

# **Guidelines for Inclusive Digital Financial Services**

**Financial Supervisory Commission**

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## **Introduction**

In recent years, as emerging technologies—such as big data analytics, artificial intelligence (AI), identity authentication mechanisms, and blockchain—have made rapid inroads in the financial sector, financial and peripheral institutions have developed a broad variety of digital financial services, expanding application scenarios and integrating financial services into people’s daily lives. These developments have become a key driver of financial inclusion. While digital financial services have enhanced convenience for most financial consumers in areas such as payments, fund transfers, wealth management, insurance purchases, applications and information inquiries, some financial consumers and users of digital financial services (collectively referred to as “users”) may be affected by factors such as technological barriers, age, economic circumstances, physical or psychological conditions, limited access to financial knowledge, or urban-rural disparities. These factors may hinder their ability to access, smoothly use, or feel willing to adopt digital financial services.

To encourage digital financial services providers to prioritize user needs throughout the design and implementation of digital services—and to safeguard the rights and interests of digitally and financially disadvantaged groups while preventing the widening of the digital divide—the Financial Supervisory Commission (FSC) has drafted these Guidelines pursuant to Item 4-2 of the “FinTech Development Roadmap (2.0),” specifically the initiative “Increase the inclusiveness of digital financial services and establish related guidelines.” The FSC has referenced the Financial Conduct Authority (FCA)’s “Finalised Guidance FG21/1: Guidance for Firms on the Fair Treatment of Vulnerable

Customers”<sup>1</sup> issued in February 2021; the G20’s “G20 High-Level Principles for Digital Financial Inclusion”<sup>2</sup> published in 2016 as well as its 2022 “Implementation Guide for the G20 High-Level Principles for Digital Financial Inclusion”<sup>3</sup>; and Taiwan’s own “Government Digital Service Guidelines.” These references serve as the foundation for the present Guidelines, which aim to foster a digital financial environment characterized by diversity, equity, inclusion, and accessibility (DEIA), and to build user trust and sustained willingness to adopt digital financial services.

These Guidelines serve as administrative guidance and cover three major areas: (1) Providing Human-centric Digital Financial Services, (2) Promoting Fairness and Accessibility, and (3) Monitoring, Evaluation, and Continuous Improvement. Each section outlines key considerations and provides practical scenarios for reference. Digital financial services providers may choose appropriate implementation approaches based on their business model, operational scale, service offerings, target users, user needs, and corporate social responsibility requirements. As existing financial laws, self-regulatory rules, and reference guidelines already address inclusion-related matters on risk management, internal control and audit, disclosure, information and communication security, the use of AI, digital identity verification, fair treatment of customers, and financial consumer protection, these Guidelines do not address these items.

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<sup>1</sup> Financial Conduct Authority (FCA). (2021). Finalised guidance FG21/1: Guidance for firms on the fair treatment of vulnerable customers. <https://www.fca.org.uk/publication/finalised-guidance/fg21-1.pdf>.

<sup>2</sup> Global Partnership for Financial Inclusion (GPFI). (2022). Implementation Guide for the G20 High-Level Principles for Digital Financial Inclusion. <https://www.gpfi.org/publications/implementation-guide-g20-high-level-principles-digital-financial-inclusion>.

<sup>3</sup> Global Partnership for Financial Inclusion (GPFI). (2022). Implementation Guide for the G20 High-Level Principles for Digital Financial Inclusion. <https://www.gpfi.org/publications/implementation-guide-g20-high-level-principles-digital-financial-inclusion>.

## Terms and Terminology

1. **Financial Inclusion:** ensuring that individuals and businesses have effective access to affordable, appropriate financial products and services that meet their needs, delivered in a responsible and sustainable manner.
2. **Digital Financial Inclusion:** the use of digital financial services as a means of promoting financial inclusion.
3. **Digital Financial Services:** financial products and services provided through digital technologies such as websites and mobile devices. These include payments, fund transfers, savings, lending, insurance, securities, financial planning, account reconciliation, and other mobile-based financial services.
4. **Digital Financial Service Provider:** financial institutions, industry associations, or peripheral institutions that use digital technologies to provide financial products or services. Such providers may also be users of digital financial services.
5. **Digitally and Financially Disadvantaged:** users who lack digital tools or skills, have insufficient financial knowledge, or are affected by economic, age-related, physical, psychological, mental, geographical, or environmental factors that hinder access to or effective use of digital financial services.
6. **Stakeholder:** individuals, groups, or organizations that have a direct or indirect interest in , or connection with, the design, development, or provision of digital financial services. Internal stakeholders include shareholders, directors, and employees; external stakeholders include users, financial consumers, experts, and academics, software developers, regulators, related industries, and non-governmental organizations.

# 1. Providing Human-Centric Digital Financial Services

**1.1 Purpose:** to promote digital financial services providers to deliver services that are appropriate for and responsive to the diverse needs and expectations of different users.

**1.2 Key Concept:** Digital financial services providers must take into consideration that user needs regarding digital financial services are diverse and vary significantly. Accordingly, when designing and delivering such services, providers should seek to address the actual needs of various user groups and offer information that is clear and easy to understand, together with convenient and seamless user flows. This helps users—particularly the digitally and financially disadvantaged—help reduce the barriers they may encounter while using digital financial services.

## 1.3 Key Considerations for Digital Financial Service Providers

**(1) Understanding Diverse User Needs and Preferences:** The demographics of users vary significantly in terms of economic conditions, age, occupation, physical and mental status, living environment, financial literacy, business scale, and digital skills. Users may have to address a variety of hurdles to using digital financial services. Providers should understand these diverse needs and preferences as they design digital financial services.

### **Example scenario:**

Financial institutions typically provide financial services to consumers via mobile applications (hereinafter, “apps”). Before developing a new version of its mobile banking app, Bank A sought to gain a deeper understanding of consumer needs and preferences. Aside from reviewing a behavioral analysis of traditional and online banking users produced

by a polling firm, the bank gathered a wide range of opinions from different demographic groups through social media engagement, in-depth interviews, and questionnaires. Groups queried included people of different ages (such as young adults, middle-aged users, and seniors), occupations (students, homemakers, employees, military personnel, etc.), genders, locations, and income levels, as well as persons with disabilities.

To encourage more people to download and use its app, Bank A analyzed the insights it had collected and used this information to design its login and authentication methods, categories, user flows, overall presentation, color contrast, font size, and other interface elements to enhance user experience.

**(2) Stakeholder Communication:** Before launching digital financial services—and during subsequent review and improvement stages—providers should maintain effective communication with stakeholders. Particular attention should be paid to digitally and financially disadvantaged users so as to understand their difficulties, formulate solutions, and develop appropriate workflows, user interfaces, and supporting measures to ensure that digital financial services are both accessible and well-designed.

**Example scenario:**

Before adjusting the functions and user interface of its app, Insurance Company B sought feedback from digitally and financially disadvantaged users, their family members, as well as the frontline staff who interact with them most frequently (such as customer service representatives and counter staff). The company sought to understand common complaints and recurring issues. It also invited seniors and disabled persons to participate in hands-on testing. This was followed by

additional interviews with disability organizations and social welfare groups to identify difficulties users encountered and to garner relevant suggestions. Based on these insights, the company then discussed feasible improvement measures—such as simplifying identity verification and login procedures, placing key information like payment deadlines and claims progress in prominent locations on the app’s homepage, enabling easy access to policy coverage details or policy loan limits, and exploring what additional functions users hoped to see—so as to meet user needs and expectations.

- (3) Meeting Needs and Preferences:** Providers should take into account users’ diverse needs and preferences and assess the feasibility of offering tailored services to facilitate smooth access to digital financial services.

**Example scenario:**

When designing and developing the latest version of its app, Company C engaged in a feasibility study using the collected needs and preferences of different user groups. It then incorporated related functions into its design to enhance uptake potential and satisfaction for different groups:

1. Young adults: Such individuals prefer a quick and simple login, convenient transfers, and fun. In addition to the traditional ID-and-password login, Company C added biometric authentication (e.g., facial or fingerprint recognition). It also introduced a function allowing users to transfer funds by entering a recipient’s mobile number and the attachment of a digital greeting card with a personalized message.
2. Employees: Such individuals prefer quick access to credit card spending details and ease of payment. Company C categorized credit

card billing and payment functions as “frequently used” to ensure ease of use.

3. Seniors: Such users want clearer text and simplicity of use. Company C introduced a “Friendly Mobile App Mode,” that included enlarged font size and a simplified interface, and placed commonly used features (e.g., billing reminders) in prominent positions on the homepage.
4. Deaf and hard-of-hearing users: To make reaching out to customer service easier, Company C introduced a “Sign Language Video Interpretation Service” in which customer service agents and professional sign-language interpreters are available online. Real-time text support and voice-input features were also made available.
5. Persons with visual impairments: Such users expect mobile apps to support such accessibility features as voice input, screen magnification, high-contrast mode, screen readers, alternative text (text descriptions for non-text content), clearly labeled buttons, and non-visual verification methods (e.g., CAPTCHA alternatives). Company C designed its app to meet these needs and ensure that persons with visual impairments can access and use all available functions as completely as possible.
6. Digital beginners: For individuals desirous of using digital services but not yet familiar with operating procedures, Company C designed guided workflows within its app while also tasking support staff at its service locations with introducing these services to customers. Instructional videos and user manuals titled “Teach Me How to Use It” were also made available on the company’s website to help users familiarize themselves with digital financial services.

7. Small and medium-sized enterprises (SMEs): SMEs expect enhanced account-analysis functions and integration with e-invoice systems so as to automate cash-flow management, improve visibility into fund movements, facilitate financial management, and enable faster loan applications. To address these needs, Company C added an “Account Analysis Assistant” feature to its mobile banking app, allowing SMEs to review income and expenditure history over specific periods and analyze cash-flow transactions with designated counterparties. The app was also designed to include a “Quick Loan Application” function. Once an SME initiates an application, Company C can analyze the enterprise’s account-transaction data and use the results in its credit assessment.
8. Expatriates: These users expect an app that provides language interfaces beyond English to avoid operating errors caused by language. In response, Company C gradually added English, Indonesian, Vietnamese, and other language interfaces to the app based on user needs.

#### **(4) Gradual Adoption of Accessibility in Design:**

- I. During the design, development, and delivery of digital financial services, providers should, subject to available resources and implementation timelines, progressively introduce functions that meet the needs of digitally and financially disadvantaged users and include assistive tools to reduce barriers to use of digital services.
- II. When developing, managing, and testing mobile apps and websites, providers should refer to the Mobile Accessibility Guidelines, Mobile Accessibility Testing Guidelines, and Web Accessibility Guidelines, and aim to obtain and maintain an Accessibility

Conformance Mark (A level or above) for their official portal. Before obtaining the Mark, providers should enhance their Accessible Financial Services Section to expand available functions and improve the breadth of information made available.

**Example scenario 1:**

A young adult who has just begun a career is preparing for an overseas trip and hopes to complete the purchase of travel insurance quickly from home. However, the individual is not familiar with the different coverage provided under “travel accident insurance” and “travel inconvenience insurance” and has a hard time deciding.

To address this, Insurance Company D incorporated help tools like mouse tooltips and tooltips with annotations into its online insurance enrollment webpage. When the user’s cursor rests over key terms or complex legal terminology, a small pop-up window appears to provide definitions or explanations (e.g., “flight delay” refers to the scheduled flight departing more than X hours later than planned).

For financial information, the company replaces complex formulas with simplified statements such as “Pay X dollars per year, for a total of Y dollars.” It also uses visual elements such as bar charts, pie charts, line charts, and tables to present information on coverage amounts, policy value reserves, surrender values, and other items, thereby helping users better understand the content.

**Example scenario 2:**

When developing a new version of its app, Company E noted that some users—particularly elderly users and persons with visual impairments—reported that the previous version involved too many operational steps and that the buttons were difficult to identify.

To ensure that all users can operate the app smoothly, the company

designed a new version in accordance with the Mobile Accessibility Development Guidelines and the principles of perceivability, operability, understandability, and robustness set out in the Manual Testing Checklist for Mobile Applications.

To further enhance the app’s accessibility design, the company carries out checks on the items and testing methods listed in the checklist based on the following twelve accessibility guidelines: alternative text, time-based media (audio or video media), adaptability, distinguishability, keyboard accessibility, sufficient time, seizure prevention, navigability, readability, predictability, input assistance, and compatibility. These checks ensure that the relevant design elements meet the requirements of the guidelines.

Note: The Manual Testing Checklist for Mobile Applications can be downloaded from the Accessible Web Service Portal of the Ministry of Digital Affairs.

**Example scenario 3:**

When redesigning its official website, Company F referred to the guidelines on perceivability set out in the Web Accessibility Guidelines. Addressing contrast, the company ensured that, except in the case of special circumstances, the visual presentation of text and images of text had a contrast ratio of at least 4.5:1. This ensured that elderly users and users with limited color discrimination—such as those with color blindness or color weakness—can properly view and navigate the website.

- (5) Enhancing Ease of Use:** Providers should ensure simple, clear, consistent, and seamless user experiences so that users can independently and successfully use digital financial services.

**Example scenario 1:**

Company G is planning to design a webpage that allows users to apply to use specific financial services online. To enable users to quickly and clearly understand the available options, the company presented key information using icons, charts, or tables, and avoided overly dense text or providing an excessive number of choices on the layout.

For the user interface and process flow, the company manages to maintain consistent styles and placements for all of its “next” or “confirm” buttons to prevent users from feeling confused. To support continuity, guidance elements and prompts are displayed as users move between pages, helping them understand their current progress—for example, “60% completed.” As concerns identity verification and confirmation of intent, users are offered multiple authentication methods, including one-time passwords (OTP), biometric authentication, Mobile ID, Financial Fast-ID, or digital certificates, allowing them to complete the application process efficiently.

**Example scenario 2:**

To provide convenient and diverse application channels for electronic-format securities passbooks, Securities Firm H developed a digital financial services platform offering both mobile app and web-based application options. The platform also supported multiple credential-based identity verification methods, including the Citizen Digital Certificate, the securities firm’s trading certificate, and online banking certificates.

In terms of interface design, to make applications easier, the system clearly lists all available application options in table form and uses uniform button styles for similar types of actions, thereby creating a more intuitive, seamless user experience.

**(6) Providing Easy-to-Understand Information:** Providers should consider potential difficulties users may encounter and present important information in simple and comprehensible ways to ensure users' understanding of complex legal terms, technical terminology, and financial data.

**Example scenario 1:**

During the online insurance application process, Insurance Company I explained technical terms using annotations or examples so that customers understood their actual meaning in simple and clear language.

For example:

**Deductible NTD 5,000**

(If the repair cost from a car accident does not exceed NTD 5,000, the consumer bears responsibility for the full amount. If the repair cost is NTD 8,000, the insurer will pay NTD 3,000—calculated as NTD 8,000 minus NTD 5,000—within the limit of the insured amount.)

**90-day waiting period** (Coverage begins on the 91st day after the policy takes effect.)

**Exclusions** (Circumstances under which the insurer will not provide compensation.)

For different insurance plans and benefit amounts, Insurance Company I used charts or examples to facilitate comparison and understanding. For example:

**Plan A** (1 unit; annual premium NTD 1,600): NTD 1,000 per day for a general ward, NTD 2,000 per day for an intensive care unit.

**Plan B** (3 units; annual premium NTD 4,800): NTD 3,000 per day for a general ward, NTD 6,000 per day for an intensive care unit.

**Example scenario 2:**

Company J consolidated information on different classes of assets—such

as stocks and mutual funds—and, without compromising the user experience, provided explanatory notes within its app to help users better comprehend key information such as data update intervals and the methodology used to calculate market value. Visual aids such as pie charts and bar charts were also used to help users clearly see the proportion of each asset they hold and how those values fluctuate over time.

- (7) **Testing and Adjustments:** Before digital financial services are launched, providers should conduct risk-based testing on each function. Special attention should be given to innovative features designed for digitally and financially disadvantaged users and providers should make flexible adjustments based on testing results to ensure that such functions operate effectively.

**Example scenario:**

Company K plans to introduce a sign-language service for a videoconferencing customer and intends to collaborate with professional organizations that provide remote sign language interpretation service for video conferences and hearing-impairment services. When deaf or speech-impaired users wish to make inquiries or submit complaints to customer service through sign language, they may submit a request, allowing a sign-language interpreter to join the session and improve the efficiency of online communication.

Before the service was launched, Company K invited 5 to 10 deaf users to participate in small-scale pilot testing. The tests assessed various aspects, including the application process, the stability of the connection and quality of the video display, the response speed of interpreters and customer service representatives, the accuracy in conveying the meaning of technical terms, and users' post-session feedback. Based on the

observations and insights gathered, the company refined the service and conducted an additional one to two rounds of testing to ensure service quality, system stability, and the effectiveness of the newly added functions.

**(8) Strengthening Staff Competence and Providing Support Tools:**

Providers should continually train frontline staff to enhance their knowledge and response capabilities. Dedicated units or project teams may develop manuals, guidelines, or system tools for staff reference, covering methods for identifying identification of digitally disadvantaged users, response strategies , recommended response scripts, technical support contacts, best practices, and case studies. Staff should retain flexibility to address unexpected situations and seek supervisory support when necessary.

**Example scenario:**

Company L recognizes that digitally and financially disadvantaged users often come upon a number of hurdles when using digital financial services, and that such users are not always immediately identifiable at first glance. To help its staff learn how to identify such users and provide appropriate financial services and assistance, the company prepared a reference manual outlining recommended responses and standard operating procedures for different situations. It also introduced an AI-powered assistant for customer service personnel to consult and rapidly obtain suitable response methods when encountering challenging situations.

Company L further incorporated scenario-based training into its quarterly training programs. Through role-playing exercises, employees addressed potential issues and difficulties from the customer's perspective and practiced determining the most appropriate course of

action across a variety of simulated scenarios. However, when interacting with actual customers, unexpected or unmanageable situations may still arise. In such cases, staff may seek support from their supervisors or other relevant departments. In addition, Company L periodically collected information on complex or unique cases from domestic and international sources and used case-sharing and discussion sessions to enhance employees' knowledge and capabilities.

- (9) Disclosure or Notification Before Service Adjustment or Decommissioning:** When considering adjusting, suspending, or terminating digital financial services, providers should assess and adopt measures that would have the least adverse impact on users. Matters affecting significant rights should be disclosed clearly, accessibly, and through multiple channels in a timely manner.

**Example scenario 1:**

Securities Firm M previously experienced customer complaints because it did not provide advance notice of maintenance work on its stock-trading app. To prevent similar incidents from occurring, the firm began to assess the expected service impact prior to conducting system or app maintenance—specifically, situations in which customers will be unable to log on for approximately six hours to place orders, view account details, or purchase shares. To minimize disruptions, the firm schedules maintenance between 12:00 a.m. and 6:00 a.m. during long holiday periods and issues reminder notifications one to two weeks in advance when customers log on. This gives customers advance notification and time to make appropriate arrangements.

**Example scenario 2:**

To enhance the functions and performance of its order-placement system, Company N planned to shut down its existing online trading system and

migrate users to a new system. After running an assessment, the company adopted a parallel-run approach, allowing both the old and new systems to operate simultaneously to give users time to adjust. The firm discontinued the old system only after providing one-on-one assistance to those remaining users who had not yet completed the transition.

In addition, Company N announced key information about the system migration in advance, enabling users to understand the migration schedule, system functions, and operational differences ahead of time, thereby helping them migrate to the new system more smoothly.

**(10)Ensuring Third-Party Compliance:** When outsourcing system design or collaborating with third parties to provide digital financial services, providers should ensure that such parties also adhere to these Guidelines, either through communication or formal written contracts.

**Example scenario**

To increase the efficiency of online customer service and to provide related services outside of business hours, Company O planned to commission an information technology vendor to develop a digital intelligent customer service system. Prior to formal development, Company O fully explained and discussed system development requirements with the vendor and ensured that the vendor was familiar with these Guidelines. The objective was to design an intelligent customer service interface and operational workflows with a focus on simplicity, clarity, speed, consistency, continuity, and accessibility.

Before the system’s official launch, extensive testing was done to ensure that the system met the needs of digitally and financially disadvantaged users.

## 2. Promoting Fairness and Accessibility

**2.1 Purpose:** ensure that users have equal opportunities to access and use digital financial services; avoid adversely affecting the rights and interests of digitally and financially disadvantaged users; and expand user base and service coverage through the development and enhancement of financial services.

**2.2 Key Concepts:** The objective is to ensure the provision of digital financial services in a manner that is simple, easy to understand, equitable, accessible, and affordable, while preventing bias or discrimination in the service process. Digital financial service providers are also encouraged to adopt a responsible innovation approach to continuously develop diversified financial services, enhance ease of use and users' willingness to adopt such services, expand coverage, and reduce exclusionary effects.

### 2.3 Key Considerations for Digital Financial Services Providers

**(1) Promoting the use of digital financial services:** Digital financial service providers should foster a user-friendly digital financial services environment and provide appropriate incentives and educational support, such as simple and intuitive apps, streamlined operating procedures, in-person or video tutorials, as well as user guides and FAQs. Such measures help users understand how to use digital financial services, address operational difficulties, and reduce the risk of user error, thereby enhancing people's willingness to use digital financial services.

**Example scenario:**

By holding customer interviews, Securities Firm P identified that some elderly users still placed orders by phone or in person at branches due to concerns about operating errors when using mobile devices and

uncertainty about how to resolve such issues when they arise. Accordingly, after developing a new trading app, the firm encouraged customers to download and use the app by providing one-on-one, in-person guidance at branch locations, where staff assisted customers with app installation and filling out the application concerning trading credentials. In addition, instructional videos were made available on the official website to help customers better understand commonly used app functions. The app also offers a simulated trading feature to mitigate the risk of order-placement errors arising from operational issues, thereby increasing customers' confidence and willingness to use online trading services.

**(2) Adoption of Innovative Business Models and Technologies:** Digital and innovation-related departments are encouraged to place responsible innovation at the core of their initiatives and, based on the principle of fair treatment of customers, leverage emerging technologies or integrated hardware and software solutions to develop (either in-house or through outsourcing) and enhance digital financial services. They should also seek to expand the scope of cooperation partners, application scenarios, and business types. Through mechanisms such as fintech innovation experiments or pilot programs, digital financial service providers can improve user satisfaction and foster diversified and innovative applications of digital financial services.

**Example scenario 1:**

In considering current practices for unsecured lending, Bank Q noted that financial institutions typically rely on borrowers' regular salary documentation as a key reference for assessing monthly income. To address the difficulties faced by individuals—such as influencers or

YouTubers—who do not receive regular salaries and therefore find it challenging to provide such income verification when applying for loans, Bank Q proposed an alternative approach. When customers apply for personal credit loans or credit cards online or via a mobile app, Bank Q will use a financial assessment model for credit evaluation in place of the monthly income assessment method for unsecured lending. It also applied to the FSC for a business trial approval. Through this fintech-driven innovative financial service, Bank Q aims not only to enhance operational efficiency in financial services, but also to increase the willingness of individuals without fixed salaries or with primarily cash-based income to apply for personal loans.

**Example scenario 2:**

To meet investors' need to access overseas securities through sub-brokerages and for timely access to information on foreign marketable securities, and to address the challenges faced by retail investors in independently planning investments or asset allocation, Investment Advisory Firm R and Securities Firm S proposed a collaborative arrangement. Under this arrangement, Investment Advisory Firm R provided robo-advisory services to offer portfolio recommendations based on investors' risk profiles. Through application programming interface (API) integration, investors may refer to these recommendations and subscribe to foreign exchange-traded funds (ETFs) on a regular investment basis through Securities Firm S.

Investment Advisory Firm R and Securities Firm S applied to the FSC to conduct a fintech innovation experiment based on this innovative cooperative business model. The objective was to assist retail investors in obtaining professional investment advice, properly allocating assets, diversifying risks, and ultimately advancing the goal of financial inclusion.

**(3) Implementation of Security Safeguards:** To enable people to use digital financial services with confidence and to ensure the security of transactions, personal data, and privacy, digital financial service providers should, in addition to complying with relevant regulations established by industry associations or peripheral institutions, consider collaborating with industry participants and risk management experts. Such collaboration may involve studying, identifying, assessing, and mitigating potential risks arising from emerging digital technologies, as well as the adoption of appropriate information security and cybersecurity measures or related control mechanisms.

**Example scenario 1:**

Based on a recent Survey on Customer Satisfaction with Digital Financial Services, Bank T noted that customers place significant importance on operational and transaction security and are greatly concerned about the risk of fraud. To enable customers to use mobile banking services with confidence, the bank looked at improving the security of app-based transactions, personal data, and privacy through the following measures:

**1. Bank account-opening reconfirmation:**

Different risk levels are assigned based on the level of identity verification at the time of account opening and customer characteristics. For higher-risk new accounts, the bank conducts random follow-up verification calls during or after the account-opening process to confirm the applicant's intent to open the account.

**2. Two-factor authentication (2FA):**

When customers log on to the app, in addition to entering a username and password, they are required to input a one-time password or use

biometric authentication, such as fingerprint or facial recognition.

**3. Encrypted data transmission (e.g., SSL/TLS):**

All login and transaction data are transmitted through encrypted channels to prevent interception or unauthorized access during transmission.

**4. Abnormal behavior detection system:**

If the system detects high-risk transactions (e.g. large cross-border transfers, high-value spending, or frequent small-amount transactions) conducted at unusual times or locations, or via devices not commonly used by the customer, it will temporarily suspend the transaction, send an alert notification to the customer, or initiate additional verification procedures.

**5. Automatic logout mechanism:**

If a user remains inactive for a specified period, the system will automatically log the user out. If the user logs in simultaneously on two devices, the system will automatically log out from the earlier session and notify the user of the concurrent login, thereby preventing unauthorized access.

**Example scenario 2:**

Company U observed that some individuals would buy stocks and exchange-traded funds through different securities firms and invest in funds through banks. As a result, they were often unable to obtain a clear, up-to-date view of their asset allocation and holdings. To address this issue, Company U designed and developed an app that consolidated users' financial assets—including stocks, funds, and bank deposits—enabling users to quickly review their asset positions via a single interface.

As the operating procedure involves importing users' critical financial information from multiple financial institutions—such as account balances, securities holdings, and fund net asset values—and requires

integration with third-party data sources via APIs, Company U placed particular emphasis on ensuring against data leakage and cyberattacks. To safeguard personal data and privacy and to ensure that the process is in keeping with the law, Company U invited representatives from securities firms and banks, experts and scholars in the legal and information technology fields, and the relevant competent authorities to participate in discussions during the development phase. These discussions focused on compliance with personal data protection laws, data-sharing arrangements, encryption mechanisms, risk controls, operational practices, and data transmission issues, with the aim of identifying potential risks in advance and formulating appropriate response measures.

- (4) Safeguarding the Rights and Interests of Existing Users:** Providers should avoid adversely affecting the rights and interests of existing users as a result of innovation or widespread adoption of digital financial services.

**Example scenario:**

In the course of advancing its digital transformation, Bank V observed that the majority of its customers had already adopted digital financial services such as online banking and mobile banking, resulting in a gradual decline in the effectiveness of real-world branches. Accordingly, the bank decides to close its branches and ATM facilities in specific areas.

As a result of this decision, customers in the affected areas who were accustomed to using traditional financial service channels were no longer able to access financial services at branches or ATMs, such as updating passbook transaction records or conducting wealth management services, and may also incur higher cash withdrawal costs.

To avoid adversely affecting customer rights and interests, Bank V provided advance notice on its website and at its physical business locations regarding branch closures as well as the contact information of nearby branches. The bank also encourages customers to download and use its mobile banking app and implements mitigation measures, including in-person demonstrations by bank staff and fee discounts or waivers for interbank transfers and cash withdrawals. These measures are intended to reduce the negative impact on existing customers.

**(5) Preventing Unfair Treatment or Discrimination:** When financial institutions use AI, machine learning, or other technologies to develop models, or where they rely on data analytics to assess applications for financial services or to determine specific terms and conditions (e.g., loan interest rates or underwriting loadings and discounts), they should implement appropriate monitoring and review mechanisms. Such measures are intended to mitigate the risk that limitations in data collection, inherent biases, or the outcomes generated by these models may result in unfair treatment or discrimination against financial consumers.

**Example scenario:**

To enhance policy underwriting efficiency and strengthen risk management, Insurance Company W planned to introduce AI models trained on existing policyholder data—such as age, gender, place of residence, occupation, health records, and medical treatment history—as well as information from medical journals. The models were used to assess whether applicants for new insurance policies met eligibility requirements and to determine underwriting outcomes, including whether to accept coverage, adjust premium levels (loadings or discounts), or impose policy exclusions for specific medical conditions.

As the models were primarily trained on existing customer data, any discriminatory patterns embedded in the data—such as higher rejection rates for certain demographic groups, regions, or genders—may be learned by the AI models, thereby perpetuating or even amplifying differential treatment. In addition, insufficient or homogeneous data for certain groups—such as expatriates, individuals with rare diseases, or persons with disabilities—may lead to inaccurate model predictions or excessive bias. To address these issues, Company W applied techniques such as re-weighting underrepresented groups or generating synthetic samples (e.g., SMOTE), as well as other appropriate methods, to improve data balance and model performance.

Furthermore, to prevent AI models from classifying applications that would previously have been approved through manual underwriting as “not approved,” Company W required the models to provide explanations for decisions resulting in non-approval. Such cases were then subject to further review by human underwriters to assess the reasonableness and accuracy of the outcomes. Through this human-machine collaborative approach, the underwriting process is completed in a manner that helps prevent unfair treatment or discrimination against insured persons.

- (6) Ensuring Affordability:** Digital financial service providers should commit to enabling users to access and use digital financial services at reasonable or affordable prices. Providers should also assess the appropriateness of offering usage incentives where appropriate—such as preferential pricing, fee waivers, or discounts—to enhance the accessibility of digital financial services.

**Example scenario 1:**

With the rapid development of AI, an increasing number of young people

are using AI as an assistive tool to address various challenges encountered in daily life. To respond to differences among investors in terms of risk profiles, age, investment amounts, and investment preferences, Investment Advisory Firm X planned to develop an **automated investment advisory (robo-advisory) service** utilizing AI technologies. Through algorithms that collect and analyze large volumes of data, the service assessed clients' personal characteristics to provide tailored portfolio recommendations or investment options that meet individual needs.

Prior to launching this service, Investment Advisory Firm X considered charging platform usage fees, advisory management fees, or other types of service fees. To promote financial inclusion and ensure that retail and small-scale investors are also able to access the service, the firm decided to offer membership tiers corresponding to different fee levels. General members could access basic features—such as asset allocation recommendations and simulated return projections—at a lower cost or free of charge. Investors desiring to use advanced features—such as periodic dynamic adjustment recommendations, market trend analysis, and professional investment research reports—were required to enroll as premium members and pay higher fees.

**Example scenario 2:**

To enable financial consumers to purchase insurance policies online on a self-service basis, Insurance Company Y developed and maintained an online insurance system that entailed certain development and operational costs. Because insurance policies sold through online channels do not require the payment of commissions to sales agents, the company was able to reflect the resulting cost savings in its policy charges. As a result, financial consumers were able to obtain insurance coverage at lower premium levels.

### **3. Monitoring, Evaluation, and Continuous Improvement**

**3.1 Purpose:** To ensure the quality of digital financial services and meet users' needs through periodic evaluation and continuous improvement.

#### **3.2 Key Concepts**

To promote financial inclusion, digital financial service providers should take into account users' needs and changes in the financial environment, collect feedback from users and stakeholders, and stay informed of market trends in innovation and development. Providers should also assess the adoption of emerging technologies or tools and, through timely reviews and ongoing adjustments, optimize user experience and convenience. These efforts are intended to ensure that the design, operational processes, user interfaces, and other aspects of digital financial services align with practical needs.

#### **3.3 Key Considerations for Digital Financial Service Providers**

**(1) Timely Reviews:** Digital financial service providers should conduct periodic or ad hoc assessments and reviews of the operation of digital financial services to determine whether users are able to fully understand such services and whether their needs are being met, with particular attention to safeguarding the rights and interests of digitally and financially disadvantaged users.

##### **Example scenario:**

Following the launch of its online insurance service, Insurance Company Z conducted quarterly reviews of usage and operational performance. The scope of the review included, but was not limited to, the following:

##### **1. Financial consumers' level of understanding:**

It was important to determine whether users clearly understood which insurance products were available and the scope of coverage, the

applicable premium amounts, premium payment frequencies (e.g., annual, semi-annual, or monthly payments), the effective date of coverage after enrollment, and the expected timeframe for receiving policy documents.

### **2. Smoothness of the flow:**

It was necessary to ascertain whether the system clearly guided users through enrollment, including selecting insurance products, conducting premium calculations, entering required information, and completing payment.

### **3. Meeting users' needs:**

It was critical to see whether financial consumers encountered any difficulties or barriers, and whether there were areas requiring further improvement, such as adjustable font sizes, reduced text density, graphical or chart-based explanations, or access to personalized assistance.

**(2) Collecting Feedback Through Multiple Channels:** After digital financial services are launched, providers should gather feedback through a variety of channels to understand the views of frontline staff and stakeholders regarding the use of such services, as well as any disputes arising from digital financial services and their underlying causes. This information should serve as the basis for review and improvement.

### **Example scenario:**

To continuously innovate and optimize digital financial services, Company A planned to collect feedback through the following approaches as a reference for review and improvement:

**1. Analyzing complaint cases:** The company provided digitally and financially disadvantaged users with a convenient variety of

complaint channels (e.g., telephone, online, and in-person). By regularly reviewing and analyzing complaints, the company identified instances where digital financial services failed to meet customer needs and ensured that the lessons learned were effectively reflected in service design improvements.

2. **Monitoring feedback from multiple channels:** In addition to consolidating and analyzing complaints or feedback submitted by digital service users, the company also paid attention to opinions expressed through media and social media platforms—such as PTT, Dcard, Facebook, Instagram, Threads, and other relevant channels.
3. **Conducting proactive investigations:** The company employed mystery shopping, telephone outreach, questionnaires, and in-depth interviews to evaluate the accessibility, usage, and quality of digital financial services, as well as to understand financial consumers’ actual experiences and suggestions.
4. **Engaging with stakeholders:** The company exchanged views with disadvantaged groups, consumer representatives, and academic and professional experts to better understand shortcomings, areas for improvement, and the future development direction of digital financial services.
5. **Encouraging employee feedback:** Employees are encouraged to provide feedback on improving service processes, operational methods, and interface design related to digital financial services. In addition, feedback expressed by customers during service interactions—such as difficulties encountered, complaints, praise, or encouragement—is incorporated into ongoing service enhancements.

**(3) Continuous Improvement:** Digital financial service providers should continuously monitor developments in emerging technologies,

methods, and financial markets; understand changes in user needs; and analyze issues and dispute cases arising during service delivery, as well as feedback from stakeholders. Based on these insights, providers should assess the feasibility of innovating or optimizing digital financial services in order to enhance service quality.

**Example scenario:**

To expand its user base and enhance service quality, Electronic Payment Institution B assigned its innovation and development department to continuously monitor the latest domestic and international trends and newly introduced features among electronic payment service providers. Such information was regularly consolidated and shared with relevant departments for their reference. Examples include developments in offline (in-person) payments, the expanded adoption and application of biometric technologies, and potential use cases arising from cross-industry collaborations. In addition, the institution compared newly launched app features offered by other domestic electronic payment providers with its existing functionalities to analyze and assess the feasibility of adding or adjusting app features in the future, thereby continuously developing and optimizing its services.

To further enhance the customer experience and satisfaction, the customer service department conducted quarterly analyses of user demographics—such as age groups, frequency of use, and usage volume—as well as changes in user preferences and needs. The department also consolidated information on complaint cases during the quarter, including root causes, resolution timelines, and customer feedback after resolution. These findings were discussed with relevant departments to identify potential measures for improvement and optimization, or to explore opportunities for designing and developing innovative features. Such efforts aimed at increasing usage frequency, service adoption, and overall user satisfaction.

## 4. Conclusion

Based on materials such as the United Nations (UN) “Transforming Our World: The 2030 Agenda for Sustainable Development,” the World Bank’s “Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19,” and the UN Secretary-General’s Special Advocate for Inclusive Finance for Development report “Igniting SDG Progress Through Digital Financial Inclusion,” these materials indicate that the development and promotion of diversified digital financial services and tools—such as digital payments, digital banking, and digital insurance—can provide financially vulnerable populations, women, farmers, and other groups with greater economic opportunities to escape poverty, increase savings, access social benefits at lower costs, enhance financial resilience, and accelerate progress toward the 17 Sustainable Development Goals set by the United Nations.

“Sustainable development” is one of the FSC’s core policy priorities, and “financial inclusion” is a key cornerstone for advancing sustainable finance. As digital financial services become increasingly integrated into daily life, it is expected that more financial application scenarios will be developed through technology-driven innovation. With these Guidelines, the FSC aims to provide an important reference for digital financial service providers in promoting digital transformation and innovative services. While pursuing operational efficiency and technological advancement, providers are also expected to uphold corporate social responsibility and respond to the diverse needs of various user groups, including digitally disadvantaged users. Examples include the gradual adoption of accessible web design and the achievement and maintenance of an Accessibility Conformance Mark across official portal websites (e.g., public portals, official portals, or government portals) as a long-term objective. By

embedding the core values of digital financial inclusion, the FSC seeks to continuously strengthen public trust and confidence in the financial sector.

Looking ahead, the FSC will continue to collaborate with financial institutions, financial peripheral institutions, and relevant ministries and agencies to respond to social developments and public needs. Through holding reviews where needed and strengthening related policy measures, a human-centric digital financial environment will be created that balances security and convenience.