: none"> ■ Establish an organization where people can say what needs to be said and improve our capacity for all members of the organization to think, act, and deliver. Will further improve our ability to act as a unified organization without being negatively restricted by rules or areas of responsibility <ul style="list-style-type: none"> ➢ Develop and employ experts with wide-ranging perspectives ➢ Review our methods of internal communication and establish multifaceted flat communication ■ Establishing and enhancing a corporate management (governance) framework that will ensure stable operations in IT systems <ul style="list-style-type: none"> ➢ Effectively communicate the purpose of structural reforms and improve processes for allocating corporate resources ➢ The supervisory line will undertake in-depth assessments of the actual status of the business execution line's initiatives and further demonstrate its supervisory functions 	

Measures to prevent further incidents in light of the Corrective Action Order (Foreign Exchange Act)

BK

Findings from the corrective action order

- **Insufficient knowledge of all employees regarding foreign exchange laws and regulations**
- **Insufficient communication between relevant departments during crisis responses**
- **Problems with confirmation obligation practices during normal times in addition to insufficient communication and collaboration between relevant departments**
- **Vulnerabilities in the IT system management framework targeting foreign exchange legal compliance**

Measures to prevent further incidents

- **Improve the awareness and knowledge of all employees regarding foreign exchange laws and regulations**
 - Regularly conduct appropriate training for all employees based on their specific roles and responsibilities
 - Establish a new specialist team on foreign exchange laws and regulations Group to collect information on, analyze, and thoroughly implement laws and regulations
- **Build a framework in which appropriate considerations and decisions for legal compliance can be made (in the event of emergency and during normal times)**
 - Event of Emergency:**
 - Enhance our meeting formats in view of legal compliance.
 - Establish appropriate information gathering framework by cooperation among relevant departments in an event of emergency; through division of responsibilities and understanding of matters in compliance divisions, and clarification of departments that requires cooperation with.
 - Normal Times**
 - Clarifying roles and responsibilities between relevant departments regarding performance of the confirmation obligation required of banks
 - Collaboration between front offices and head office regarding treatment of customer transaction information, monitoring confirmation obligation practices from head office
 - Improving communication between relevant departments through regular meetings
- **Measures to ensure stable AML operations including Foreign Exchange Act**
 - Review and develop ALM-related systems based on reassessment done by departments including users
 - Expand and improve our business contingency plan

- **In view of reassessing the causes of incidents and appropriately restructuring internal management systems in relation to foreign exchange laws and regulations in regard to economic sanctions such as asset freeze, we are considering additional measures to prevent further incidents**

- Establish new committee focusing on AML, further clarify roles and responsibilities between relevant departments, strengthen internal controls and monitoring, establish an audit framework for assessment

(Appendix) Additional / Specified measures to prevent further incidents

Announced on
Nov.26, 2021

Our executive management will continue to work tirelessly as a unified organization to formulate, implement, and verify measures to prevent further incidents in response to the factors that caused the IT system failures as well as listening to the views of colleagues and stakeholders.

		Improving multilayered IT system failure responses: In addition to enhancing IT systems and response to customers / crisis management, ensure integrated management of these elements to build a multilayer defense mechanism		Continuous enhancement of our people and organization, in step with our customers and society	
		IT systems	Response to customers / Crisis management		
Main measures to prevent further incidents	Set up structure suited to the characteristics of MINORI		Ensure we always focus on the customer's perspective, in normal times and contingencies		Further enhance ability to take organizational action, transcending rules and scopes of responsibility
	<ul style="list-style-type: none"> • Inspection of hardware <ul style="list-style-type: none"> – <u>Early detection of hardware failure, inspection if the infrastructure operates as required</u> Added • In addition to drills on the system development and operation side, run drills with participation by customer divisions and drills for errors on actual ATMs <ul style="list-style-type: none"> – <u>Add scenarios based on a system structure and other</u> – <u>Early understanding of impacts on business operation</u> Specified • Visualize staff portfolios and enhance organizational control <ul style="list-style-type: none"> – <u>Form a framework to assess the on-site conditions of IT locations and allocate appropriate resources in line with MINORI's maintenance and operations phase (Including recruitment of infrastructure personnel and strengthening vendors' cooperative framework)</u> – <u>Clarification of cooperative framework upon recovery and linkage between "cross-sectional control" and "on-site control"</u> Added 		<ul style="list-style-type: none"> • Establish a framework centered on the impact on customers and settlements <ul style="list-style-type: none"> – <u>Visualize impacts on customers and business originating from IT systems, deepening of SCP/BCP through walk through (including legal compliance framework)</u> Added • Strengthening structure of crisis management <ul style="list-style-type: none"> – <u>Overlook the whole recovery process to minimize impacts on customers and manage appropriately the response to both system and customer groups</u> Specified 		Enhance our people and organization <ul style="list-style-type: none"> • In addition to the points on the left, we will enhance our people and organization by methods including utilizing specialists with broad perspectives • Steadily promote structural reforms <ul style="list-style-type: none"> – <u>Communicate the purpose of structural reforms and improve processes for allocating corporate resources</u> Specified Transform behavior <ul style="list-style-type: none"> • Introduce mechanisms for more active communication, aimed at strengthening our ability to enhance organizational action (also enhance effectiveness of the in-house company system and dual-hat system at each company) <ul style="list-style-type: none"> – <u>Understand employees' voice via double-linear and interactive communication over various pools, and implement on-site request based approach as a starting point</u> Specified

Execution

Thorough implementation of measures, reflecting outside viewpoints, awareness of employees' voices and on-site conditions **Specified**

Supervision

Further demonstration of supervisory functions through undertaking in-depth assessments of the actual status of the business execution line's initiatives **Added**

(Appendix) Measures to Prevent further incidents of IT system failures

Announced on
Jun.15, 2021

Measures taken after past IT system failures

- Implemented the following measures in response to IT system failures in 2002 and 2011
 - Developed and migrated to MINORI, the new core banking system
 - Set up rules, frameworks, and contingency plans for system development & operation, risk management, responses in the event of system failure, etc.

Summary of causes identified by the Special Investigative Committee*

1. **Deficient organizational capability to respond to crisis situations**
2. **Deficient IT system management** [(1) Issues with the reassignment of IT personnel, (2) Insufficient preparations for stable IT system operation, (3) Points in common with the causes of past IT system failures]
3. **Deficient focus on the customer's perspective** [(1) Issues related to ATM capturing mechanisms for bankbooks and cards, (2) Lack of consideration of the customer when responding to the system failure, (3) Lack of acknowledgement of customers using ATMs]
4. **Issues with the corporate culture**

*From the Special Investigative Committee's report

Improving multilayered IT system failure responses:

In addition to enhancing IT systems and response to customers / crisis management, ensure integrated management of these elements to build a multilayer defense mechanism

IT systems

Response to customers / Crisis management

Set up structure suited to the characteristics of MINORI

Ensure we always focus on the customer's perspective, in normal times and contingencies

- **Change ATM specifications and improve monitoring system**
- **Comprehensive MINORI-related inspection**
 - Re-examine services that have never been used (6%)
 - Conduct mock tests to force an error leading to a serious failure and check the ripple effects and countermeasures
- **In addition to drills on the system development and operation side, run drills with participation by customer divisions and drills for errors on actual ATMs**
- **Visualize staff portfolios and enhance organizational control**
 - List up staff skills and experience in detail, and assign the appropriate person for each role (including external hires)
 - Enhance the control structure, including setting up a technology and quality management organization and managing vendors

- **Organizational response that accounts for customer opinion**
 - Assign a service quality improvement officer (at all retail branches)
 - Launch an organization at Head Office for analyzing social media and other data
- **Establish a framework centered on the impact on customers and settlements**
 - Divide individual BCP formats into larger groups (approx. 30 groups) and integrate with SCP based on a configuration diagram for each IT system
 - Shift from the conventional "check the manual" approach to hands-on drills and training which encourages independent thinking about potential impact on customers
 - Develop service-specific, cross-organizational networks at Head Office. Hold response meetings within an hour of a failure being detected
- **Create an executive position in charge of crisis management**

Continuous enhancement of our people and organization, in step with our customers and society

Further enhance ability to take organizational action, transcending rules and scopes of responsibility

Enhance our people and organization

- In addition to the points on the left, we will enhance our people and organization by methods including utilizing specialists with broad perspectives
 - Develop careers across multiple relevant departments and utilize external hires
 - Personnel performance reviews that prioritize constructive feedback
 - Simplify executive positions (abolish Senior Managing Executive Officer and Managing Executive Officer roles, etc.)
- Steadily promote structural reforms while continuing to pay due attention to the necessary allocation of corporate resources (in FY21, expanded personnel/expenses budget in advance)

Transform behavior

- Introduce mechanisms for more active communication, aimed at strengthening our ability to enhance organizational action (also enhance effectiveness of the in-house company system and dual-hat system at each company)
 - Shift from communication centered on documentation to "discussion first" communication
 - Stop negative evaluations for administrative errors and give positive evaluations for proposing measures for improvement
 - Create the positions of "branch communicator" and "Head Office instructor" and develop networks between them

Main measures to prevent further incidents

- Senior management will clarify the aims of these measures to prevent further incidents so as to ensure their effectiveness and continuity, and all members of the organization will implement the measures with a sense of purpose
 - We will **set up an IT system failure response committee** within both the supervision and execution lines, and implement regular follow-ups

Forward-looking Statements

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