

INTERNATIONAL LEGAL PRINCIPLES FOR ENSURING ACCESSIBILITY TO FINANCIAL TECHNOLOGIES AND SERVICES FOR PERSONS WITH DISABILITIES

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Abstract. The article examines the international legal framework for ensuring the accessibility of financial technologies and financial services for persons with disabilities as a component of the implementation of the principles of equality, non-discrimination and financial inclusion. The theoretical and methodological basis of the analysis is human rights and the "accessibility by design" approach. The latter is predicated on the premise that accessibility should not be considered an additional service option, but rather a mandatory standard for designing digital and organisational processes in the financial sector. This text focuses on the United Nations Convention on the Rights of Persons with Disabilities (CRPD), with particular emphasis on the obligations of states to ensure accessibility (including digital), to implement universal design, and to provide "reasonable accommodation" as an individual means of removing barriers. It has been demonstrated that international standards are complemented by a "consumer" dimension through the UN Guiding Principles on Consumer Protection (UNGCP, 2015), which integrate policies of financial inclusion, financial education and effective protection/redress, with a focus on vulnerable consumers, in particular people with disabilities, in the digital environment. The role of Council of Europe standards in prohibiting discrimination and providing effective remedies is outlined, with the aim of reinforcing accessibility requirements as an element of good governance and proportionate regulation. In the applied aspect, typical accessibility barriers in fintech services (identification and authentication, interfaces, accessibility of contracts and disclosure, support channels and dispute resolution) are systematized and it is demonstrated that such barriers often have a "technical" form of indirect discrimination. The conclusion drawn is that there is a necessity to combine international human rights standards with consumer and supervisory mechanisms, and that this should be achieved by the introduction of measurable requirements for the accessibility of digital financial services, mandatory alternative channels for critical user scenarios, accessible information formats and effective complaint procedures. Proposals for implementing standards in national regulation are outlined, including the enshrinement of the principle of "accessibility by design", institutional accessibility audit, staff training, standards for accessible procurement of IT solutions, and monitoring indicators for regulators. *Research methods.* The methodological basis of the study is rooted in formal-legal and comparative-legal methods, encompassing a systematic analysis of international acts and doctrinal approaches, complemented by a functional approach to assessing accessibility through the lens of critical user scenarios in the domain of financial services. The anticipated scientific outcome is to elucidate the content of international accessibility standards in the fintech sphere and to ascertain the directions of their practical application as conditions for ensuring real equality, financial inclusion and effective protection of the rights of persons with disabilities in the digital financial environment. The *purpose of the article* is to provide a comprehensive overview of the international legal principles that ensure the accessibility of financial technologies and financial services for persons with disabilities. In addition, it determines their normative content and practical implications for state policy and financial regulation. In order to achieve the aforementioned goal, the following tasks have been established: The following four points will be

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discussed in this text: 1) an analysis of the basic standards of the UN and the Council of Europe on equality, non-discrimination, accessibility, universal design and reasonable accommodation in the context of digital financial services; 2) an outline of typical "barrier points" in fintech services (identification/authentication, interfaces, accessibility of contracts and information disclosure, support and complaint channels); 3) a substantiation of the "accessibility by design" approach as a legally significant standard; 4) the formulation of recommendations for the implementation of international standards into national regulation, including supervisory mechanisms, requirements for financial service providers and guarantees of effective consumer protection. *Conclusions.* In general, UN and Council of Europe standards establish a clear "matrix" for assessing the accessibility of financial technologies: 1) non-discrimination (prohibition of direct/indirect discrimination; prohibition of refusal to provide reasonable accommodation as a form of discrimination); 2) accessibility as a prerequisite for the realisation of rights (especially in the ICT environment); 3) universal design + individual adaptation as complementary mechanisms; 4) protection of consumers of financial services (transparency, fair practices, inclusiveness, effective legal remedies); 5) digital rights and data protection as a "legal shell" for secure and non-discriminatory digitalisation of finance. In order to ensure the accessibility of fintech services, regulatory mechanisms should be considered as a three-pronged construct, comprising compliance (internal policies and quality control of accessibility according to standards such as WCAG and ISO organisational practices), supervision (external verification, regulations and preventive interventions by the regulator) and liability (sanctions and effective legal remedies, including complaints, compensation and anti-discrimination mechanisms). The Ukrainian regulatory framework already contains key "pillars" for such a model. These include a positive obligation to remove barriers and ensure accessibility of services and information for persons with disabilities, consumer guarantees regarding accessible information, as well as supervisory and sanctioning powers of the NBU in the field of payment services and consumer protection. The logical progression of this system is inextricably linked to the delineation of "accessibility by design" stipulations within secondary legislation, the implementation of periodic supervisory evaluations of client pathways, and the assurance that no component of security becomes an impediment without an alternative that is compatible with human rights and dignity. In order to achieve genuine financial inclusion for persons with disabilities, it is essential that the system be regarded as "complete". This necessitates the consolidation of accessibility by design in sectoral legislation, standards for accessible interfaces and contracts, alternative identification procedures, mandatory staff training, procurement standards for state IT solutions, as well as supervision and accountability based on measurable indicators. In the context of European integration, it is rational to implement these changes through harmonisation with EU approaches (EAA) and simultaneously through the UNGCP as a framework for financial protection of vulnerable consumers in the digital economy.

Keywords: persons with disabilities, accessibility, financial inclusion, fintech, non-discrimination, CRPD, reasonable accommodation, universal design, consumer protection, digital financial services.

JEL Classification: H11, K20, L26, O19, H75

Introduction. The digital transformation of the financial sector, coupled with the rapid development of financial technologies (FinTech), is precipitating a fundamental shift in the manner in which citizens access banking, payment, credit, insurance and social services. It is evident that the gradual emergence of accounts, non-cash payments, electronic money, remote identification, mobile applications of banks and payment institutions, and digital channels for receiving social payments is transforming into the foundational infrastructure for the effective implementation of socio-economic rights. At the same time, digitalisation does not automatically empower persons with disabilities. In the absence of accessible design, alternative communication channels and appropriate support procedures, digitalisation can recreate or strengthen barriers, forming new

manifestations of inequality. This occurs not through direct prohibitions, but through technical and organisational solutions that do not take into account different ways of perceiving, communicating and interacting with services.

The issue of financial technology accessibility is characterised by dual legal dimensions. On the one hand, it is a matter of human rights and anti-discrimination guarantees, where the principles of equality, universal design, ensuring accessibility and providing reasonable accommodation are key. Conversely, accessibility constitutes an indispensable element of safeguarding the rights of consumers of financial services. The designation of a digital financial product as high-quality, secure and transparent is contingent upon the accessibility of its information and key user scenarios (identification, transaction

confirmation, contract signing, seeking support, filing a complaint) to all user groups, including those with disabilities. This underscores the pivotal role of international standards established by the United Nations (UN) and the Council of Europe, which serve as the contemporary framework for non-discrimination and accessibility. These standards are of paramount importance within the context of financial regulation, supervision, and the cultivation of an inclusive digital economy. The relevance of the study is enhanced by the increasing tendency for financial services to be provided "by default" in digital format. The lack of accessibility to such services can be considered a *de facto* restriction of access to funds, payments, credit products, insurance protection and social benefits. In this context, the UN Convention on the Rights of Persons with Disabilities (CRPD) and the UN Guiding Principles on Consumer Protection (UNGCP, 2015) are of particular importance. The CRPD establishes the obligation of states to ensure accessibility, apply universal design, and guarantee reasonable accommodation. The UNGCP highlights the importance of protecting vulnerable consumers in the fields of financial services and digital transactions. The Council of Europe standards, in turn, serve to reinforce the requirements for effective remedies and the prevention of indirect discrimination in access to services of public importance.

1. Research Methodology

1.1. Scientific Analysis of Scholarly Works on the Research Topic

The current state of research on the accessibility of financial technologies and services for persons with disabilities is shaped by three interwoven areas of study: international human rights law, digital accessibility standards, and empirical research on user barriers. The normative "core" consists of the UN Convention on the Rights of Persons with Disabilities and the UN Committee's official interpretations. General Comment No. 2 (2014) establishes the obligation of states and service providers to ensure accessibility in the service environment, including information and communication technology (ICT). General Comment No. 6 (2018) provides a systematic approach to equality and non-discrimination, strengthening the connection between accessibility and the elimination of direct and indirect discrimination. At the national level, the legal framework for addressing the issue is reflected in the legislative regulation of the financial services market, as outlined in the Law of Ukraine "On Financial Services and Financial Companies", as well as in the research of Ukrainian scholars examining the administrative and

legal mechanisms for adapting banking services for individuals with disabilities (Kuzmenko, Chorna, Kozhura, 2024). In parallel, a variety of technical and standard sources have been developed to determine how accessibility is implemented in digital products. These sources include W3C/WAI materials on the concept of web accessibility, the relationship between accessibility and usability/inclusion, and the typology of barriers and user abilities, as well as ISO 9241-11, which addresses usability as a measurable quality of interaction. In the research literature on software engineering and HCI, the problem is revealed through large-scale reviews of typical accessibility defects in mobile applications (Alshayban, Ahmed, Malek, 2020), analysis of the quality and applicability of mobile accessibility guidelines (Ballantyne et al., 2018), as well as through industry cases in the financial sector. For example, assessing the accessibility of mobile banking applications for blind and visually impaired users (Alayed) and studying authentication barriers in customer services for deaf and hard of hearing people (Andrew et al., 2023).

At the same time, despite the existence of a robust international regulatory framework and technical recommendations, notable gaps remain: the regulatory mechanisms for ensuring accessibility in fintech, such as compliance, supervision, liability, IT solution procurement standards, and contract and information disclosure requirements in accessible formats, are insufficiently researched and formalised, as is their coordination with anti-discrimination obligations and consumer financial services rights protection. For Ukraine, a discrete research task is the transition from general norms and declarations to operational requirements of "accessibility by design" and measurable criteria for controlling the accessibility of digital financial services in law enforcement practice.

1.2. Methodological Features of the Study

This text concerns the general methods of scientific research. Firstly, the dialectical method was employed, thus enabling the revelation of the relationship between the digitalisation of the financial sector and the transformation of mechanisms for the implementation of the rights of persons with disabilities. Furthermore, the contradictions between technological innovation and the actual inaccessibility of individual digital solutions were exposed.

Secondly, analysis and synthesis were used to identify key regulatory requirements (non-discrimination, accessibility, universal design, reasonable accommodation) and to generalise them into a holistic system of legal standards for financial services.

Thirdly, inductive and deductive reasoning were employed to traverse the divide between individual practical cases of inaccessibility (identification/authentication, interfaces, documents, support) and general conclusions about regulatory gaps. This was achieved by establishing a bridge from general international principles to specific requirements for fintech providers.

Fourthly, a systemic approach was implemented, enabling the consideration of accessibility as a component of a comprehensive model encompassing human rights, consumer protection, financial inclusion and supervision/accountability.

Fifthly, a logical-legal method was employed to elucidate concepts and terms (accessibility, non-discrimination, indirect discrimination, reasonable accommodation, universal design, financial inclusion) and ensure internal consistency of the argumentation.

The utilisation of specialised, legal and interdisciplinary methodologies is imperative. The formal-legal (dogmatic) method was identified as the key to interpreting the norms of international acts and "soft law" documents (in particular, the CRPD and the General Comments of the UN Committee), as well as to determining the scope of positive obligations of states and financial service providers. The method of international legal analysis of sources was employed, a process which facilitated the establishment of the legal nature of the documents in question (treaty, general comment, recommendations/standards) and their role in the formation of standards of conduct. The comparative legal method was utilised to analyse the approaches adopted by the UN system, the Council of Europe, and technical standards (W3C/WAI, ISO). This approach enabled the identification of common principles and the distinction between mechanisms for ensuring accessibility. The method of legal modelling was employed, within the framework of which proposals were formulated for the implementation of the "accessibility by design" principle in national financial regulation (requirements for interfaces, contracts, alternative channels, complaint procedures, compliance and supervision). A functional method was separately applied, which allowed assessing accessibility through critical user scenarios of financial services (account opening, KYC/authentication, transaction confirmation, obtaining information about risks, contacting support). In order to empirically strengthen the argument, the method of analysing scientific publications and cases (literature review) in the field of HCI and software engineering was used, which highlights typical accessibility defects in mobile applications and authentication problems for different user groups.

2. International Legal Framework and Principles of Financial Technology Accessibility

2.1. UN Standards: CRPD as a "Framework" of Equality, Non-Discrimination and Accessibility

The foundational document in the realm of the rights of persons with disabilities is the UN Convention on the Rights of Persons with Disabilities (CRPD), which establishes an approach according to which disability is not regarded as a health problem, but rather as the result of a person's interaction with barriers in the environment, information, and services. In the context of access to financial technologies (hereinafter referred to as fintech), the state and the involved entities are under an obligation not only to formally prohibit discrimination, but also to restructure rules and practices so that financial services are actually accessible and suitable for use by different groups of people. In fact, the CRPD in Art. 5, the Convention on the Rights of Persons with Disabilities (2009) directly obliges states to prohibit discrimination on the basis of disability and to guarantee equal and effective legal protection.

It is important that the CRPD establishes an understanding of modern accessibility policy at the level of definitions, covering universal design and reasonable accommodation. Universal design, on the other hand, focuses on the creation of products, environments and services that are usable by the widest possible range of users without the need for specialised adaptation. Reasonable accommodation, meanwhile, refers to necessary and appropriate modifications and adjustments in a specific situation, as long as they do not impose a disproportionate or excessive burden, to ensure the equal enjoyment of rights.

2.2. The Principle of Equality and "Reasonable Accommodation" as a Legal Standard of Non-Discrimination

The UN Committee on the Rights of Persons with Disabilities, in its General Comment No. 6 (2018) (Committee on the Rights of Persons with Disabilities, 2018) to Article 5 of the CRPD (Convention on the Rights of Persons with Disabilities, 2009), clarifies that equality and non-discrimination are not just "equal treatment", but the State's obligation to ensure equality of opportunity and outcome where barriers make formal equality illusory. The Comment also emphasises that refusing reasonable accommodation is considered a form of discrimination. In other words, the right to accommodation is mandatory by law and cannot be considered a "charitable option".

In the context of fintech, this approach is subject to two levels of obligations. The first of these is systemic in nature and involves the removal of typical barriers (inaccessible mobile application interfaces, unsuitable contract formats, inaccessible support channels). In this context, V.G. Chorna and O.V. Kuzmenko emphasise the following: "The task set by the Government in the Action Plan to implement the recommendations set out in the concluding observations provided by the UN Committee on the Rights of Persons with Disabilities to the first report of Ukraine on the implementation of the UN Convention on the Rights of Persons with Disabilities for the period up to 2020, approved by the order of the Cabinet of Ministers of Ukraine dated December 28, 2016 No. 1073-p, on amending the Procedure for selecting banks through which pensions, cash benefits, payments under mandatory state social insurance and wages to employees of budgetary institutions are paid, approved by the resolution of the Cabinet of Ministers of Ukraine dated September 26, 2001, No. 1231, on ensuring that banks that apply for the payment of pensions and cash benefits with the consent of pensioners and recipients of assistance, provide accessibility conditions for persons with disabilities, has remained unfulfilled" (Kuzmenko, Chorna, Kozhura, 2024).

The second is individual, and it provides a specific person with an effective alternative method of access (for example, the ability to confirm a transaction without purely visual CAPTCHAs; accessible statement format; communication in sign language, subtitles or text channel; alternative authentication if biometrics or one-time codes are not available). The CRPD eliminates the typical problem of formally identical digital rules actually excluding some users by introducing such a "double" standard.

2.3. Accessibility and Universal Design of Financial Technologies for Persons with Disabilities

The CRPD identifies accessibility as a prerequisite for the realisation of all other rights. In art. As outlined in the Convention on the Rights of Persons with Disabilities (2009), nine states are obligated to implement suitable measures to guarantee access for persons with disabilities to the physical environment, transportation, information and communications, including information and communication technologies (ICT), as well as to other facilities and services provided to the population.

This approach is outlined in General Comment No. 2 (2014) on accessibility. The Committee emphasises that accessibility should be considered "proactive" in nature, meaning it should be built in advance and systematically for groups of users, rather

than merely reacting to individual complaints. This perspective underscores the close relationship between accessibility and universal design. Concurrently, the Commentary differentiates between accessibility and reasonable accommodation: the former is a general standard and policy for the removal of barriers, the latter is an individual obligation to adapt in a specific situation (Committee on the Rights of Persons with Disabilities, 2014).

In the context of the financial services market, this necessitates the establishment of regulatory frameworks that ensure "accessibility by default" becomes an integral component of licensing and supervisory expectations, disclosure standards, digital identification and security requirements, and consumer protection practices. To summarise, it is important to note that accessibility should not be regarded as an "additional service option"; rather, it should be considered a legal criterion for the provision of the service.

When examining the issue of accessibility of banking services for persons with disabilities, researchers emphasise the need to improve the banking licensing procedure in terms of ensuring the rights of citizens with limited mobility, in particular persons with disabilities, pregnant women, elderly people and other categories of the population, as defined by law, and to facilitate their lives by creating conditions for accessibility to the banking sector through the following improvements:

1) Bank premises (branches/departments) where customer service is provided must be accessible to persons with disabilities and other groups of the population with limited mobility in accordance with state building codes, rules and standards. This must be documented by a specialist in technical inspection of buildings and structures who has a qualification certificate. The specialist must check the compliance of the premises with DBN B.2.2-17:2006 "Accessibility of buildings and structures for people with reduced mobility", DSTU-N B V.2.2-31:2011 "Guidelines for equipping buildings and civil structures with accessibility elements for people with visual and hearing impairments", and DSTU B ISO 21542:2013 "Buildings and structures. Accessibility and convenience of use of the built living environment".

2) Information on the accessibility of bank premises (branches and departments) for people with disabilities and those with reduced mobility should be displayed in a place that is easily visible to customers. It is also important to consider how banks can further improve their services for people with visual and hearing impairments. It is submitted that, in the opinion of the present authors, tactile marking of banknotes and coins of the national currency of Ukraine of different denominations and their issuance of different lengths would be a practical proposal for the purpose

of enabling persons with visual impairments to recognize them. According to public organisations representing the interests of persons with visual impairments, domestic banknotes and coins of the national currency of Ukraine, which are currently in circulation, are practically unrecognisable to visually impaired individuals. To resolve this issue, it is considered necessary to instruct the relevant departments of the National Bank of Ukraine to hold a meeting on this matter with representatives of public organisations that protect the interests of persons with visual impairments (a list of such organisations is attached) (Kuzmenko, Chorna, Kozhura, 2024; The Law of Ukraine "On Financial Services and Financial Companies", 2021).

2.4. Digital Accessibility of Fintech Services and Typical Barriers to Use for Persons with Disabilities

From the perspective of the CRPD, the issue of the digital accessibility of fintech services and the barriers that prevent their use is not just a matter of "UX quality". If these barriers prevent equal use of the service, they must be removed through accessibility and/or reasonable accommodation. This logic is derived directly from the fact that ICT accessibility is included in the obligations of art. As elucidated by the Committee (Committee on the Rights of Persons with Disabilities, 2014), this is considered a prerequisite for independent living and societal participation.

While assessing the accessibility and usability of online FinTech services in Saudi Arabia for people with disabilities, Redwan Noor emphasised that innovations in financial services have led to the emergence of financial technology (FinTech) as a revolutionary force shaping the future of the financial sector. Examples of these services include crowdfunding, peer-to-peer lending and alternative underwriting platforms. Given the internet's status as a vital source of information, accessible and user-friendly online financial technology (FinTech) services can help people with disabilities to take full advantage of financial services that support their basic needs, such as access to high-quality healthcare. The rapid development of payment methods, insurance products and healthcare services has created enormous opportunities for FinTech solutions that support people with disabilities. FinTech websites are a vital gateway through which users can access and benefit from FinTech services. The ease of use and accessibility of these websites are therefore critical factors in extending FinTech services to more diverse groups, as well as in attracting and retaining users. Website accessibility refers to how users perceive, understand, navigate and interact with a website, and how compatible it is with different devices, such as PCs and mobile phones (World Wide Web Consortium

(W3C)), Web Accessibility Initiative (WAI), 2022). Meanwhile, usability refers to how well a website is designed, and whether it is effective, efficient and satisfying for users (International Organization for Standardization (ISO), 1998).

In order for a website to be as effective as possible, accessibility and usability must be considered during its design and development (World Wide Web Consortium (W3C)), Web Accessibility Initiative (WAI), 2015). Designing and developing an accessible website requires consideration of all types of disability that could affect a user's internet access. In addition to visual impairments, this includes physical, hearing, speech, cognitive and neurological impairments, all of which impose functional limitations. Such impairments may be congenital or result from illness, injury or ageing. Furthermore, although some users may have common limitations, different users face different difficulties to varying degrees (World Wide Web Consortium (W3C)), Web Accessibility Initiative (WAI), 2022).

In their 2020 study, Abdulaziz Alshayban, Iftekhar Ahmed, and Sam Malek conducted a systematic analysis of accessibility issues in Android applications. The study's primary objectives were to identify the most prevalent types of accessibility defects, to examine how developers perceive and prioritise these issues, and to explore the potential of engineering and organisational practices to enhance accessibility during development and testing (Alshayban, Ahmed, Malek, 2020).

In contrast, Mars Ballantyne, Archit Jha, Anna Jacobsen, J. Scott Hawker, and Yasmin N. El Glali (2018) conducted an examination of the quality and applicability of mobile app accessibility guidelines. The researchers analysed existing guidelines, their completeness, specificity, and usability, and outlined how these guidelines could be structured and improved to facilitate easier integration of accessibility requirements into interface design and user interaction (Ballantyne, Jacobsen, Hawker, Glaly, 2018).

In her research, Asmaa Alayed assessed the accessibility of Saudi Arabian mobile banking applications for blind and visually impaired users from a customer experience perspective. The author conducts an analysis of the applications of three major banks (AlRajhi, SNB, Riyad Bank) and focuses on the most popular e-services in these applications, combining manual verification of compliance with WCAG 2.1 with usability testing involving 12 blind Arabic-speaking users. The primary objective of this study is to identify the most prevalent violations of WCAG criteria and to describe the practical barriers that make it impossible or difficult to independently use financial services without compromising privacy (Alayed, 2024).

The article by Sarah Andrew, Stacey Watson, Tae Oh, Garreth W. Tigwell "Authentication Challenges

in *Customer Service Settings Experienced by Deaf and Hard of Hearing People* analyses the experience of deaf and hard of hearing (DHH) people during remote authentication in support services, primarily in scenarios where the only channel of interaction remains a voice call (in particular, in banking) (Andrew, Watson, Oh, Tigwell, 2023). Drawing upon the insights gathered from 18 DHH participants through in-depth interviews, the authors elucidate the manner in which telephone authentication and "voice-only" customer service engender barriers, whilst concomitantly compelling individuals to rely on third parties (e.g., intermediaries/interpreters), a practice that has the potential to compromise privacy and security during sensitive information exchange. The conclusion drawn from this analysis is that barriers arise not only in the application interface, but also in support processes (restoration of access, identity verification, blocking of transactions, fraud appeals), where banks and fintechs traditionally rely on call centres. In the event that authentication is linked to the voice channel, DHH users find themselves confronted with a dilemma: the loss of confidentiality (the involvement of a third party) and the inability to exercise their consumer rights (the prompt resolution of the problem/the appeal of the transaction). It is imperative to incorporate mandatory alternative accessible authentication and support channels (e.g., text/video channels, asynchronous confirmations, accessible "account recovery" procedures) as an integral component of non-discriminatory financial service design.

Consequently, within the digital environment, discrimination frequently assumes a "technical form" that manifests not as a ban, but rather as a design that fails to consider diverse modes of perception and interaction. In fintech practice, the riskiest are:

- Authentication and verification (biometrics without alternatives; CAPTCHA without an accessible option; mandatory telephony without a text channel);
- interfaces (lack of compatibility with screen readers, low-contrast elements, "small" font without scaling);
- contractual documents and disclosures (unavailable PDF/scans, lack of "simple" formats, lack of access to key risk warnings);
- support and dispute resolution channels (lack of accessible communication channels and fast procedures).

2.5. Protection of Consumers of Financial Services: UN Standard as Defined in the United Nations Guiding Principles on Consumer Protection

A separate yet complementary layer of UN standards is formed by the United Nations Guidelines for Consumer Protection (UNGCP), revised and adopted

by the General Assembly in 2015, which effectively set an international "benchmark" for the development of consumer protection policies and mechanisms. Among the "legitimate needs" of consumers, it is important that the UNGCP explicitly mentions the protection of vulnerable and socially unprotected consumers, as well as the availability of effective dispute resolution and redress. From the outset, therefore, the logic of accessibility and non-discrimination is built into consumer protection, providing the conditions for the actual use of services (United Nations, 2015).

In the section on financial services, the UNGCP recommends that states integrate policies for financial inclusion, education, and consumer protection with regard to access to and use of financial services. It also recommends that they develop supervision and enforcement, ensure proper disclosure, and promote responsible business conduct, particularly with regard to responsible lending and ensuring that products are "fit" for consumers' needs and capabilities. Furthermore, it recommends that they protect financial data (United Nations Conference on Trade and Development (UNCTAD), 2022). In this framework, accessibility is not an "additional option" but an integral part of good service. For instance, "proper disclosure" in fintech involves providing documents that can be read by screen readers and offering alternative formats, such as structured text instead of scans. It also means providing clear warnings about risks and ensuring that consumers have a genuine opportunity to seek help and receive a solution without facing undue burdens. Significantly, the UNGCP requires complaint mechanisms that are fast, transparent, inexpensive and accessible, and that do not impose "unnecessary costs or burdens" on consumers. This directly correlates with the need for accessible communication channels, such as chat, text, email and video calls, as well as the ability to act through a representative.

The practical connection between consumer protection and accessibility is particularly evident in UNCTAD's current approach: the digitisation of financial services can create new forms of exclusion and increase vulnerability to fraud for individuals with access barriers or lower digital competence. UNCTAD emphasises the importance of ensuring that the internet is accessible and safe for all, particularly consumers with disabilities. It also highlights the need to target digital financial literacy programmes at vulnerable groups, including people with disabilities, while taking into account the specific risks of digital channels. Examples include government digital financial literacy campaigns for women in Ghana, Malawi and Uganda, and webinars for older consumers in Malaysia on digital access and combatting online fraud. These examples clearly demonstrate that "accessibility" in fintech encompasses interface design, education, support and effective reimbursement adapted to

different user groups (United Nations Conference on Trade and Development (UNCTAD), 2022).

2.6. Council of Europe Standards: Non-Discrimination, Digital Rights and Data Protection in the Fintech Sector

At the Council of Europe level, the key legal foundation is the European Convention on Human Rights (ECHR) (Convention for the Protection of Human Rights and Fundamental Freedoms (ECHR), with Protocols, 1950). Article 14 enshrines the prohibition of discrimination in the enjoyment of the rights guaranteed by the Convention. The Convention mechanism (ECHR) establishes practical standards of 'equality of access' based on the principle of proportionality and the state's positive obligations. In addition, Protocol No. 12 introduces a more general prohibition of discrimination relating to "any right established by law" and the actions of public authorities. This is particularly important for public services and regulated markets.

The socio-legal dimension is reinforced by the Revised European Social Charter, which incorporates the non-discrimination principle (Article E) into all of the Charter's rights. The rights of persons with disabilities are articulated in particular in Article 15, which covers independence, social integration and participation in community life. This establishes a normative basis for discussing the accessibility of services as a component of social participation, which is directly related to financial inclusion.

In the digital realm, the Committee of Ministers of the Council of Europe's Recommendation CM/Rec (2014) 6, which provides a guide to human rights for internet users, is important. The idea is that human rights should be fully upheld online, and that states and private organisations should facilitate their implementation in the digital environment. This approach is based on the principle of non-discriminatory access to digital services, including financial services (Council of Europe, Committee of Ministers, 2014).

A separate Council of Europe standard that is critically important for fintech is the Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data (1981). Its aim is to guarantee the right to privacy and the protection of personal data, taking into account the challenges posed by new ICTs. For fintech accessibility, this is fundamental: many digital barriers (e.g., biometrics, profiling, automated decisions and remote identification) relate to sensitive data. Therefore, the accessibility requirement must align with the principles of lawfulness, data minimisation, security and non-discrimination in automated processes.

Finally, the political "bridge" between the universal standards of the CRPD and regional practices

was established through the Council of Europe's 2017–2023 Strategy on the Rights of Persons with Disabilities, which focuses on equality, dignity, and equal opportunities, with a particular emphasis on accessibility, including the accessibility of information and ICT.

In conclusion, it is evident that the standards established by the United Nations and the Council of Europe provide a comprehensive framework for evaluating the accessibility of financial technologies.

1. Non-discrimination (prohibition of direct/indirect discrimination; prohibition of refusal of reasonable accommodation as a type of discrimination).

2. Accessibility as a precondition for rights (especially in the ICT environment).

3. Universal design + individual adaptation as complementary mechanisms.

4. Consumer protection of financial services (transparency, fair practices, inclusion, effective remedies).

5. Digital rights and data protection as a "legal envelope" for a safe and non-discriminatory digitalisation of finance.

3. The Right to Access to Financial Services as an Element of Social Inclusion

In the contemporary state, financial inclusion is regarded not solely as an economic policy, but also as a pragmatic instrument for the realisation of socio-economic human rights. These rights encompass the capacity to generate and accumulate income, procure goods and services, save, borrow, insure against risk, and receive social benefits without impediment. For persons with disabilities, the availability of financial services has a "rights-enforcing" nature: without access to an account, payments, or digital identification, other rights (social protection, healthcare, education, and labour market participation) often become formal or excessively burdensome.

A rights-based approach to financial inclusion is grounded in international social rights and non-discrimination standards. The International Covenant on Economic, Social and Cultural Rights establishes the state's obligation to take measures (within available resources) to progressively realise relevant rights, and recognises everyone's right to social security, including social insurance (International Covenant on Economic, Social and Cultural Rights, 1966). In practice, this signifies that in the event of a state modernising the delivery of social benefits, transitioning its interactions with citizens to digital channels, or promoting cashless payments, it is obligated to ensure that such reforms do not engender "new" barriers for groups that are already confronted with inequalities in access.

The foundational framework for persons with disabilities is the UN Convention on the Rights of

Persons with Disabilities (CRPD). The document explicitly establishes the obligation of states to ensure accessibility (including to information, communications, and services) as a prerequisite for independent living and full participation in society. Furthermore, it recognises the right of persons with disabilities to social protection without discrimination and to access poverty reduction and social protection programmes. The CRPD Committee, in its General Comment No. 2 (Council of Europe, 1996), emphasised that accessibility should be a systemic feature of the environment/service (rather than a "privilege"), and considered it a basic condition for equal participation. In the context of the financial sector, this principle translates into straightforward legal logic: the accessibility of financial services is not merely an additional "option" but rather an integral element of non-discrimination.

The European (Council of Europe) dimension of socio-economic guarantees also reinforces this argument. The revised European Social Charter is an instrument that enshrines the right to social security and provides for specific guarantees for persons with disabilities. Collectively, these provisions constitute a standard of "real implementation" of social rights, as opposed to merely their proclamation. In practical terms, this signifies that access to social benefits, insurance coverage or basic payment instruments should be organised in such a way that an individual does not "pay with disability" for receiving a service: through unnecessary travel, additional time costs, dependence on third parties.

A separate yet complementary layer of international standards is formed by the United Nations Guiding Principles on Consumer Protection (UNGCP), revised in 2015, which contain a special block on financial services and generally set a benchmark: a financial service should be fair, safe, transparent and allow for effective redress/protection without disproportionate burdens for the consumer. In the context of disability, it is imperative that the UNCTAD documents on the application of the UNGCP to the financial sector explicitly underscore the necessity to consider "vulnerable consumers", encompassing individuals with disabilities, and to take into account the characteristics and risks associated with digital financial services (identification, disclosure, responsible business conduct, data protection, financial inclusion).

The national legal framework of Ukraine allows for the consideration of financial inclusion as part of the implementation of constitutional guarantees. The Constitution of Ukraine formally recognises the human being and their dignity as the highest social value, the principle of equality and non-discrimination, as well as the right to social protection. The Law of Ukraine "On the Fundamentals of Social Security of the Disabled in Ukraine" establishes the basic

obligations of the state to ensure social protection of persons with disabilities and general principles of combating discrimination (The Law of Ukraine "On the Fundamentals of Social Security of the Disabled in Ukraine", 1991), which is a "bridge" from constitutional principles to the practice of accessibility of services, including financial ones.

The concept of financial inclusion is articulated through a series of legal instruments, encompassing accounts, payments, electronic money, credit, insurance, and social payments. The Law of Ukraine "On Payment Services" (The Law of Ukraine "On Payment Services", 2021) sets the regulatory architecture of the payments market, including the rules for providing information about payment services and general requirements for the interaction of providers with users.

The Law of Ukraine "On Financial Services and Financial Companies" (The Law of Ukraine "On Financial Services and Financial Companies", 2021) forms a framework for the functioning of the financial services market, and the Law of Ukraine "On Consumer Rights Protection" (The Law of Ukraine "On Consumer Rights Protection", 1991) – general standards for informing, safety and consumer protection in relations with the service provider.

In lending, the Law of Ukraine "On Consumer Lending" (The Law of Ukraine "On Consumer Lending", 2016) is important, which is based on the presumption of the need for clear disclosure of conditions and protection of the borrower as the weaker party. Insurance is regulated by a special law that sets out the rules for concluding and executing insurance contracts. This raises the issue of accessibility as a prerequisite for the insurance product being usable by the client.

The Law of Ukraine "On Consumer Lending" indirectly promotes financial inclusion by setting out transparency and comparability standards for loan terms. It defines the "total cost of the loan" and the "real annual percentage rate", and requires lenders to provide consumers with free standardised information in the form of a consumer credit passport (in paper or electronic form) before a contract is concluded.

From the perspective of 'access without excessive risk', this regulatory legal act provides basic protective measures that lower entry barriers, such as the right to withdraw from the contract within 14 days and the right to repay the loan early without incurring additional fees or commissions. A further component of inclusion pertains to the regulation of ethical interaction in instances of overdue payments: exclusively companies from the register are permitted to engage in the settlement process, and "direct interaction" is subject to specific limitations, particularly when the consumer is a person with a disability of group I (and in other vulnerable conditions). When considered as a whole, these mechanisms function

as an "inclusive framework" for consumer lending. They serve to reduce information asymmetry, render the service clearer and strengthen consumer protection, which in turn has a direct effect on the real availability of credit products.

Access to an account and payments for many citizens (and for persons with disabilities – especially) is also access to social benefits and state support. The Law of Ukraine "On State Social Aid to Persons Disabled from Childhood and Disabled Children" (The Law of Ukraine "On State Social Aid to Persons Disabled from Childhood and Disabled Children", 2000) establishes the institution of payment itself as a public obligation of the state, and therefore actualizes the requirement to organize the "delivery" of funds without discriminatory barriers (including through bank accounts/payment infrastructure). In the event that an individual is unable to open an account, undergo verification, or read the terms of service, the right to social assistance becomes contingent on third-party assistance. This stands in opposition to the principles of autonomy and equality of opportunity. Concurrently, it is at the intersection of inclusion and regulatory requirements that "procedural traps" emerge. The obligations of financial monitoring (AML/CFT) and customer identification are objectively important for national security and market integrity. However, such procedures can create disproportionate difficulties if they are designed without alternative channels and without the logic of "reasonable accommodation". National financial monitoring legislation is intended to protect the rights and legitimate interests of citizens and national security through appropriate verification mechanisms. In contrast, banking legislation establishes the framework for banks' activities and their interaction with the client. The practical challenge lies in the design of procedures that will achieve the legitimate goal of security without excluding clients with disabilities from the service market.

A separate role in financial inclusion is played by digital identification and electronic trust services. In the event of the state and the market depending on remote services (e.g., accounts, electronic money, online insurance, credit applications), electronic identification becomes the "entrance door" to financial rights. The Law of Ukraine "On Electronic Identification and Electronic Trust Services" forms the legal basis for such mechanisms, and therefore the issue of accessibility of interfaces and procedures here has direct socio-legal significance.

In the context of scientific and law enforcement analysis, it is recommended to identify and categorise barriers to access to fintech and financial services for individuals with disabilities into four distinct groups: digital, physical, informational, and procedural.

Their common feature is "invisibility" at the level of a formal ban: most often a person is not refused

outright, but the service is designed in such a way that it is impossible to use it without outside help. From the CRPD perspective, this is a key marker of discrimination in the modern digital environment: inaccessible design negates equality of opportunity even under formally neutral rules.

Digital barriers in fintech are most often found at authentication and verification points because security requirements and large-scale automated processes converge here. Compliance becomes a barrier when biometrics are the only option for logging in, CAPTCHAs lack an accessible option, mandatory calls to a call centre lack a text channel and one-time codes are only sent via SMS to people who do not have access to telephony. From the perspective of the CRPD Committee's general Comment on Art. 9, accessibility should be a "built-in" feature of the service and not an exception granted following a complaint. Therefore, security mechanisms should allow for alternative access routes that are equivalent. One way to legally justify such a requirement would be to combine strong authentication methods with alternative confirmation channels, such as text channels, hardware keys, backup codes or a visit to a branch if necessary, provided that the alternatives do not create a disproportionate burden.

The second digital risk zone concerns the interfaces of applications and web offices. Technological reasons why people with visual or motor impairments cannot manage their account, make a payment, or confirm a transaction include incompatibility with screen readers, low-contrast elements, small font without scaling, lack of keyboard control, buttons "stuck" in the image, and fields without semantic markup. Legally speaking, such defects are important not as a "bug", but as a factor that limits access to a socially significant service. In other words, they are a risk of violating the principles of equality and accessibility. The practical consequence is that financial service providers must implement accessibility at the level of development and testing standards (particularly by involving users with disabilities), and that the regulator must assess accessibility as an element of quality and fair market behaviour.

Information barriers arise when the law requires "disclosure of information", but the format in which this information is provided makes it ineffective. Typical examples include contractual documents and risk warnings in the form of scanned PDFs, images or difficult-to-navigate files; a lack of "easy-to-read" formats, audio formats or adapted versions; and critical messages provided only in colour or with visual highlighting, without text duplication. Here, financial inclusion conflicts with the essence of consumer protection. If individuals cannot understand the terms of loans, insurance exclusions, tariffs, or the risks associated with e-money, their consent becomes

merely formal, and their right to make an informed choice becomes illusory. At the UNGCP/UNCTAD level, consumer protection in financial services is directly linked to requirements for disclosure and responsible business conduct, as well as consideration of the needs of vulnerable groups using digital channels. At the national level, this logic is reinforced by consumer protection and consumer credit laws, which stipulate the provision of adequate information and fair terms.

Even in the "digital age", physical barriers persist as financial services have a physical infrastructure comprising branches, ATMs, self-service terminals, card issuing points and identification points. Barriers such as inaccessible ramps and entrances, a lack of tactile and audible prompts at ATMs, screens that are too high and the need for fine motor skills when entering a PIN can block basic operations such as withdrawing cash, changing the limit and obtaining a certificate. This can therefore affect access to social benefits, which often go towards a household's cash needs. The CRPD defines accessibility as a complex issue involving the physical environment, information and services. Therefore, "digitalisation" cannot be used as an excuse to ignore physical accessibility. In legal policy terms, this means that accessibility requirements must be integrated into service standards, with public quality control of services that are important for society.

Procedural barriers are the most complex because, although they are formally "the same for everyone", they affect different groups differently in practice. Examples of such barriers include in-person requirements for which there is no alternative, excessive documentation requirements, short confirmation deadlines and the obligation to use only one communication channel. Other examples include complex or inaccessible complaint and dispute resolution mechanisms. In the financial sector, such barriers frequently stem from AML/identification or internal risk management policies. However, from a legal standpoint, these barriers should be evaluated based on the principle of proportionality. That is to say, is there a less onerous method to achieve the legitimate objective of security or due diligence? Ukrainian legislation on financial monitoring is focused on protecting the rights and legitimate interests of citizens alongside security objectives. This allows for the justification of the need for alternative, accessible procedures as an element of good governance in the financial sector.

Consequently, when elucidating financial inclusion as a component of socio-economic rights, it is advisable to demonstrate the "access chain" to key services. An account, whether with a banking institution or a payment service provider, serves as the legal and technological foundation for the receipt of wages, social benefits, scholarships, pensions, compensations, and

the payment of taxes and utilities. Payments are a tool for participating in everyday economic life (e.g., online shopping, transport, medicine), and electronic money is a form of making small payments and fast transfers in digital ecosystems. This is especially important given the mobility of the population and the development of remote services. Regulatory, such an architecture is based on the Law of Ukraine "On Payment Services", which defines the framework for providing a payment service and the interaction of the provider with the user, including information obligations. In the event of accessibility issues at the outset, whether in terms of identification, interface, or information, a significant portion of the infrastructure dedicated to the implementation of socio-economic rights is rendered inaccessible.

The practice of lending, when considered as a component of inclusion, exhibits a dual nature. Access to credit has been demonstrated to have a number of beneficial effects. Firstly, it has the capacity to mitigate the impact of life risks, such as medical expenses, the adaptation of housing, and the purchase of assistive devices. Secondly, it has been shown to support economic activity and entrepreneurship. Conversely, it is imperative to acknowledge the significance of transparency, clarity of conditions, and protection from unfair practices, as a failure to provide adequate information or a lack of transparency can result in a significant financial burden. The Law "On Consumer Credit" forms the legal basis for information standards and fair conditions, but for persons with disabilities, the accessibility of application channels, readability of the offer, the ability to receive explanations in an accessible form and non-discrimination of scoring/procedural decisions are critical. Within the framework of human rights, this should be assessed as ensuring "equal access to financial opportunities" without hidden technical and communication barriers.

Insurance can be regarded as a mechanism for enhancing socio-economic resilience. It functions by redistributing risks associated with health, property and liability, thereby mitigating the probability of a precipitous decline in living standards. However, it is important to note that insurance products are typically characterised by a multitude of exclusions, conditions, and procedures for the settlement of claims. Consequently, accessibility in this context extends beyond mere "convenience" and encompasses the client's capacity to comprehend the coverage, initiate a claim, furnish documentation, obtain a decision, and undertake an appeal in a lucid and accessible manner. The existence of particular insurance legislation establishes a regulatory framework for contract requirements and insurer practices, which can and should be supplemented by accessibility standards as part of fair market conduct. At the international level, the UNGCP reinforces this thesis through the

requirements for effective protection/redress mechanisms that should not create a disproportionate burden on the consumer, especially in digital channels.

Social payments, in a broad sense, serve as a concentrated illustration of how financial inclusion facilitates the implementation of social rights. When assistance for persons with disabilities is organised through a banking/payment infrastructure, the state should consider the "full access chain": from the ability to identify and open an account to the ability to receive funds and manage them without third-party dependence. The Law of Ukraine "On State Social Aid to Persons Disabled from Childhood and Disabled Children" sets out a public obligation of the state to provide such support, and therefore any barriers to access to the payment mechanism should be considered as a risk of violating the essence of the right, and not as "technical inconveniences". It is for this reason that the issue of accessibility of payment instruments and digital services becomes part of social protection policy, and not just financial regulation. In conclusion, financial inclusion as a component of the implementation of socio-economic rights requires the simultaneous operation of three legal logics. The first of these is human rights and non-discrimination. The accessibility of financial services for persons with disabilities is a direct consequence of the CRPD and general social rights standards. The second is consumer protection: in digital financial services, "accessibility" effectively becomes a condition for transparency and informed consent, as well as effective redress, which is consistent with the UNGCP and their interpretation in the financial sector. The third is national regulation. Ukrainian legislation on payment and financial services, consumer credit, insurance and social assistance, as well as anti-discrimination and disability legislation, provides a robust regulatory framework that supports the adoption of accessibility as a mandatory service quality standard. In practice, for inclusion not to remain a mere declaration, accessibility must be built into design (interfaces, authentication and documents), infrastructure (branches and ATMs) and procedures (identification, support and appeals). Only then will financial instruments truly work as a mechanism for realising socio-economic rights rather than exacerbating inequality.

4. Regulatory Mechanisms for Ensuring Accessibility: Compliance, Oversight, Accountability

In the modern financial system, digital financial services such as banking, e-money, payments, remote identification and lending should be accessible to all. This should not be considered a "design option", but rather a regulatory requirement closely linked to the realisation of socio-economic rights, non-

discrimination and consumer protection. International standards provide the framework. The UN Convention on the Rights of Persons with Disabilities (CRPD) establishes the obligation of states to promote equality and accessibility, particularly through accessibility by design, reasonable adjustments and access to information and communication technologies. Moreover, the UN Guiding Principles on Consumer Protection (UNGCP, 2015 edition) contain a prohibition on financial services and focus on ensuring that financial inclusion policies, financial education and redress/complaint mechanisms do not create a disproportionate burden on consumers, especially vulnerable groups.

Directive (EU) 2019/882 (European Accessibility Act) establishes the extension of accessibility standards to a number of goods and services, including elements of digital consumer interaction with services (interfaces, information, self-service, etc.). This development can be understood as part of a broader approach, whereby accessibility is recognised as integral to the quality and security of the service, and not merely a social policy concern (Directive (EU) 2019/882). From a technical standpoint, the most prominent "compliance basis" for digital interfaces is WCAG 2.1, which organises accessibility through four principles (perceivable, operable, understandable, robust) and provides verifiable compliance criteria.

The national framework of Ukraine also allows for the construction of the logic of "accessibility → consumer protection → oversight and responsibility". The constitutional principle of equality (prohibition of privileges/restrictions on certain grounds) establishes the foundation for a non-discriminatory approach. Specific legislation pertaining to the rights of persons with disabilities articulates the obligation of the state and society to identify and remove barriers, in particular to access to information and communication. Of particular note is the fact that the provisions pertaining to "unimpeded access" encompass not only physical objects, but also services and products that are designed to meet the needs of persons with disabilities. The law expressly acknowledges universal design and reasonable accommodation as the guiding principles.

4.1. Compliance as an "Internal" Mechanism for Ensuring Accessibility

The concept of regulatory accessibility in the field of fintech is predicated on compliance, that is to say, an internal system of rules, processes and controls that ensures that the product and service meet legal requirements (including requirements for non-discrimination, information, transparency and proper service). In practical terms, this necessitates the incorporation of accessibility into the product life cycle (i.e., product governance), encompassing all

phases from the establishment of requirements to the testing phase, procurement, and collaboration with contractors. International management standards can be used as a guideline for organisational processes, in particular ISO/IEC 30071-1 (code of practice for the development of accessible ICT products and services), which emphasises a "holistic" approach: accessibility is not only UI, but also requirements management, staff training, quality control and user support (ISO/IEC, 2019).

In the fintech environment, accessibility compliance is typically broken down into three interconnected areas. The first of these is design and content, where barriers actually "live". These can range from incompatibility with screen readers and poor contrast to inaccessible documents that prevent a person from fully understanding the terms of the product. The second area is identification and authentication procedures, where technological solutions can indirectly exclude people (for example, biometrics without an alternative, one-time codes only via voice calls and CAPTCHAs without accessible options). The third area is after-sales processes, such as support, complaints, dispute resolution and compensation. This is because "accessible access" to the application does not compensate for an inaccessible problem-solving channel. Legally, compliance is "tightened" to accessibility through obligations to provide information to the consumer. The Law of Ukraine "On Consumer Rights Protection" establishes the requirement to provide the consumer with necessary, accessible and reliable information about the service, and also provides for liability for violation of the right to information. This logic is reinforced by special market regulation for financial and payment services: the Law of Ukraine "On Payment Services" explicitly states that the protection of users' rights is one of the objectives of state regulation, and that providers' behaviour is linked to the implementation of consumer protection legislation.

It is imperative to acknowledge the significance of accessible communication formats as a constituent component of compliance. The approach adopted by the NBU in the field of consumer protection for financial services is indicative of a broader regulatory trend. The regulatory provision on supervision stipulates that financial institutions must provide the option of submitting an application and receiving a response in a format accessible to persons with disabilities. This provision is accompanied by additional requirements pertaining to transparency and interaction with consumers (The Resolution of the Board of the National Bank of Ukraine "On Approval of the Regulations on the Supervision by the National Bank of Ukraine of Compliance by Supervised Entities with Ukrainian Legislation on the Protection of Consumers of Financial, Payment and Limited Payment

Services, Requirements for Interaction with Consumers in the Settlement of Overdue Debts", 2022). This is of significance as it elevates accessibility from the domain of "recommendations" to that of verifiable expectations. In this sense, accessibility constitutes an integral component of the service and procedural guarantees afforded to the consumer.

4.2. Supervision as an "External" Mechanism: From Rules to Enforcement

The second level of analysis focuses on the role of the state in overseeing and regulating accessibility standards, ensuring their practical implementation. In the domain of payment services, the Law "On Payment Services" stipulates that state regulation is primarily aimed at safeguarding user rights and ensuring equitable access to payment services. The legislation also delineates the prerogatives of the NBU with respect to supervision, regulation, and the implementation of influence measures. In principle, the law enables the NBU to take action in the event of a potential violation of user rights relating to payment instruments. In other words, supervision has a preventive as well as a punitive function.

Accessibility supervision works effectively when the regulator uses three tools. The first is compliance expectation, which involves providing guidance and requirements for internal policies, service quality KPIs, requirements for appeals and communication procedures. The second is monitoring and inspections (analysis of complaints, inspections, thematic inspections and testing of client paths). The third category is coercive measures, such as mandatory orders to eliminate violations, fines, restrictions on activity and public measures of influence. Ukrainian payment legislation explicitly grants the NBU the right to issue mandatory requirements to address violations, including those relating to the protection of consumers' rights in the payment services sector.

Meanwhile, the European approach reinforces the case for "accessibility supervision", particularly in the financial sector. Supranational institutions, notably the EBA, view consumer protection as part of their supervisory remit for retail financial products (e.g., payments, e-money, loans). This naturally results in requirements for digital channels to ensure that vulnerable groups can access basic services.

4.3. Responsibility and Legal Remedies

The third block of the model pertains to responsibility, the absence of which results in accessibility remaining declarative. In the national model, at least three components of responsibility can be distinguished.

Firstly, there is the regulatory and administrative aspect. The Law of Ukraine "On Payment Services"

provides for the application of measures by the NBU for violations, including for violations of legislation on consumer protection in the provision of services in the payment market, and establishes a framework for fines. This approach is significant for accessibility, as many barriers do not resemble a "denial of service", but rather deprive the consumer of the opportunity to use the service. Consequently, the implementation of supervision and sanctions for violations of information/interaction standards can serve as a "legal bridge" to accessibility.

Secondly, the consumer and legal framework is of significance. The Law of Ukraine "On Consumer Rights Protection" is instrumental in safeguarding the right to information and provides avenues for redress in instances of violation, including the liability of a business entity for non-compliance with information requirements. In the context of financial services, this issue is particularly evident when key terms (e.g., loan cost, fees, risks, refusal/appeal procedure) are presented in inaccessible formats (e.g., scanned PDF, small font without scaling, lack of alternative for users with screen readers). Consequently, the violation of the "information" guarantee effectively becomes a violation of accessibility.

Thirdly, anti-discrimination and human rights legislation is imperative. Special legislation in the field of the rights of persons with disabilities constitutes a positive obligation to eliminate barriers and create conditions for unhindered access, including requirements for services/information and the use of universal design and reasonable accommodation. This indicates that even "neutral" technological policies (e.g., "biometrics only" or "phone call only for confirmation") can exhibit discriminatory tendencies if they lack an alternative provision that enables individuals with disabilities to access services on an equal basis.

It is vital to note that particular emphasis is placed on the mechanisms for considering complaints as a practical means of legal protection. The Law of Ukraine "On Payment Services" expressly guarantees the right of users to initiate communication with the NBU in the event of a dispute with a payment service provider concerning the fulfilment of the legal requirements and the NBU's NPA. Combined with the regulator's requirement to provide accessible formats for appeals/responses for persons with disabilities, this creates a "procedural framework" where accessibility becomes not only a characteristic of the interface, but also a condition for access to legal protection.

4.4. The Regulatory Logic of "Accessibility = Safety and Quality": Why It Works in the Financial Sector

Financial services are a high-risk area (property, fraud and information), so regulators traditionally

emphasise security and proper information management. However, the problem is that "enhancing security" often creates new barriers for disabled people, such as overly strict authentication processes, a lack of alternative channels, "captcha walls", and dependence on voice calls. This is where the logic of the UNGCP comes in handy: it combines consumer protection and accessibility through the standard of 'not creating a disproportionate burden' for users, especially vulnerable ones. This ensures they have a real opportunity to use the service and receive compensation in case of problems.

Technically, this approach is supported by the WCAG 2.1 guidelines, which describe accessibility as a set of verifiable criteria that can be incorporated into DevOps and QA processes. These criteria include accessibility regression tests, manual testing with screen readers, checking contrast, keyboard navigation, readability of messages and accessibility of documents. From an organisational perspective, accessibility should be part of product and supplier management, not just "the work of the designer", as set out in ISO/IEC 30071-1, which offers a "process" framework.

Consequently, regulatory frameworks for ensuring the accessibility of fintech services should be conceptualised as a three-pronged construct, comprising compliance (internal policies and quality control of accessibility according to standards such as WCAG and ISO organisational practices), oversight (external verification, regulations and preventive interventions by the regulator), and accountability (sanctions and effective legal remedies, including complaints, compensation and anti-discrimination mechanisms). The Ukrainian regulatory framework already contains key "pillars" for such a model. These include a positive obligation to remove barriers and ensure the accessibility of services and information for persons with disabilities, consumer guarantees regarding accessible information, as well as the supervisory and sanctioning powers of the NBU in the field of payment services and consumer protection. The logical progression of this system is inextricably linked to the delineation of the requirements of "accessibility by design" in secondary legislation, the implementation of regular supervisory tests of client pathways, and the assurance that no element of security becomes a barrier without an alternative that is compatible with human rights and dignity.

5. Implementation in Ukraine and Practical Recommendations

The digitalisation of the financial sector and public services in Ukraine (banking applications, payment services, electronic money, "Diia", digital channels of social payments) simultaneously expands access opportunities and creates risks of "digital exclusion"

for persons with disabilities. In the context of European integration, accessibility should not be regarded as a discretionary "service option"; rather, it should be considered an integral component of the implementation of human rights and a standard of good governance. This approach impacts various aspects, including financial inclusion, trust in institutions, and the resilience of the social protection system. This is why an assessment of the legal landscape should consider both international non-discrimination and accessibility standards, and sectoral (financial) regulations, supervisory practices, and consumer rights protection mechanisms. International standards establish the framework for ensuring accessibility. The UN Convention on the Rights of Persons with Disabilities (CRPD) establishes accessibility as a prerequisite for independent living and participation in all areas. This includes access to information and services, both online and offline. The convention also defines "reasonable accommodation" as any necessary and appropriate modifications that do not impose a disproportionate burden. In the European context, the approach to "reasonable accommodation" and non-discrimination is detailed in the Council of Europe's materials (in practice, this involves the obligation to remove a barrier in a specific situation, rather than merely declaring equality). Meanwhile, the EU is developing sector-specific requirements for product and service accessibility, including digital accessibility, through Directive (EU) 2019/882 (the European Accessibility Act). This directive is an important model for harmonising Ukrainian legislation in the areas of financial services and e-commerce.

From a consumer protection perspective, the UN Guiding Principles on Consumer Protection are particularly significant as they contain a specific section on financial services and the principle of "inclusion + education + protection + redress". UNCTAD documents explaining the financial aspect of the UNGCP emphasise the importance of taking vulnerable groups (including people with disabilities) and the specifics of digital financial services and channels into account, to ensure that access and redress mechanisms do not place an unfair burden on consumers. This combines 'consumer protection' and "accessibility" into a single legal construct: inaccessible designs or procedures may constitute unfair services or hidden discrimination, even in the absence of a formal prohibition "not to serve". Although the Ukrainian legal framework contains a number of important supporting norms, these are fragmented and do not always translate into requirements for specific financial products and digital processes. The Law of Ukraine "On the Fundamentals of Social Security of the Disabled in Ukraine" directly links the terms "reasonable accommodation" and "universal design" to the meanings of the CRPD, i.e., at the level of basic social legislation, a modern international

conceptual apparatus is recognised. Concurrently, sectoral financial regulation necessitates a more explicit "transfer" of these standards to the realms of banking interfaces, remote identification, contracts, information disclosure, customer support and dispute resolution. In the domain of payments and electronic money, the pivotal legislation is the Law of Ukraine "On Payment Services", which stipulates the role of the NBU in safeguarding user rights and in the adjudication of appeals and complaints. Additionally, it directly stipulates the requirement to ensure equal access, particularly for individuals with disabilities and other groups with limited mobility, within the framework of organising the provision of payment services at the provider's premises. This norm is significant as a "bridge" from the general principle of non-discrimination to the payment infrastructure. However, in the digital reality, it does not fully cover mobile applications, web cabinets, online acquiring, remote account opening or issuance/circulation of electronic money, where barriers often arise precisely through design, rather than through physical access to the branch.

The regulatory practice of the NBU with regard to the protection of the rights of consumers of financial and payment services provides a certain impetus in the direction of accessibility. Specifically, the NBU's secondary legislation stipulates that providers of financial and payment services must ensure the accessibility of premises and services for persons with disabilities and other groups with reduced mobility. However, if this is analysed as a "compliance model", it remains predominantly offline-oriented; digital requirements (WCAG levels, accessible contract formats, biometric alternatives, support standards) in financial supervision require detail and measurability.

A separate segment is constituted by digital public services and social payments, where "Diia" has emerged as an infrastructure conduit for accessing services, including financial services. The Regulation on the "Diia" Portal stipulates the objective of implementing the right to access electronic public services, and one of the tasks is to ensure users' access to financial services, as well as the utilisation of the portal for cash assistance programmes (through the relevant subsystems). In terms of declarations and technical descriptions, the state-owned enterprise administrator also provides a report on the adaptation of interfaces for people with visual impairments. Concurrently, the prevailing legal framework of "Diia" exhibits a paucity of a universal "accessibility by design" mandate for all processes pertaining to the portal (identification, signature, document upload, notification, appeal, appeal). Moreover, while it ensures the option of challenging decisions on social assistance through administrative and judicial channels, it does not stipulate dedicated accessible procedures for communication/justification

of such decisions for individuals with diverse requirements.

In conclusion, the state of the Ukrainian legal field can be described as having a "core of principles" (CRPD-oriented terminology in social legislation, the supervisory function of the NBU for consumer protection, separate requirements for equal access in the payment law), but not having sufficiently clear "translated" standards for the digital financial environment.

It is proposed that the principal deficiencies manifest in four domains:

First, the lack of mandatory accessibility parameters for interfaces and client paths (onboarding, KYC/AML, 2FA, access restoration).

Second, uncertainty regarding accessible forms of contracts and information disclosure (scanned PDFs, inaccessible risk warnings, complex language).

Third, weak formalisation of accessible channels of support and dispute resolution.

Fourth, the absence of a system of indicators and accessibility audits as a component of compliance and supervision is evident. In practice, this engenders a risk of indirect discrimination: the service purports to be "formally for everyone", yet in reality, only those who meet a certain "technological" profile are able to utilise it. In order to address these discrepancies, it is recommended that a transition be made from the utilisation of "declarative accessibility" to a normatively measured model of "accessibility by design". In terms of legislation on payment services and related regulation (banking services, electronic money, consumer lending, insurance products), it is recommended that the obligation of the provider to ensure the accessibility of digital channels and documents at the product level be directly enshrined, and not only the branch infrastructure, with a focus on EU standards as a reference (EAA logic: accessibility of services and related interfaces as a market requirement). Such an obligation should include requirements for the acceptability, manageability and understandability of the interface, alternative interaction channels and a prohibition on critical steps being "only in one format" (e.g., only phone, only biometrics or only CAPTCHA without an alternative). This is a direct development of the CRPD approach, in which accessibility and "reasonable accommodation" are legal obligations for the state and service providers within the regulatory model.

The block of identification/authentication and access restoration procedures is of critical importance, as it is at this point that "cut-off points" arise. From a regulatory perspective, providers are obligated to ensure the availability of at least one accessible alternative for each critical step, including login, transaction confirmation, change of financial number, access restoration, and appeal. This does not imply

a diminution in security measures; rather, a risk-oriented approach is employed (with augmented factors for high-risk transactions), yet without the monopoly of a solitary sensor/channel solution. From a European integration perspective, this design is consistent with the general logic of the EAA regarding the accessibility of services and their interaction procedures, as well as with the practices of the Council of Europe regarding "reasonable accommodation", defined as the actual removal of a barrier for a specific person.

Institutional changes require compliance, supervision and accountability. At the NBU level, it is advisable to introduce "accessibility" as a separate area of inspection within the framework of consumer protection. This should have measurable criteria and supervisory expectations, such as the accessibility of digital interfaces, documents and support, and statistics on complaints and the timeframes for their consideration. The formal basis can be the NBU's existing legal role in protecting the rights of payment service users and considering appeals, with a shift in emphasis towards digital channels and electronic money. In the NBU's secondary legislation, the requirements for digital services should be detailed, as well as those for premises. This should include an audit according to the standard, internal policies, testing with the participation of disabled users, and a plan for eliminating non-conformities. The general requirement for accessibility should be developed further, as it already appears in regulatory regulations.

It is imperative that monitoring indicators and mechanisms for protecting rights are established to ensure accessibility is made "legally tangible". Indicators may include: the proportion of key user scenarios that have undergone an independent accessibility audit; the proportion of documents in accessible formats; the availability of alternative authentication channels; the rate of appeals/complaints about inaccessibility; the average resolution time; the proportion of repeated appeals; the results of "inclusive UX testing". It is imperative that rights protection mechanisms encompass accessible complaint channels to the provider and the regulator. Moreover, the mechanisms should include accessible ADR (financial ombudsman/mediation), procedural guarantees of notification and appeal, and for social benefits, the real accessibility of administrative and judicial appeal. It should be noted that the latter is already provided for by general norms, but requires digital "rethinking" (decision formats, communication, assistance in filing a complaint).

In order to achieve genuine financial inclusion for persons with disabilities, it is essential that the system be regarded as "complete". This necessitates the consolidation of accessibility by design in sectoral legislation, standards for accessible interfaces and contracts, alternative identification procedures,

mandatory staff training, procurement standards for state IT solutions, as well as supervision and accountability based on measurable indicators. In the context of European integration, the most rational approach would

be to implement these changes through harmonisation with EU methodologies (EAA) and concurrently via the UNGCP as a framework for the financial protection of vulnerable consumers in the digital economy.

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