

FINANCIAL EDUCATION AND DIGITALISATION: ANALYSIS OF AVENUES

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Abstract

Policy initiatives of the Government of India like Digital India have led to augmented integration of digitalisation in the economy. The complexity of the financial landscape has increased multiple-fold with the development of financial technology and digital financial services (DFS). In response to increased digitalisation and the emergence of Fintech, the term "Digital Financial Literacy" has gained resonance. This new emerging financial landscape, with digital financial products, services and channels, presents a unique set of characteristics, advantages, risks, and challenges. Therefore, financial consumers need the knowledge and skills to tackle these new emerging risks and concerns. Through an in-depth literature review, the key issues relating to financial literacy and the digital economy have been deliberated on in the present paper. The growing importance of financial education in the digital economy has been discussed in the background of this confluence. Further, a SWOC analysis has been carried out to bring out the strengths, weaknesses, opportunities and challenges of financial education and digitalisation.

Keywords: Financial Literacy, Financial Education, Digitalisation, Digital Economy

JEL Classification: D14, G20, G53

1. INTRODUCTION

The increased adoption of digital technology in our daily lives has resulted in the augmented digitalisation of our societies and economies. Adding to the already complex financial landscape is the emergence of financial technology and digital financial services (DFS). With the explosion of e-commerce, payment methods have undergone a huge transformation. Transactions are now increasingly being done through digital payment methods like Internet banking, mobile banking, e-wallets etc. These digital financial products, services and channels have their own unique set of characteristics, advantages, and risks, which present their respective challenges. In such a landscape, financial consumers need the knowledge and skills to tackle these new emerging risks and concerns. Financial consumers need to be aware of various dishonest practices adopted by mischief-makers in the electronic space, they need the knowledge to keep their passwords safe, skills to resist phishing efforts, and abilities to keep themselves safe from credit/debit card misuse. In the past two years, measures taken in response to COVID-19 management like lockdowns, controls on services and social distancing measures have resulted in quicker adoption of digital financial products and services. With such digitalization of financial products and services, there stems a corresponding need to strengthen digital financial literacy efforts. According to Lusardi (2008), financial literacy interventions can be provided to the target audience through interactive online methods. However, individuals who are technologically challenged or vulnerable need specialized assistance to gain knowledge and skills to handle digital financial services and payment methods.

The advantage of using digital methods is that they can be adapted and modified as per the requirements of various groups. It can open up a plethora of opportunities to integrate digital content and methods of delivery into existing financial education efforts. It is important to debunk myths related to personal finance and create awareness about important financial concepts through social media campaigns. Technology can be a great help in reaching out to illiterate and marginalized populations in India, provided it is used creatively. To improve digital financial literacy, it is necessary to include digital financial education within the National Strategy for Financial Education.

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2. LITERATURE REVIEW

Financial literacy equips individuals with the ability to make effective and efficient personal finance decisions. At the household level, consumers are becoming more liable for their financial well-being and security. There is a plethora of diverse financial products and services available in the market. Advancements in the field of medicine have increased the life expectancy of individuals and they need to plan better for their retirement. Also, there is a shift from a defined benefit approach to a defined contribution approach concerning retirement plans. All these factors necessitate individuals to be financially educated to avoid pitfalls in their financial decision-making.

The findings of most studies are consistent in reporting low and inadequate levels of financial literacy in India. NISM (2015) reported the overall financial literacy level to be 20% under a nationwide baseline survey conducted as part of the National Strategy on Financial Education (NSFE). India has also been ranked poorly in global studies which have made comparisons on the performance of respondents across countries on financial literacy questions. India ranked 23 among 28 countries surveyed and the financial literacy rate of Indians was calculated to be 35% by Visa (2012). S&P Global FinLit Survey (Klapper et al., 2015) found only 24% of adults were found financially literate in India. MasterCard Index of Financial Literacy (MasterCard, 2015) placed India at 13th position out of the 17 countries.

Realising the implications of financial literacy, researchers, organisations and governments across the world have researched this topic. There have been policy initiatives from international agencies and governments to strengthen financial literacy. In 2011, "Financial Literacy" was defined by the OECD as "a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial well-being." (OECD/INFE, 2011).

Financial literacy needs to be distinguished from financial education as the two terms might seem synonymous at the outset but differ at the core. Financial education can be regarded as a tool or a medium to achieve the objective of making financial consumers financially literate.

In 2005, the OECD published the International Recommendation on Principles and Good Practices for Financial Education and Awareness. The OECD established the International Network on Financial Education (INFE), and launched the International Gateway for Financial Education (www.financial-education.org), as part of its endeavour to establish a forum for high-level public officials to discuss issues and developments relating to financial education. In 2008, the OECD also established a task force on Financial Consumer Protection (Miller et al., 2009)

The United Nations Conference on Trade and Development (UNCTAD) in 2012, initiated the revision of the United Nations Guidelines on Consumer Protection (UNGCP) and the inclusion of financial services as a separate area was proposed. The revised guidelines have been adopted by the UN General Assembly on 22 December 2015. These guidelines emphasized the need to protect consumers in accessing financial services and called for their integration with financial education and financial inclusion policies (UNCTAD, 2016).

Similar to efforts by international agencies, financial sector regulators in India like RBI, SEBI, IRDA, and PFRDA have all been undertaking financial education efforts. The Reserve Bank of India introduced the concept of financial literacy and credit counselling centres (FLCC), asked banks to set up Financial Literacy Centers (FLCs), started Project Financial Literacy and has published educational material and interactive content relating to financial education on its website. SEBI has empanelled and certified resource persons to conduct investor awareness workshops. It has developed financial education material for various target groups like school students, young investors, homemakers, executives, middle-income groups, and retired people. National Strategy for Financial Education in India was developed to facilitate a "financially aware and empowered India". The main objectives of NSFE are awareness of financial products, increased financial inclusion, education for existing users and consumer protection.

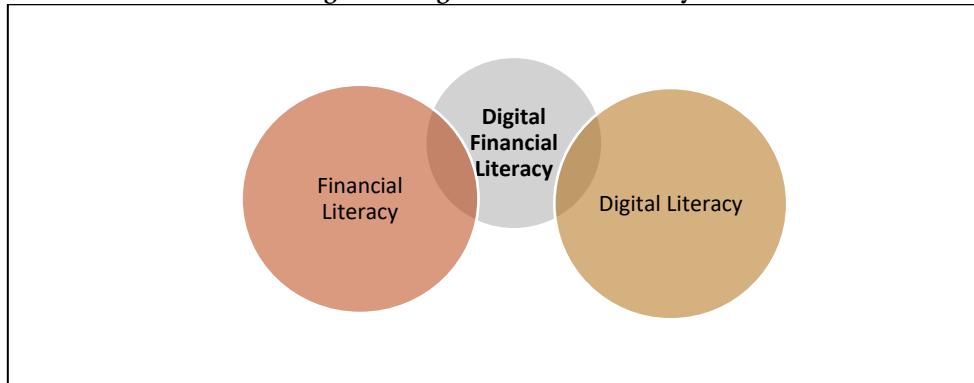
However, despite the importance accorded to financial education in national and international measures to strengthen financial literacy, digital financial literacy is not yet addressed specifically by most national financial education strategies.

Using digital technology, the reach and pace of financial inclusion can be accelerated greatly. The Government of India, recognizing this potential of digital technology, has made digital financial inclusion a policy initiative (RBI, 2021). To facilitate this, the development of digital financial infrastructure has been a major thrust area. Unified Payments Interface (UPI) has emerged as the single largest retail payment system in the country with over 4.6 billion transactions worth Rs.8.26 lakh crore carried out by UPI in December 2021 (Economic Survey, 2022). The Digital Payments Index of RBI has witnessed a growth from 100 in March 2018 (base period) to 304.06 in September 2021 (Economic Survey, 2022).

In response to increased digitalisation and the emergence of Fintech, the term "Digital Financial Literacy" has gained resonance. More recent literature has discussed its significance and importance but only some of the literature has defined the term. The term "Digital Financial Literacy" consists of the words "digital", "financial" and "literacy", all of which have a variety of meanings attached to them. When joined

together these three terms- "digital", "financial" and "literacy", combine their meanings which uncover an expansive range of connotations for the term "digital financial literacy".

Figure 1: Digital Financial Literacy



Source: Authors Own

Digital literacy can be understood as "the ability to read and navigate autonomously digital content" (OECD, 2016) and "the knowledge and competence to access and use digital products and services such as mobile phones, tablets, or the internet" (Finequity, 2020).

Digital Financial Literacy (DFL) can be understood as a concept which integrates financial literacy with digital literacy but should not be understood as being limited to a mere overlap of these concepts. Figure 1 illustrates that while Digital Financial Literacy has commonality with both Financial Literacy and Digital Literacy, the interplay of these two literacies creates unique implications for the individual, community and society at large.

Digital financial literacy (DFL) has been defined as the "acquisition of the knowledge, skills, confidence and competencies to safely use digitally delivered financial products and services, to make informed financial decisions" by AFI Network (2021). Morgan, Huang and Trinh (2019) have postulated four main areas of DFL which include "knowledge about:

1. fintech products and services, their benefits and drawbacks;
2. risks associated with fintech products and services;
3. protection measures to overcome such risks; and
4. redressal mechanism in case of losses or damages from such risks".

To address the growing importance of digital financial literacy, some measures have been taken by the G20 and OECD. G20 Principles for Innovative Financial Inclusion and the G20 High-level Principles for Digital Financial Inclusion were endorsed by G20 leaders in 2016. Principle 6 of the G20 High-level Principles for Digital Financial Inclusion calls for the Strengthening of Digital and Financial Literacy and Awareness (GPFIL, 2016). The OECD/INFE Policy Guidance Note on Digitalisation and Financial Literacy, delivered to the G20 in 2018, also highlighted the potential of digitalisation in aiding financial literacy initiatives. The OECD/INFE Toolkit for Measuring Financial Literacy and Financial Inclusion 2022 has included questions on digital financial knowledge, attitudes and behaviours, which can be combined to compute a digital financial literacy score (OECD, 2022a).

The Final High-level Principles on Financial Consumer Protection were endorsed by the G20 Finance Ministers and Central Bank Governors in 2011 and have been updated in 2022. One of the key updations to these principles includes the inclusion of digitalisation as a cross-cutting theme which is relevant for the implementation of all the Principles. The scope of this theme includes the interaction of consumers with digital financial products and services, consumer behaviour in a digital environment, and increased use of artificial intelligence (OECD, 2022b).

3. OBJECTIVES

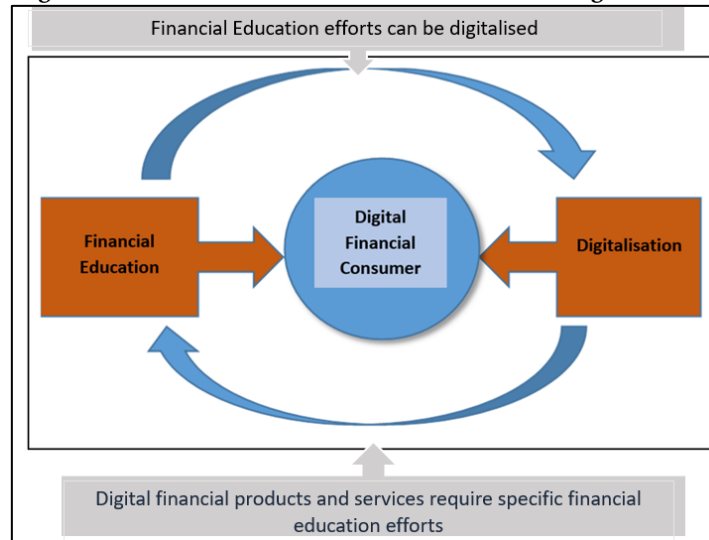
This paper has the following objectives:

- To discuss the issues arising from the confluence of financial literacy and the digital economy
- To study the importance of financial education in the digital economy
- To explore opportunities and challenges presented by digitalization for financial literacy

4. RESEARCH METHODOLOGY

Through an in-depth literature review, the key issues relating to financial literacy, digital literacy and digital financial literacy have been identified. Figure 2 illustrates the core issues arising from the confluence of financial education and digitalisation. Firstly, financial education efforts can be digitalised and secondly, digital financial products and services require specific financial education efforts.

Figure 2: Confluence of Financial Education and Digitalisation



Source: Authors Own

They have been organised into different themes to create a theoretical framework for digital financial literacy. For example, AFI Network (2021) lists "cyber hygiene practices, such as strong password protection, multi-factor authentication, data privacy standards and cybersecurity protocols" while OECD (2022a) has included the "sharing of passwords and PINs and the use of public Wi-Fi". All these issues can be put under the broad umbrella of Digital Financial Risk Control. A SWOC analysis has been carried out to bring out the strengths, weaknesses, opportunities and challenges of financial education and digitalisation.

5. ANALYSIS

Increased digitalisation has led to the development of Digital financial products and services in the market which have their own unique set of characteristics, advantages, and risks, which present their respective challenges. The emergence of cryptocurrencies poses concern since they are an alternative to legal currency and carry many associated risks (European Commission, 2014).

Financial literacy efforts around these new products and services are required as they carry novel risks and vulnerabilities for the consumers who need to be made aware of them and are also equipped with knowledge regarding possible safeguards.

On the other hand, the use of digital technologies can offer new and interactive methods of imparting financial education which can even extend to previously excluded target groups. Digitalisation also offers a new vigour to financial inclusion efforts and can help provide access to financial products and services to marginalised and disadvantaged groups.

Financially literate consumers can help enhance competition for digital goods and services and contribute to the growth and development of the digital economy. But at the same time, the technologically challenged people or those who don't have access to digital devices and technology can remain marginalised. Thus, the interplay between financial education and digitalisation offers many strengths and opportunities but also has some weaknesses and puts forth a few challenges.

5.1 Issues arising from the confluence of financial literacy and the digital economy are now discussed.

Digitalisation can lead to improved consumer experience

Digital Financial Services (DFS) offer benefits and advantages to consumers like providing better access and reach, more convenient, secure and timely transactions, tailored products and services, increased number of service providers and richer interaction of service providers with consumers (OECD, 2018). Digital financial education initiatives can be innovative, engaging and interactive and offer better reach with target audiences like youth, and tech-savvy people.

Increased digitalisation requires greater financial education efforts

In India, the past few years have witnessed a move towards a "less-cash" economy with a steady increase in the use of electronic payment systems. The national payments infrastructure and technology platforms, like Immediate Payments Service (IMPS), Unified Payments Interface (UPI), Bharat Interface for Money (BHIM), or Aadhaar-enabled Payment System (AePS) are world-class. Nevertheless, the fintech ecosystem continues to evolve with innovations and technological developments. The Government of India, in Union Budget 2022 announced the introduction of the digital rupee which will be issued by RBI, using blockchain technology. The RBI-backed CBDC (Central Bank Digital Currency) is a digital version of fiat currency that can be exchanged via blockchain-based wallets and is regulated by the central bank. While risks posed by crypto currencies and assets need to be highlighted, their distinction from CBDCs also needs to be emphasised. Because of these developments, it is clear that increased adoption of digital technology creates new financial products and services for which greater financial education efforts are required.

Digitalisation and Financial Inclusion

Financial inclusion initiatives need to be supplemented by financial literacy initiatives. It is important to safeguard the interests of the people provided with access to financial products or services as a result of financial inclusion initiatives to prevent any loss of confidence in formal financial institutions. The National Strategy for Financial Inclusion (2019- 2024), envisages "leveraging technology with a focus on strengthening the ecosystem for digital financial services, creating innovative approaches to enhance outreach through virtual modes, strengthening robust consumer protection measures and developing targeted financial literacy modules, especially keeping in view the growing digitalisation". As such digitalisation can help in financial inclusion initiatives through innovative approaches for various target groups.

Digital Divide and Lack of Digital Skills

There exists a digital divide i.e. inequality due to access to information and communication technology. People lacking access to the internet or lacking e-skills might suffer with regard to various opportunities and developments (European Commission, 2014) and hence, require additional protection mechanisms. This can negatively impact reaching out to target audiences like the elderly or those from disadvantaged socio-economic backgrounds (OECD,2021) Irrespective of their educational background and age, some people do not know how to operate computers and carry out online transactions. They might be at risk of entering a fraudulent transaction or might give away their personal information like credit card details.

Financially literate consumers contribute to the market for digital goods and services

Reducing information asymmetry between providers and users of digital financial products and services, and improving financial education can enhance transparency, competition, and access to digital financial products and services. Financial literacy also contributes to the efficiency of the markets. Educated consumers encourage competition, which leads to innovation and efficiency. Additionally, financial education by empowering the consumers, reduces the burden on the regulators for their protection (Reddy, 2006).

New risks and vulnerabilities for financial consumers due to digitalisation

Digitalisation has brought forth novel risks like newer frauds, security breaches, privacy violations, and compromised data confidentiality. It has also led to new vulnerabilities like unwarranted digital profiling and easy access to high-cost credit. This can lead to negative outcomes like the exclusion of certain groups, lack of trust, over-indebtedness among consumers and increased consumer vulnerability (OECD, 2018).

Financial education needs to include awareness of digital financial consumer protection measures.

The RBI introduced the Ombudsman Scheme for Digital Transactions in January 2019 which provides a complaint redressal mechanism for digital transactions undertaken by customers. In 2019-20, 2,481 complaints relating to digital transactions were handled by the Ombudsman, of which 91 per cent of the complaints were resolved. Financial education efforts need to spread awareness about such financial consumer protection measures.

Digital Footprint and profiling

Consumers need to be made aware of managing their digital footprint and being cautious in disclosing their personal information online. Consumers can be victims of discriminatory practices adopted by service providers when digital profiling is used to offer differential rates or exclude them from certain offers. (OECD, 2018)

5.2 Role of Financial Education in the Digital Economy

Financial literacy can help people realize the importance of maintaining sufficient savings. Further, it can help them realize the benefits of investing them in suitable avenues rather than keeping them at home or in a savings account in their bank. Financial literacy can also help curb financially irresponsible behaviour of individuals like only paying the minimum amount due on credit cards and paying hefty interest later. The benefits of financial literacy are not limited to household financial decision-making and can extend to the workplace by improving productivity at work and can have a positive impact on a person's health by reducing mental stress. With vast technological developments in financial services like the use of internet banking, mobile wallets, and increased use of debit and credit cards, it is important to ensure consumers are updated on how to maximize the benefits from their use and at the same time take necessary precautions while using these products and services. Financial literacy in such a context is also important to safeguard technologically challenged and vulnerable groups.

Awareness and Knowledge about DFS

Consumers need to be made aware of various DFS and issues specific to their use. Financial education initiatives can increase the awareness about various products and services in digital mode, their features, advantages and limitations. It can also impart required knowledge of concepts like implications of digital contracts, personal data use etc.

Choosing from Complex Products and Services

When too many choices are available to consumers, it can lead to 'over-choice' or choice overload which can lead people to avoid making the decision altogether e.g. not buying a product (Iyengar & Lepper, 2000). In the digital economy, a plethora of choices across various financial products and services like mutual funds, insurance products, pension funds etc are available to consumers. Digital Financial Literacy can help people understand these complex products and services, make comparisons among choices available and make an effective and efficient choice.

Understanding Suitability of Products and Services

Credit has become easily available due to competition between financial institutions (Beal & Delpachitra, 2003). This can lead to consumers borrowing beyond their capacity to repay, especially when it has been found that consumers do not often understand the terms and conditions of consumer loans and mortgages (Moore, 2003). Through the digital medium, financial products and services can be purchased with a few clicks in almost no time. The suitability of the product or service, its features, terms and conditions may not be fully understood by the consumer. Financial education can ensure that consumers do not rush into such decisions or take them without fully understanding the implications of their choices.

Filtering and Analysing Relevant Information

Important information relating to financial decision-making may be lost to the consumer due to information overload. Also, to use this information for financial decision-making it is important to filter relevant information and analyse it. Financial literacy equips an individual with the skills to obtain and analyse financial information. Even when adequate information is available, people might be lacking in the ability to understand this information (Lerman & Bell, 2006). Financial education can help improve the ability of consumers to interpret disclosed information (Lumpkin, 2010). Digitalization can, on one hand, make detailed and elaborate information available to consumers which may be overwhelming but it can also offer solutions to filter and extract relevant information through various online tools, calculators, and sort and filter options.

Tackling Increased Marketing Efforts

Consumers may choose unsuitable financial products or services under the influence of marketing strategies adopted to push inappropriate offerings. (Marcolin & Abraham, 2006). Advertisements for financial products and services can be deceptive and misleading through the use of non-standardised terms, making unsubstantiated claims and promising "assured returns". Through digital marketing of financial products and services, a customer may easily end up purchasing an unsuitable product or service with no option to return or exchange the same. Financial literacy can help consumers deal with these increased advertising and marketing efforts by not getting easily influenced by them and evaluating the claims made by them.

Digital tools can facilitate personal financial management

Investors do not always behave rationally. Psychological biases can cause consumers to make irrational or sub-optimal choices. Consumers can be over-optimistic about their financial future or may carry mistaken beliefs relating to interest rate charges or penalties (Brown, Garino, Taylor, & Price, 2005). This leads them to assess their future financial status incorrectly and may cause them to make inadequate provisions for the future. Individuals can overestimate their understanding of financial concepts like the time value of money and compound interest (Mandell, 2004). Digital tools can be effectively used by consumers in this regard to make computations, for better budgeting and personal

financial management decisions. For example, online calculators can help an individual start planning for retirement early by making calculations such as the retirement corpus required.

Awareness about the risks of DFS

Consumers are susceptible to malpractices and misconduct on the part of financial service providers (Lumpkin, 2010). Further, the interests of another customer may be given priority or they may become a victim of a Ponzi scheme. Apart from traditional risks to financial products and services, DFS are also prone to cyber risks like phishing, spoofing, personal data theft, hacking etc. Digital financial literacy in this regard can equip people with the ability and skills to identify unscrupulous, unsuitable, fraudulent products or services and also to recognize any red flags of cyber fraud.

Redressal Mechanisms

Specialized redressal mechanisms are required to deal with any consumer grievances relating to DFS. Consumers also need to be aware of these so that they can be approached promptly in the event of any cyber fraud.

6. RESULT AND DISCUSSION

Analysis of issues arising from the confluence of financial literacy and the digital economy has revealed while digital content and medium can be a boon for financial inclusion and financial literacy initiatives by providing increased reach and access, richer content, and more engagement, it can also pose serious concerns for consumers because of the digital divide, excessive digital profiling, misuse of digital footprint and various other risks in digital space.

Based on the discussion in the previous section, Table 1 illustrates the Strengths, Weaknesses, Opportunities and Challenges of Financial Education and Digitalisation.

Table 1: Financial Education & Digitalisation: A SWOC Analysis

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> Innovative, engaging & interactive financial education campaigns incorporating digital content & technology Customized & Tailored financial education programs for specific target groups and occasions Use of social media campaigns 	<ul style="list-style-type: none"> The emergence of new risks and vulnerabilities for financial consumers Unregulated & informal financial products & services Existence of the digital divide
OPPORTUNITIES	CHALLENGES
<ul style="list-style-type: none"> Enhancing outreach through virtual modes for improved financial inclusion efforts More developed and efficient markets for digital financial products & services Better engagement with certain target groups like youth & tech-savvy people. 	<ul style="list-style-type: none"> Protecting vulnerable groups of consumers Creating awareness about consumer rights & obligations in the digital world Managing digital footprint and privacy

Source: Authors Own

The digital delivery of financial education offers various advantages which can be converted into opportunities are listed below:

- Outreach for financial education can be enhanced through virtual mode. Digital delivery can help improve access to financial education as it can reach the audience excluded earlier due to time, place or pace constraints.
- Information can be provided flexibly and interactively, integrating multimedia options in multiple languages.
- Financial education programs can be customized and tailor-made for specific target groups and occasions.
- More developed and efficient markets for digital financial products and services
- There can be better engagement with certain target groups like youth and tech-savvy people through the use of social media and technology

Weaknesses and challenges for financial education due to increased digitalization are:

- The emergence of new risks and vulnerabilities for financial consumers
- Unregulated and informal financial products and services
- Protecting vulnerable groups of consumers due to the digital divide
- Creating awareness about do's and don'ts for financial consumers in the digital arena

- Managing digital footprint and privacy

Financial consumer protection legislation and regulations are needed to protect consumers from loss or injury due to unfair or irresponsible practices of financial service providers. There is a greater responsibility of regulators in this regard to ensure that consumers do not fall prey to emerging unfair or deceptive practices and have redressal mechanisms to address their grievances in the evolving market.

National financial education strategies need to specifically address digital financial literacy which should seek to build the following competencies highlighted by OECD (2018):

- Awareness of financial products and services delivered through digital means and their benefits and risks
- Awareness of informal and unregulated financial products and services
- Knowledge of Consumer rights and obligations in the digital world
- Understanding the implications of digitally signing a contract"

With changing dynamics in the Indian financial market, many consumer groups are vulnerable to exploitation by service providers and therefore need greater protection. These vulnerable groups including women, senior citizens, rural population, people with special needs and economically backward consumers are subject to greater risks and are thus, in greater need of specifically designed financial education methods which are innovative and creatively use the technology available (RBI, 2012).

Measures need to be taken to ensure that people can assess the weak areas in their financial knowledge and abilities. This can be done through automated online self-tests and through "did you know" sections in just-in-time financial education efforts. Awareness about one's weaknesses and vulnerabilities may lead people to be more cautious and vigilant in their financial dealings like buying a financial product/service.

7. CONCLUSION

The emergence of the digital economy has necessitated not only the need for digital skills to navigate the digital world but also the need for digital financial literacy. When consumers have the requisite knowledge and abilities to take informed decisions about digital financial products and service, they will be able to better protect themselves in the digital financial marketplace. With increased digitalisation, the financial landscape has evolved considerably and thus, financial education initiatives too, need to evolve. Digitalisation offers many advantages and opportunities which should be used to aid financial literacy efforts.

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