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Digital Financial Services Consumer Compe- tency Framework

Report of Trust Workstream



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- (2) The Digital ID for Financial Services Working Group (led by the WBG), and
- (3) The Security, Infrastructure and Trust Working Group (led by the ITU).

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Acronyms and Abbreviations

ADB	Asian Development Bank
ADR	Alternative Dispute Resolution
AR	Augmented reality
CGAP	Consultative Group to Assist the Poor
CVV	Card verification value
DFS	Digital Financial Services
GDPR	General Data Protection Regulation
ICT	Information and communications technology
ITU	International Telecommunication Union
KYC	Know your customer
LMIC	Low and middle income countries
P2B	Person to business
P2G	Person-to-government
P2M	Person-to-merchant
P2P	Person to person
PIN	Personal identification number
SDG	United Nations Sustainable Development Goals
SIM	Subscriber identification module
URL	Uniform resource locator
USA	United States of America

Executive Summary

Digital financial services (DFS) has the potential to increase financial inclusion for vulnerable populations, including women and to close the gender gap in access to financial services in low- and middle-income countries (LMICs), which is key to achieving the United Nations Sustainable Development Goals (SDG) – i.e. the fifth goal on gender equality. However, although the number of people with a DFS account has been rising over the years, usage has not kept pace. DFS usage still poses some challenges for consumers. DFS consumers must not only be able to use the new technologies for financial transactions in a secure manner, but also must have the necessary competences to understand the risks and make informed decisions when using digital financial services. This has a direct impact on consumer trust and usage of DFS. Consumer competencies and strong institutional frameworks in times of crises have proven particularly critical. Given the unprecedented shock caused by crises such as COVID-19, across sectors and particularly in DFS, we are witnessing the origination of new types of fraudulent schemes and other issues which may challenge consumer competencies. Today more than ever, consumers and financial authorities worldwide should invest in building strong competencies, so they can manage the shock and navigate the world of DFS more securely and confidently.

DFS Consumer Competency Framework identifies the knowledge, skills and attitudes consumers need to participate actively, safely and have trust in the digital financial services ecosystem. The DFS Consumer Competency Framework is intended for use by public authorities, regulators, DFS providers and policymakers when developing consumer education/training programmes for digital financial services. The DFS Consumer Competency Framework will provide a guidance to policymakers, national regulators and DFS providers when developing consumer awareness and literacy programmes as part of the DFS /Financial Inclusion Strategy. Regulators and DFS providers can pick and choose the skills that are critical and which should be included in their consumer awareness and literacy programmes.

These consumer competency guidelines are in no case meant to substitute the suitability requirements or other obligations of the service provider. The DFS Consumer Competency Framework considers the following DFS transaction process cycle:

- Pre-transaction phase
- Transaction phase
- Post transaction phase.

The DFS Consumer Competency Framework identifies 15 competences across the three phases of the DFS transaction cycle giving a total of 87 knowledge areas, 72 skill areas and 64 proactive attitude steps as shown below.

DFS Transaction Competences Phase	
Pre transaction (CA1)	CA 1.1 Search for information about costs, quality and terms of conditions of the service CA 1.2 Compare information on costs, quality and terms of conditions of the service CA1.3 Evaluate the commercial information provided and suitability for purpose CA 1.4 Manage digital identity and credit profile CA 1.5 Understand how to access digital financial service in a secure manner CA 1.6 Understand what is personal data and the risks to personal data
Transaction (CA2)	CA 2.1 Understand how an electronic payment is initiated using digital channels ¹ and the conditions for the transactions to be completed (i.e. receiver receives payment). CA 2.2 Make payments and accessing finance through digital channels CA 2.3 Understand the terms and conditions of the DFS provider, including costs and risks involved CA 2.4 Manage personal data and privacy CA 2.5 Protect health and safety
Post Transaction (CA3)	CA 3.1 Share information with the service providers (feedback) and other consumers online CA 3.2 Know consumer rights and how to obtain redress CA 3.3 Know the responsible regulator to approach with intractable problems and the mechanism for doing so CA 3.4 Keep up to date on developments in digital financial services

The DFS Consumer Competency Framework also identifies the skills for vulnerable groups (ie women and people with disabilities) to be able to use DFS securely and safely.

These competences are indeed aspirational, but ultimately necessary for all DFS consumers, including the most vulnerable to use DFS with confidence, the appropriate skill set and to be well protected and ultimately financially included. Moreover, while users need to be competent, this should not absolve DFS providers of the responsibility of providing suitable financial products on fair terms and conditions. Similarly, the financial consumer protection legal and regulatory framework must be strong and enforced.

The DFS Consumer Competency Framework is meant to be a living document and should be regularly updated as the services and technology evolve over time.

¹ Includes P2P, P2M, P2B, P2G, Bill Payment, Digital Credit, Digital Insurance, Digital Social Security

1. Introduction

New technologies and the digital provision of payment and other financial services are rapidly changing the landscape of finance in both developed and developing economies. E- money issuers and social media platforms such as WeChat, Alipay and Google, and most recently WhatsApp (in India), have reshaped financial/payment services, leveraging the vast amounts of data they harvest from consumers' online purchases, conversations in form of text, audio and video, emails, social network posts and combining them to deliver new, targeted, frictionless financial services with minimum product development timelines. Similarly, these platforms are a conduit of information for financial consumers.

Whilst DFS innovations offer a great opportunity for expanding financial services to larger numbers of people, especially the financially excluded and women, they also pose some challenges for consumers who must be able to use the new technologies for financial transactions in a secure manner, having the trust and necessary competences to understand the risks and make informed decisions when using digital financial services. DFS implementations have suffered from infrequent end-user usage despite high registration numbers. Active usage depends on many factors; however, one crucial factor is to ensure consumers have the necessary skills and knowledge to use and trust the service.

Moreover, low financial literacy rates globally suggest that more attention needs to be paid to improving DFS competences; and the failure to do so not only puts vulnerable financial consumers and potentially financial systems at risk, but it also makes the job of the financial and telecom regulators more difficult.

The main purpose of this report is to recommend a framework that identifies the core competences that DFS consumers are generally expected to have in order to effectively make use of digital financial services.

DFS Consumer Competency Framework identifies the knowledge, skills and attitudes consumers need to participate actively, safely and have trust in the digital financial services ecosystem. The DFS Consumer Competency Framework is intended for use by public authorities, regulators, DFS providers and policymakers when developing consumer education/training programmes for digital financial services.

2. The DFS Consumer and the role of the regulator in financial literacy

There is no typical DFS consumer. However, financial literacy levels globally, are low. In this regard, financial inclusion rates are almost always significantly higher than financial literacy rates. And, financial literacy levels are particularly low amongst vulnerable populations; including the elderly, youth, females and disabled segments of society. For example, financial literacy levels in developing countries can dip as low as only 5 – 7 percent amongst these segments of the population, which may hinder their ability to adequately identify financial services that best suit their needs. They may also be more susceptible to unfair financial

Just practices and even financial fraud, which is growing exponentially, and increasingly becoming complex and personal, with the rise of social networks. In fact, even in developed economies where financial literacy levels are at their apex; such as in Norway, Denmark and Sweden, financial literacy levels are at about 71 percent of population which is deemed financially literate. Comparatively, this figure drops to 57% in the USA, to 35% in Brazil and to 14% in Albania.²

Yet, financial inclusion figures in all of the above countries easily surpasses financial literacy rates; suggesting consumers may be using financial services they do not understand or not appropriate to their needs, at a price they cannot afford, and terms they cannot understand³, often as a result of mis-selling. An example of worst case scenario of consumers utilizing financial products that they do not understand, is in Andhra Pradesh in 2010 when microcredit borrowers took on multiple short term high interest rate debt, causing a wave of defaults and countless debtor suicides.

In 2019, the Asian Development Bank (ADB) supported the financial sector regulator, Otoritas Jasa Keuangan (OJK) in Indonesia to conduct an assessment of financial behaviour, knowledge, sources of information regarding financial services, and the education/career/life goals of the targeted group which was youth ages 15-30. Over 5,000 youth responded to the online survey and there were also over a hundred face to face interviews and separate focus group discussions to obtain further insights into youth financial behaviour in particular. Results will be published in 2020 and illustrate that youth are very likely to utilize DFS (including for online banking and e-commerce), and tend to be *more* confident in their own competences and knowledge than their actual performance on financial knowledge based questions indicates is the case. For example, a significant percentage of youth did not appreciate the distinction between gross and net income. And a large number of youths failed to recognize the clear signs of a potential financial fraud. On a positive note, over 90% of respondents were very interested to participate in further financial literacy programs, if they were offered in an interactive and engaging manner.

In Kenya, the 2019 FinAccess Household Survey conducted by the Central Bank and the Bureau of National Statistics assessed a combination of awareness, knowledge, skills, attitudes and behaviour necessary to make sound financial decisions and covered some 11,000 households. The main findings of the survey revealed that more males (40.8%) than females (38.7%) make financial decisions on their own. The survey findings highlighted the other emerging areas such as rapid uptake of unregulated digital apps loans, persistent reliance on family and friends for financial services than professional financial advisors, and generally low financial health and literacy.⁴ Moreover, the survey also showed that when it comes to

²<https://www.forbes.com/sites/maggiemcgrath/2015/11/18/in-a-global-test-of-financial-literacy-the-us/#3a7b14e658f0>

³ Customers have a low understanding of the information shared by providers in terms of (1) pricing, (2) terms and conditions, and (3) how their personal data is shared. See, <https://www.microsave.net/wp-content/uploads/2019/09/Digital-Credit-Kenya-Final-report.pdf>

⁴ See <https://www.theguardian.com/technology/2017/mar/03/terms-of-service-online-contracts-fine-print>

computing the interest costs on financial loans, men (48.8%) were more able to compute the interest costs correctly than women (36.9%). At the national level, this figure was 42.7% of the population able to compute the interest cost correctly. When it comes to reading and interpreting transaction costs in an SMS, 58.1% of the population were able to do this correctly and here also more men (63.7 %) were able to make the correct interpretation compared to women (52.2 %).

In fact, research findings by various entities, including the National Bureau for Economic Research as well as the Asian Development Bank survey previously mentioned in Indonesia concluded that financial consumers, in particular, the young and the old are actually over confident of their own financial knowledge and abilities⁵ ; believing their knowledge of the financial services to be more sound than it actually is.⁶ This should be of concern to financial sector regulators in particular because DFS services, by virtue of their digital nature will have greater appeal to digital natives, who are not necessarily financially literate, but who tend to be users of the latest financial apps, including the very popular digital credit and P2P loans and online budgeting services, where consumers share private, sensitive, financial data, without having full understanding of provider's privacy protections (if any)⁷.

Further, a recent CGAP study in East Africa concluded that DFS borrowers tend to be young, urban males who have a high incidence of default (i.e. 31% in Tanzania) and late payment rates of up to 40%. CGAP's study also highlighted that the ease of DFS loans may encourage *gamification* of debt (borrowing and rapidly repaying solely to increase credit scores), as well as outright gambling in a significant percentage of the borrowers surveyed.⁸ This has led to increase in small loan default, and potential financial exclusion, due to having a negative listing by credit bureaus.⁹

Of even greater concern is that, for the bulk of consumers, even when they do possess basic financial literacy, they may not actually be reading the terms and conditions of financial services.¹⁰ In 2016, the ITU conducted a review of 18 different DFS terms and conditions and enumerated various consumer protection and competition law concerns regarding the majority of the agreements reviewed, including illegal limitations on consumers' right to redress¹¹. In the research of Professor Kevin Butler, University of Florida, conducted by reviewing 54 DFS

⁵ However, low confidence has also been recognised as a barrier to use of financial services <https://www.oecd-ilibrary.org/docserver/5k3xz6m88smp-en.pdf?expires=1582712564&id=id&accname=guest&checksum=B9C6503A5B2A561C0953575D7FF582AF>

⁶ <https://www.nber.org/papers/w17107> and ADB Youth FinSights, 2018

⁷ See https://cuts-ccier.org/pdf/survey_analysis-dataprivacy.pdf.

⁸ See <https://www.cgap.org/sites/default/files/publications/Working-Paper-A-Digital-Credit-Revolution-Oct-2018.pdf>

⁹ See <https://www.microsave.net/wp-content/uploads/2019/09/Digital-Credit-Kenya-Final-report.pdf>

¹⁰ See <https://www.theguardian.com/technology/2017/mar/03/terms-of-service-online-contracts-fine-print> CUTS privacy survey revealed that close to 80 percent users do not read privacy policies, primarily on account of length, legalese, and language. See, https://cuts-ccier.org/pdf/survey_analysis-dataprivacy.pdf

¹¹ See https://www.itu.int/en/ITU-T/focusgroups/dfs/Documents/01_2017/ITU_FGDFS_Report-on-Review-of-DFS-User-Agreements-in-Africa.pdf

agreements noted that half of these agreements lacked a data privacy clause whatsoever and another half did not inform the user what data was being collected.¹²

Thus, DFS consumers even if highly financially literate, which is unlikely to be the case¹³ do still require a market conduct regulator to review DFS agreements to ensure fairness and legality of same. Furthermore, because DFS agreements are considered contracts of adhesion, and therefore consumers, even if they disagree with the terms have no real power to negotiate a new agreement with DFS providers. Their only alternative is to not use the service; period.

In short, a high quality, engaging financial literacy program should be integrated into the national education system in an ideal world. Given that this may take a long time, the role of the regulator in defining the core consumer competences for digital financial services becomes all the more critical¹⁴.

¹² See <https://www.usenix.org/system/files/conference/soups2017/soups2017-bowers.pdf>

¹³ CUTS survey on digital payments, wherein 1200 consumers and 800 merchants were interviewed in India found that less educated, females, older, rural, low income consumers are likely to face greater challenges in making digital payments.

¹⁴ Some regulators are taking steps in this regard. For instance, see https://www.rbi.org.in/scripts/BS_PressReleaseDisplay.aspx?prid=49349

3. DFS Consumer Competency Framework

The Framework covers core consumer protection issues in digital financial services, such as fair and transparent information about the service; information about the costs for service; dispute resolution and redress mechanisms, data protection, and payment credentials protection among others.

DFS consumer competences as described in this report combine knowledge, skills, and proactive attitudes. Competences are aligned in line with the European Commission Recommendation of key competences for lifelong learning, which defines competence as the sum of knowledge, skills, and attitudes.

The objectives of the DFS Consumer Competency Framework are to identify the basic competences and skills that will enable consumers to:

- a) Engage in financial transactions using digital channels;
- b) Make informed choices and clearly understand pricing and relevant terms and conditions;
- c) Operate safely and avoid falling victim to fraudulent or deceptive marketing practices;
- d) Understand the risks of failure to protect data privacy in digital financial services;
- e) Engage with grievance redress and recourse mechanisms if things go wrong;
- f) Identify skills that more vulnerable populations may need (e.g women, youth, the elderly and disabled) may need to make informed, safe, confident use of DFS
- g) Identify skills for people with disabilities to make best use of DFS.

Consumers need a set of competences to engage in DFS transactions, to make informed choices, identify and report suspicious products and service providers, to increase their welfare, efficiently enforce their rights, and to have confidence and trust in the digital financial system. Given the rapid pace of change in the DFS landscape, consumers' knowledge, skills and attitudes need continual adjournments.

The DFS Consumer Competency framework goes hand in hand with consumer protection legislation in providing a safe digital financial services experience for all. The intended audience include public authorities, consumer groups, consumer education experts, policymakers, and regulatory agencies, as well as private actors and civil society.

The DFS Consumer Competency Framework considers the following DFS transaction process cycle:

- Pre-transaction phase
- Transaction phase
- Post transaction phase.

For each phase, the competences, the knowledge, skills and proactive attitudes are outlined. The competences identified for each DFS transaction phase is shown in Table 1 below.

DFS Transaction Phase	Competences
Pre transaction (CA1)	<p>CA 1.1 Search for information about costs, quality and terms of conditions of the service¹⁵</p> <p>CA 1.2 Compare information on costs, quality and terms of conditions of the service</p> <p>CA1.3 Evaluate the commercial information provided and suitability for purpose</p> <p>CA 1.4 Manage digital identity and credit profile</p> <p>CA 1.5 Understand how to access digital financial service in a secure manner</p> <p>CA 1.6 Understand what is personal data and the risks to personal data</p>
Transaction (CA2)	<p>CA 2.1 Understand how an electronic payment is initiated using digital channels¹⁶ and the conditions for the transactions to be completed (i.e. receiver receives payment).</p> <p>CA 2.2 Make payments and accessing finance through digital channels</p> <p>CA 2.3 Understand the terms and conditions of the DFS provider, including costs and risks involved</p> <p>CA 2.4 Manage personal data and privacy</p> <p>CA 2.5 Protect health and safety</p>
Post Transaction (CA3)	<p>CA 3.1 Share information with the service providers (feedback) and other consumers online</p> <p>CA 3.2 Know consumer rights and how to obtain redress</p> <p>CA 3.3 Know the responsible regulator to approach with intractable problems and the mechanism for doing so</p> <p>CA 3.4 Keep up to date on developments in digital financial services</p>

¹⁵ This is particularly relevant given that a number of such services have terms and conditions that require the person to click on a link to accept them and move to the next stage (e.g. digital credit products). Most low income DFS consumers do not have the benefit of reviewing these terms and conditions as they do not have smart phones, or else they do not grasp the importance of reading and understanding the

¹⁶ Includes P2P, P2M, P2B, P2G, Bill Payment, Digital Credit, Digital Insurance, Digital Social Security

Table 1: Competences for each DFS transaction phase

3.1 Pre-transaction Phase

The competences for the pre-transaction phase are as follows:

1.1 Search for information about cost, quality and terms of conditions of the service	
To search for and access information related to digital finance. To know where to obtain the information needed regarding the various cost (direct and indirect) options for a DFS provider service and the terms and conditions of the service.	
Knowledge area	<p>CA1.1-K1 Recognize that consumers should understand the exact costs (both direct and indirect) an affordability for using the service if they want to bear these costs before engaging in the transaction. [For gender sensitivity: Include also information about the relevance of the digital financial inclusion service product.]</p> <p>CA1.1-K2 Understand that they need to read, watch, listen and comprehend the DFS provider terms and conditions, including steps to use before accepting to use the service</p> <p>CA 1.1-K3 Differentiate the selected product from similar products.</p> <p>CA 1.1-K4 Understand the audio or visual medium used for advertising the product or service.</p>
Skills area	<p>CA1.1-S1 Know how to identify the costs for using the service</p> <p>CA1.1-S2 Know whether the terms and conditions stated are fair to consumers and legislation in place</p> <p>CA 1.1-S3 Know how to compute the cost of the service.</p> <p>CA 1.1-S4 [For gender sensitivity: Know the range of financial products and services women can access from the DFS provider]</p>
Proactive steps	<p>CA1.1-P1 Search for information about the costs for the service in the appropriate locations.</p> <p>CA1.1-P2 If unsure, contact the DFS provider consumer information contact to obtain relevant information or if necessary, the appropriate regulator.</p> <p>CA1.1-P3 Contact other users of the DFS service to confirm the cost and terms of conditions.</p> <p>CA1.1-P4 Take advice from consumer advocacy organizations about costs, terms and conditions and service provision of service provider</p> <p>CA1.1-P5 Searching and analysing different DFS options and comparing them with available savings and desired objective to be met by DFS service providers</p>

1.2 Compare information on costs, quality and terms of conditions of the service

To compare commercial offers using comparison tools, websites and channels and approach authorised intermediaries to obtain appropriate information to compare costs and terms and conditions of different commercial offers.

To compare and critically evaluate information on DFS purchasing terms and conditions.

Knowledge area	<p>CA 1.2-K1 Be aware of one's requirements, goals, financial capability and one's budget for the use of DFS (ex: transaction costs).</p> <p>CA 1.2-K2 Know how exactly much the DFS service will cost, directly and indirectly, based on information provided by the DFS Provider and any laws that require the provider to provide details of the transaction charges prior to the transaction.</p> <p>CA1.2-K3 Know exactly the cost components underpinning the DFS service, including taxes, if any, cost in case of default or delayed repayments, if relevant</p> <p>CA1.2-K4 Know about cost comparison tools available online (apps, portals, sites) and how to use them</p> <p>CA1.2-K5 Recognize that price comparison results may be incomplete, inaccurate or impartial, as they might be influenced by advertising and/or marketing.</p> <p>CA1.2-K6 Understand the DFS provider's obligations, particularly in terms of transparency and providing relevant information, as well as one's own obligations</p> <p>CA1.2-K7 Recognize the key terms and conditions of the DFS service, including the manner in which DFS service provider could use the data shared and knowing when essentials terms are missing from the user agreement (example data protection).</p> <p>CA1.2-K8 Know the range of products and services and how best they can serve their needs flexibly from the DFS provider</p> <p>CA1.2-K9 Know about authorized intermediaries who could provide relevant information to enable comparison</p>
Skills area	<p>CA1.2-S1 Be able to count, read and write numbers and apply basic mathematics.</p> <p>CA1.2-S2 Be able to comprehend audio and video instructions on the conditions of service.</p> <p>CA1.2-S3 Know how to use online price comparison tools that compare quality, price, terms and conditions</p> <p>CA1.2-S4 Able to understand DFS user agreements, terms and conditions of service and legal and pricing terminology</p> <p>CA1.2-S5 Know where to obtain legal aid if agreements are unfair/illegal.</p> <p>CA1.2-S6 Know the rights and responsibilities of the consumer.</p>

<p>1.2 Compare information on costs, quality and terms of conditions of the service</p> <p>To compare commercial offers using comparison tools, websites and channels and approach authorised intermediaries to obtain appropriate information to compare costs and terms and conditions of different commercial offers.</p> <p>To compare and critically evaluate information on DFS purchasing terms and conditions.</p>	
	<p>CA1.2-S7 Know how to approach authorised intermediaries to obtain additional information and necessary clarifications</p>
Proactive steps	<p>CA1.2-P1 Actively compare offers from different DFS providers so as to make informed choices</p> <p>CA1.2-P2 Critically evaluate the reliability, impartially and accuracy of the information on comparison websites and other channels.,</p> <p>CA1.2-P3 Access competent and professional advice and assistance preferably from an independent third party when needed (for example, Consumers group)</p> <p>CA1.2-P4 Approach intermediaries to get complete and relevant information about terms and conditions of different service providers.</p>

<p>1.3 Evaluate the commercial information provided, and suitability for purpose</p> <p>To critically evaluate different marketing and advertising methods and activities targeting the service. To recognise how advertising and commercial communication can influence one's choices as a consumer.</p>	
Knowledge Area	<p>CA1.3-K1 Understand that the preferred service is suitable for consumer's purpose and budget.</p> <p>CA1.3-K2 Be aware that the commercial offer might be subject to different marketing and advertising methods to influence and stimulate purchase.</p> <p>CA1.3-K3 Be aware of hidden charges and fees by other names and penalties.</p> <p>CA1.3-K4 Be aware that personal data may be collected and for what purpose even if the service is provided free of (direct) charges.</p> <p>CA1.3-K5 Be aware that the advertised pro (including appearance and content) may be different from actual product on sale.</p> <p>CA1.3-K6 Be aware of applicable regulations and policies regarding marketing and advertising methods, terms and conditions, charges and fees</p>
Skills Area	<p>CA1.3-S1 Identify whether the commercial information and its provider are reliable</p> <p>CA1.3-S2 Distinguish commercial messages from unbiased consumer information</p>

1.3 Evaluate the commercial information provided, and suitability for purpose

To critically evaluate different marketing and advertising methods and activities targeting the service. To recognise how advertising and commercial communication can influence one’s choices as a consumer.

	<p>CA1.3-S3 Be aware of gender bias in advertisement</p> <p>CA1.3-S4 Be able to identify digital Ponzi schemes (Unsolicited Digital Investment Schemes), false statements, and omission of important facts or misleading information by the provider, including legislation which condone such schemes</p> <p>CA1.3-S5 Be able to identify the fundamental benefits and risks of the product or service.</p> <p>CA1.3-S6 Be able to identify terms and conditions which are too good to be true, i.e. offering exemplary returns within a short duration.</p> <p>CA1.3-S7 Keep regular and updated records of income and expenditure, compare these records on a regular basis, and savings available</p> <p>CA1.3-S8 Establish short, medium and long term goals to be met by DFS considering the financial situation of the consumer</p>
Proactive Steps	<p>CA1.3-P1 Be critical towards targeted advertising practices and being aware they may be misleading or gender biased</p> <p>CA1.3-P2 Base purchasing choices on information that is needed, rather than generated by targeted advertisement, and on genuine user requirements and needs</p> <p>CA1.3-P3 Check the contract for the DFS provider’s and consumer’s liability in case of fraud and security measures implemented to protect financial services transactions and consumer data.</p> <p>CA1.3-P4 Be critical and aware that abuse of fees and charges attracts sanctions.</p> <p>CA1.3-P5 Be able to contact the DFS provider for further clarification on the commercial information.</p> <p>CA1.3-P6 Check the contract and regulatory provisions for consumer rights and obligations¹⁷.</p>

¹⁷ This will also include grievance redress measures and particularly the timeframe within which DFS fraud needs to be reported to avoid consumer liability.

1.4 Manage digital identity and credit profile

To understand what a digital identity is and how it can be used for KYC purposes and how it enables the consumer to access DFS securely. To understand that one’s credit profile as a digital consumer can be built, modified, manipulated and exploited, and thus needs to be regularly reviewed. To manage the data that one generates through their DFS transactions.

Knowledge area	<p>CA1.4-K1 Know that digital identity data is analyzed for marketing purposes and knowing which kind is processed using certain services (ex: geolocation data)</p> <p>CA1.4-K2 Be mindful of one’s digital footprint and reputation and understanding the benefits and risks of having several online profiles.</p> <p>CA1.4-K3 Understand the importance of protecting login credentials against identity/privacy and security theft. [For gender sensitivity: Explain why it is important for women to own their own mobile device for DFS]</p> <p>CA1.4- K4 Understand what digital identity and the general KYC requirements in DFS space is.</p> <p>CA1.4- K5 Know the benefits and risks for being a digital consumer, where your digital identity is captured by the DFS provider.</p>
Skills area	<p>CA1.4-S1 Use digital tools available to create, manage, or delete one’s online profile from a commercial platform</p> <p>CA1.4-S2 Remember that pricing discrimination can occur based on gender and digital identity data available online.</p> <p>CA1.4-S3 Be able to determine if the credit being offered is actually needed or not.</p> <p>CA1.4-S4 Be able to securely protect your login credential and digital identity from fraudulent service providers.</p> <p>CA1.4-S5 Use privacy and data protection tools for securing online information and data¹⁸</p>
Proactive steps	<p>CA1.4-P1 Claim one’s rights¹⁹, and be aware of online tracking, such as incognito search.</p> <p>CA1.4- P2 Take active steps to review one’s digital profile and make necessary correction, if required.</p> <p>CA1.4- P3 Ensure that terms and conditions on usage of digital profiles by DFS providers are clearly stated to consumers.</p>

¹⁸ Be aware that in digital identity data falls in hands of miscreants, it can be utilized to harm the user.

¹⁹ Such as the right to anonymity and/or right to be forgotten, right to purpose limitation, right to portability, and right to know how one’s data is utilized.

1.5 Understand how to access digital financial service in a secure manner.

To understand how to use DFS services securely and protect oneself from online threats. To understand the risks of disclosing login credentials and how to manage them in a secure manner.

Knowledge area	<p>CA1.5-K1 Know how to recognize and detect fraudulent emails, (phishing, vishing and social engineering scams) and calls.</p> <p>CA1.5-K2 Know not to disclose login credentials to third parties to help perform transactions</p> <p>CA1.5-K3 Know how to protect the mobile phone used for DFS transactions, including protection against SIM swaps.</p> <p>CA1.5-K4 Know the risks and dangers that come when transacting online and using digital financial services.</p> <p>CA1.5-K5 Know basic good practices to prevent common types of cyber threats.</p> <p>CA1.5-K6 Know how to use multifactor authentication and biometrics and why they are safer for accessing DFS (may not be applicable in all countries²⁰)</p>
Skills Area	<p>CA1.5-S1 Evaluate one’s phone security feature/detect weak security features²¹ .</p> <p>CA1.5-S2 Assess the DFS platform and make sure it is safe and secure.</p> <p>CA1.5-S3 Manage different usernames and passwords for login to one’s online profile and access different digital services, and avoid use of the same password for multiple online services²².</p> <p>CA1.5-S4 Apply critical thinking when receiving social engineering scam (i.e.: recognizing the methods used by scammers)²³.</p> <p>CA1.5-S5 Do not leave money with agents to carry out transactions on their behalf²⁴.</p> <p>CA1.5-S6 Do not engage with SMishing emails or messages– i.e. use of phone calls or SMS to gather personal information such as account details, PINs or passwords or other consumer identification details.</p> <p>CA1.5-S7 Use multifactor authentication and biometrics for accessing digital financial services</p> <p>CA1.5-S8 Protect your biometric</p>

²⁰ Not all countries have mandated use of biometrics and multi factor authentication.

²¹ e.g. Access to phone should be secured by either password or biometric to prevent someone else from using it to perform unauthorised financial transactions.

²² Do not share the one-time passwords or CVV of cards with anyone.

²³ Do not share any personal information with anyone, do not click on any suspicious links sent by anyone.

²⁴ When the network is down, consumers sometimes leave money with agents to carry out the transaction later. This can leave customers open to agent fraud, if the agent instead keeps the money.

1.5 Understand how to access digital financial service in a secure manner.

To understand how to use DFS services securely and protect oneself from online threats. To understand the risks of disclosing login credentials and how to manage them in a secure manner.

Proactive steps	CA1.5-P1 Set strong passwords which are changed frequently CA1.5-P2 Engage with reputable and trusted DFS providers CA1.5-P3 Secure devices (lock screen) when not using one's device and setting passwords to prevent unauthorised access to financial app CA1.5-P4 Customize privacy settings on one's online accounts CA1.5-P5 Dismiss agents asking for customers' PIN and pull out of the transaction as necessary CA1.5-P6 Check financial statements regularly CA1.5-P7 Using SMS update facility
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1.6 Understand what is personal data and the risks to personal data

To understand how data will be used. To understand the risk related to sharing personal information, and protect oneself and others from risks.

Knowledge Area	CA1.6-K1 Know that data is a valuable source of information which might be subject to theft and can cause potential harm to the individual. CA1.6-K2 Know that data can be collected and shared without the authorization from the individual and might be used for a different purpose than the one initially stated CA1.6-K3 Know not to disclose any personal information to anyone. CA1.6-K4 Know that personal data can be sold and used by third parties for targeted marketing. CA1.6-K5 Know your rights under existing data protection and privacy laws. CA1.6 -K6 Know what personal data will be collected by the DFS provider and the implications.
Skills Area	CA1.6-S1 Understand what data is being collected, how it will be used, and what choices one's have regarding such use, how long the information will be retained and whether the data will be disclosed to third parties, and how users can enforce their rights. CA1.6-S2 Understand what informed consent is, how and when to consent and how it can be withdrawn ²⁵ .

²⁵ Customers are clearly and effectively informed of what data will be collected and how it will be used, prior to its collection and use, and are given the option to consent or not.

1.6 Understand what is personal data and the risks to personal data	
To understand how data will be used. To understand the risk related to sharing personal information, and protect oneself and others from risks.	
	<p>CA1.6-S3 Understand that data (such as financial data) can be collected and result in the provision (or not) of DFS. [For gender sensitivity: Understand that such inferences can be gender biased and therefore condition the access of women to DFS].</p> <p>CA1.6 -S4 Understand the extent to which customer data will be shared with third party service providers.</p>
Proactive steps	<p>CA1.6-P1 Make informed choice based on the evaluation of the risks to personal data.</p> <p>CA1.6-P2 Responsibly protect one’s and other’s personal data when using DFS</p> <p>CA1.6–P3 Deny the DFS provider from collecting sensitive information not necessary for the service being offered.</p> <p>CA1.6–P4 Critically evaluating what information are you share.</p>

3.2 Transaction Phase

The competences for the transaction phase are as follows:

2.1 Understand how an electronic payment is initiated using digital channels²⁶, and the conditions for the transactions to be completed (ie receiver receives payment).	
To understand the role and responsibility of all stakeholders involved in the transaction chain	
Knowledge area	<p>CA2.1-K1 Be aware of the various digital channels available/different payment methods [For gender sensitivity: Include also information about the importance of mobile phones for bridging financial inclusion gap and why it is important for women to own their mobile device.]</p> <p>CA2.1-K2 Understand the breakdown of the electronic payment transaction and its agents (i.e. understand one’s role in the chain)</p> <p>CA2.1-K3 Understand that consumer assets including deposits require appropriate controls/insurance</p> <p>CA2.1-K4 Understand what digital tools can help persons with disabilities access financial services</p> <p>CA2.1-K5 Understand the entire process of initiating DFS transaction on the digital platform</p> <p>CA2.1-K6 Be aware that the amount may be transferred following a delay.</p>

²⁶ i.e. P2P, P2M, P2B, P2G, Bill Payment, Digital Credit, Digital Insurance, Digital Social Security

2.1 Understand how an electronic payment is initiated using digital channels²⁶, and the conditions for the transactions to be completed (ie receiver receives payment). To understand the role and responsibility of all stakeholders involved in the transaction chain	
	CA2.1-K7 Be aware of the role of intermediaries in the transaction, and the commission they are authorised to charge to enable the transaction
Skills area	CA2.1-S1 Be able to register and set up an account for such transaction CA2.1-S2 Be able to follow the various steps of the transaction CA2.1-S3 Be able to check if the transaction has been successfully completed CA2.1-S4 Verify that commissions that are charged are as advertised CA 2.2-S5 Accessibility – understand how to use a mobile phone with braille keys and accessibility features on smartphones. CA 2.2-S6 Accessibility – Be able to use a multi-lingual chatbot that leverages augmented reality (AR) technology to help persons who can't read or understand written materials²⁷. CA2.1-S7 Be able to select the most convenient and affordable DFS product available.
Proactive steps	CA2.1-P1 Verify receipts and statements, particularly the amount transacted, and the accounts involved. CA2.1-P2 Verify whether transactions were correctly completed, and the correct amount of funds were transferred to the appropriate account. CA2.1-P3 Verify the final cost of the product before accepting or activating the transaction.

2.2 Carry out DFS transactions securely To safely make e-payments and use digital financial services.	
Knowledge Area	CA2.2-K1 Know that digital channels allow to access bank accounts and payment services anytime, anyplace, including in the absence of internet connection. CA2.2-K2 Know how to make a financial transaction using the mobile phone in a secure manner. CA2.2-K3 Know the security risks of using DFS.

²⁷ Using the app, a user can hold their phone over a brochure that details available financing options, for example, and the virtual assistant will pop up and prompt a conversation in the local language to explain the material. The intuitive interface and simplicity of use makes it accessible to people with a wide range of abilities and can result in better engagement

2.2 Carry out DFS transactions securely

To safely make e-payments and use digital financial services.

	<p>CA2.2-K4 Know the security features of and threats to both feature phones and smartphones</p> <p>CA2.2-K5 Know how to use a digital wallet for financial transactions.</p> <p>CA2.2-K6 Know the benefits of multi factor authentication in DFS and why it is more secure.</p> <p>CA2.2-K7 Know what security software should be installed on the mobile device to secure DFS payments where smartphones are being used</p> <p>CA.2.2-K8 Know what are the common digital financial services, their risks and the benefits.</p> <p>CA.2.2-K9 Know what features a crowdfunding platform provides and how to use it [For gender sensitivity: Include information about crowdfunding platforms for women and women entrepreneurs and their services]</p> <p>CA2.2–K10 Know what a strong password is.</p> <p>CA2.2–K11 Know the ability to preschedule/ automate financial payments, benefits and risks in doing so.</p> <p>CA2.2-K12 Differentiate between a legitimate DFS application and a fake application.</p>
Skills Area	<p>CA2.2-S1 Use multi factor authentication and biometrics for effecting DFS transactions safely.</p> <p>CA2.2-S2 Be able to recognise social engineering attacks for obtaining user login credentials and personal information.</p> <p>CA2.2-S3 Be able to recognise fraudulent messages related to DFS and phishing attacks, including messages requiring clicking on suspicious links²⁸.</p> <p>CA2.2-S4 Be able to recognise that the payment is secure²⁹.</p> <p>CA2.2-S5 Be able to challenge a payment and obtain reimbursement or compensation in case of fraudulent use.</p> <p>CA 2.2-S6 Be able to use an array of DFS and know the benefits thereof³⁰. [For gender sensitivity: Include also information about how to use digital financial service platforms for managing savings and control of money to run their households and business.]</p>

²⁸ Activate the facility of receiving SMS updates of financial transactions and being able to block suspicious transactions

²⁹ Payment data is encrypted only if the URL address contains “https” instead of “http” and there is the closed padlock security sign.

³⁰ Such as access to finance to pay bills, access to credit, payment services, budgeting tools, and insurance.

2.2 Carry out DFS transactions securely To safely make e-payments and use digital financial services.	
	CA2.2–S7 Be able to change login credentials if consumer suspects security breach/compromise.
Proactive steps	CA2.2-P1 Minimize risks related to the use of DFS, including financial risks. CA2.2-P2 Use multifactor authentication if available CA2.2-P3 Read about the types of security measures used in DFS for consumers to protect their mobile devices and ensure integrity of the financial services transactions. CA2.2–P4 Read about the rights and responsibilities of both the DFS provider and consumer in the DFS regulations. CA2.2–P5 Aborting transactions in case of suspicion and utilising appropriate grievance redress and recourse mechanism

2.3 Understand the terms and conditions of the DFS provider, including costs and risks involved Understand the duties, rights, roles and responsibilities of the two parties (customer/provider)	
Knowledge Area	CA2.3-K1 Understand that agreeing to the terms and conditions is legally binding CA2.3-K2 Understand that one’s legitimate interests should be taken into account and dealt fairly and equitably. CA2.3-K3 Understand the rights and responsibilities of both DFS provider and consumer in respect of the service. CA2.3-K4 Understand the responsibility of service provider to clearly state and explain terms and conditions to consumers
Skills Area	CA2.3-S1 Be able to understand the economic consequences of the contract terms and the affordability. CA2.3-S2 Be able to identify fair and unfair contractual terms CA2.3-S3 Be able to compare the product on sale with the advertised information.
Proactive steps	CA2.3-P1 Review carefully the terms and conditions prior to consent CA2.3-P2 Seek ways to opt out of an agreement CA2.3-P3 Maintain awareness of the rights and responsibilities of minors.

2.3 Understand the terms and conditions of the DFS provider, including costs and risks involved

Understand the duties, rights, roles and responsibilities of the two parties (customer/provider)

	<p>CA2.3-P4 Contest an incorrect bill.</p> <p>CA2.3-P5 Register a consumer complaint.</p> <p>CA2.3-P6 Do not allow any undue pressure.</p> <p>CA2.3-P7 Seek for consumer compensation upon poor delivery by service provider.</p>
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2.4 Manage personal data and privacy

To protect one’s personal data and privacy. Know that DFS providers should have a privacy policy to inform what personal data is collected, for what purpose and how personal data is used and whether the consumer is given the option to consent or not on the data that is being collected and/or being transferred to third parties.

Knowledge Area	<p>CA2.4-K1 Know that data settings can be adjusted</p> <p>CA2.4-K2 Be aware of regulations in one’s jurisdiction regarding privacy and data protection (e.g. GDPR in Europe) exist and offer protection.</p> <p>CA2.4-K3 Know that choosing “I accept” to a Privacy Policy may mean that one agrees to the sale of one’s personal data.</p> <p>CA2.4-K4 Know how to find out how personal data are being used by third parties</p> <p>CA2.4-K5 Be aware that different countries may have different data protection rules and if personal data is being collected, processed and stored outside the country of where the consumer resides, that the data protection rules may differ</p> <p>CA2.4-K6 Know which authority in the country is responsible for data protection and can provide advice to consumers</p> <p>CA2.4-K7 Know which measures to take to protect and manage personal data and privacy to avoid fraud</p>
Skills Area	<p>CA2.4-S1 Be able to change one’s privacy settings.</p> <p>CA2.4-S2 Review privacy policy and identifying key terms about personal data use and whether personal data are being sold or shared with third parties.</p> <p>CA2.4-S3 Verify the security provided by the DFS providers with regards to personal data</p> <p>CA2.4-S4 Be able to identify privacy policy terms that are a threat to data privacy.</p> <p>CA2.4-S5 Verify whether data collected is being protected in line with the requirements of existing data Protection Laws.</p>

2.4 Manage personal data and privacy

To protect one's personal data and privacy. Know that DFS providers should have a privacy policy to inform what personal data is collected, for what purpose and how personal data is used and whether the consumer is given the option to consent or not on the data that is being collected and/or being transferred to third parties.

Proactive steps	<p>CA2.4-P1 Check the DFS provider Privacy Policy before carrying out transactions and be responsible for protecting one's personal data when using DFS.</p> <p>CA2.4-P2 Seek the means to opt out of the sharing or sale of one's data sold.</p> <p>CA2.4-P3 Utilize the option to disable irrelevant data collection and sharing, if provided by the service provider, and not accept the default option of sharing all kinds of data.</p>
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2.5 Protecting health and safety

To understand and avoid physical and psychological health and safety risks related to the use of DFS

Knowledge Area	<p>CA2.5-K1 Understand that abuse of DFS can lead to negative consequences³¹.</p> <p>CA2.5-K2 Protect oneself against abuse from fraudulent DFS offers.</p> <p>CA2.5-K3 Be aware that fraudulent DFS offers may lead to financial loss and may cause severe harm to one's health.</p> <p>CA2.5-K4 Be aware of the risks associated with children's access to DFS, and the necessity to safeguard their access to DFS (child online protection).</p> <p>CA2.5-K5 Understand or know the implications of using unhealthy products.</p>
Skills Area	<p>CA2.5-S1 Monitor children's devices</p> <p>CA2.5-S2 Monitor one personal's purchasing behaviour in view one's financial capabilities.</p> <p>CA2.5-S3 Monitor and use passwords to prevent children or an authorized person from accessing or using sensitive or dangerous products and services.</p>
Proactive steps	<p>CA2.5-P1 Be vigilant regarding one's purchasing behaviours and evaluating the effects of merchandising on wellbeing.</p> <p>CA2.5-P2 Be watchful of one's surroundings when conducting a DFS transaction</p> <p>CA2.5-P3 Set up parental control and restricted access to DFS for minors</p>

³¹ Such as addictive behaviours, gambling, over indebtedness etc.

2.5 Protecting health and safety

To understand and avoid physical and psychological health and safety risks related to the use of DFS

CA2.5-P4 Be able to contact DFS or consumer protection body on issues of health and safety.

3.3 Post-Transaction Phase

The competences for the post-transaction phase are as follows:

3.1. Share information with the service providers (feedback) and other consumers online

To share reviews, knowledge, advice and experiences in digital financial services

Knowledge area	CA3.1-K1 Know how to find sites, communities and social media groups where consumers help one another to resolve problems with DFS. CA3.1-K2 Know how to find trustworthy websites that provide advice on DFS recognizing that the information should be verified. CA3.1-K3 Understand that information can be shared anonymously through digital profiles. CA3.1-K4 Know the process of sharing information via websites and social media. CA3.1-K5 Know your rights and responsibilities of sharing information on websites and social media.
Skills area	CA3.1-S1 Share experiences, provide advice to fellow consumers on social media, digital platforms, through forum, online rating etc. CA3.1-S2 Evaluate the information shared by peers and judging the value of the content to share and target audience to share it with.
Proactive steps	CA3.1-P1 Be active in sharing one's opinion about a service. CA3.1-P2 Evaluate the reviews shared by other consumers. CA3.1-P3 Connect with additional knowledge resources through consumer advocacy organizations.

3.2. Know consumer rights and how to obtain redress

To know one's rights and responsibilities as a consumer. To assert one's rights after making a purchase. To know how to solve problems and disputes

Knowledge Area	CA3.2-K1 Know about specific consumer rights that apply to DFS. CA3.2-K2 Know the rights to cancel a DFS transaction. CA3.2-K3 Recognize the importance of accepting terms and conditions and the consequences they may have.
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<p>3.2. Know consumer rights and how to obtain redress To know one’s rights and responsibilities as a consumer. To assert one’s rights after making a purchase. To know how to solve problems and disputes</p>	
	<p>CA3.2-K4 Know that consumers have access to a variety of channels to make complaints such as toll free numbers, local agents, social media, and branches as well as the regulator(s) and possibly small claims courts or financial ombudsman etc.</p> <p>CA3.2-K5 Know that different types of redress options are available³².</p> <p>CA3.2-K6 Know how to use consumer complaint service tools, such as chat box.</p> <p>CA3.2-K7 Comply with dispute resolution timelines and process.</p>
Skills Area	<p>CA3.2-S1 Use applicable consumer protection laws and exercising one’s consumer rights.</p> <p>CA3.2-S2 Know how to find information for redress and be aware of consumer rights for redress.</p> <p>CA3.2-S3 Be able to write and email or file a form to cancel a purchase or transaction.</p> <p>CA3.2-S4 Be able to discern that the timeframe of how long consumers should wait for a response is reasonable and has been clearly communicated.</p> <p>CA3.2-S5 Be aware of the process and able to report suspected incidences of fraud to their provider or to financial and telecom regulators.</p> <p>CA3.2-S6 Be able to escalate a complaint to the DFS regulator.</p>
Proactive steps	<p>CA3.2-P1 Review regularly account statements/transaction history and notify any discrepancy to the provider</p> <p>CA3.2-P2 Register a consumer complaint if necessary</p> <p>CA3.2-P3 Contact sales service if an online transaction is not desired.</p> <p>CA3.2-P4 Use government agencies, or consumer protection groups, to enforce protection laws</p> <p>CA3.2-P5 Contest an incorrect bill or transaction amount</p> <p>CA3.2-P6 Seek legal aid or advice.</p>

³²For example, consumers who are not satisfied with how their complaint was handled by their provider are able to access alternative or external channels to seek redress. Information on how to use alternative methods should be readily available.

3.3 Know the responsible regulator to approach with intractable problems and the process

Consumer should identify which regulator is responsible for different types of DFS providers and whether there is a complaints window within that authority for dispute resolution. For example, it may be appropriate to go to the Central Bank when one has a complaint about a bank, but there may be a separate regulator responsible for non-bank digital financial services providers.

Knowledge Area	CA3.3-K1 Know of the legal/regulatory framework and responsible authorities per DFS provider. CA 3.3-K2 Be aware of any applicable financial ombudsman or ADR facility, or small claims or other specialized consumer courts CA3.3-K3 Know where and how to access updated information on the DFS products and services.
Skills Area	CA3.3-S1 Effectively advocate one's position, including documenting one's complaints with the appropriate authority. CA3.3-S2 Be able to compare similar products of different DFS providers.
Proactive steps	CA3.3-P1 Actually filing a complaint with the appropriate authority one has a valid dispute with the financial services provider. CA3.3-P2 Contact the appropriate regulator for information about the process for dispute resolution

3.4 Keep up to date on developments in digital financial services

Keeping abreast of the new development in financial service industry to identify new opportunities and benefits

Knowledge Area	CA3.4-K1 Be aware that new developments (new products and services) and new modality of use can improve access and affordability
Skills Area	CA3.4-S1 Compare and evaluate new DFS with existing DFS in search of a costs-benefit approach
Proactive steps	CA3.4-P1 Update oneself on developments in digital finance and understand the new digital financial services that it can enabled, their benefits and potential risks. CA3.4-P2 Contact DFS provider for clarification on new developments in service provision and new terms of service.

4. Conclusion

From the above sections, the DFS Consumer Competency Framework identifies 15 competences which gives rise to a total of 87 knowledge areas, 72 skill areas and 64 proactive attitude steps as summarised in the table below.

DFS Transaction Phase	Number of Competences	Competence ID	Knowledge areas (-K)	Skills areas (-S)	Proactive steps (-P)
Pre-transaction phase (CA1)	6				
		CA1-1	4	4	5
		CA1-2	9	7	4
		CA1-3	6	8	6
		CA1-4	5	5	3
		CA1-5	6	8	7
		CA1-6	6	4	4
		Subtotal	36	36	29
Transaction phase (CA2)	5				
		CA2-1	7	7	3
		CA2-2	12	7	5
		CA2-3	4	3	7
		CA2-4	7	5	3
		CA2-5	5	3	4
		Subtotal	35	25	22
Post-transaction phase (CA3)	4				
		CA3-1	5	2	3
		CA3-2	7	6	6
		CA3-3	3	2	2
		CA3-4	1	1	2
		Subtotal	16	11	13
Total	15		87	72	64

Table 2 : Summary of DFS Consumer Competences

These competences are indeed aspirational, but ultimately necessary for all DFS consumers, including the most vulnerable to use DFS with confidence, the appropriate skill set and to be well protected, and ultimately financially included. We also recognize that engendering the recommended competences may require an intensive national strategy, implementation of which could last a period of years.

Moreover, while users need to be competent, this should not absolve DFS providers of the responsibility of providing suitable financial products on fair terms and conditions. Similarly, the financial consumer protection legal and regulatory framework must be strong and enforced.