



Female University Students and Fintech Literacy: Evidence from Somalia

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ABSTRACT

Fintech, a field encompassing digital banking, payments, and investment management, has revolutionized financial services by making them more accessible, convenient, and efficient. The growth of Fintech is driven by advanced technologies such as blockchain, IoT, AI, and robo-advisors, while also posing challenges for regulators and market participants. Fintech research is essential for driving innovation, shaping the future of finance, and addressing emerging challenges. This study examines the awareness and knowledge of Fintech concepts among female university students in Somalia. Using a quantitative cross-sectional research design, 92 students from four universities were surveyed to assess their familiarity with key Fintech topics, including blockchain, smart contracts, neo-banking, and cloud computing. The findings reveal significant gaps in Fintech literacy, with a majority of students showing limited awareness of emerging technologies. While 63% of students expressed the need for a dedicated Fintech course, only 32.6% felt adequately prepared for the Fintech industry. Regression analysis indicated that a student's major significantly influences their Fintech knowledge. The study highlights the need for curriculum reform and improved resources to enhance Fintech education in Somalia.

Keywords: Fintech, Financial Technology, Digital Finance, Financial Education, University Students, Perception, Awareness, Knowledge, Female Student, Somalia

JEL Classifications: G20, O33, I23, J16

1. INTRODUCTION

Financial technology (Fintech), a term encompassing innovative technology-enabled financial services and their accompanying business models, is rapidly gaining global attention, driven by innovators, academics, and regulators, as it expands its reach (Mention, 2019). In shorts, Fintech refers to innovations aimed at improving the process, delivery, and use of financial services (Mention, 2019). Several experts like Gobble (2018) highlights the increasing integration of Fintech in daily economic transactions due to digitalization and digitization. The integration of finance and technology has facilitated a dynamic ecosystem where collaboration among firms, universities, and governments is crucial for driving innovation and maximizing Fintech benefits (Chatzara,

2020) Due to its significance, strategic collaboration is crucial for Fintech firms' future success, as it prevents 95% of failures in the scale-up phase (Mention, 2019). These collaborations enhanced financial technologies, and financial innovation has already gained recognition in the innovation community, and within the past 10 years, Fintech businesses have grown in size, diversity, and reach (KPMG, 2018). Investment is rising as well: The Fintech sector brought in \$12.2 billion in investment 5 years earlier (Accenture, 2016); at the end of 2018, the top 250 Fintech companies had raised a total of over \$31.85 billion (CBInsights, 2018). According to KPMG's Fintech Pulse report from 2018, there was a more than doubling of worldwide Fintech investment in 2018 from \$50.8 billion in 2017 to \$111.8 billion, with an unprecedented number of deals made across numerous channels.

These financial innovations are transforming the world through widespread storms (Sharma et al., 2021).

Financial technology (Fintech), literacy and skills are essential as they influence their adoption, and decision making concerning financial products and services, i.e. their financial life. In this modern era, the intersection of technology and finance, commonly referred to as Fintech, has revolutionized the global financial landscape (Taherdoost, 2023; Jadhav et al., 2023). While this digital transformation has brought unprecedented opportunities for financial inclusion and economic growth, disparities in access and understanding of Fintech persist across different demographics. Ravikumar et al. (2022) argue that digital knowledge, financial knowledge, digital finance risk awareness, product quality, gendered social norms, practical application of skills, self-determination, and decision making are the determinants of digital finance (DFL) among adults. Digital and financial knowledge are more linked to digital banking services. As noted by Ali et al. (2024) financial technology and digital banking services significantly influence students' saving attitude, spending, investment, and digital financial literacy, and their use of these services is significantly impacted by them. Additionally, the use of financial technology or digital financial services depends on students' level of financial literacy (Ali et al., 2024). Previously, Sawitri (2021) stated that young individuals can enhance their financial well-being by wisely utilizing Fintech and enhancing their financial and technological literacy. However, digitalization of financial services enhances financial literacy and economic inclusion among individuals.

The research of financial technology, or Fintech, is a crucial, dynamic, and quickly expanding topic (Kou et al., 2024). The key areas of Fintech studies include role of Fintech in financial inclusion (Arner et al., 2020), banking and insurance (Yan et al., 2018), regulations (Chatzara, 2020), the nature of, awareness, adoption, literacy and knowledge on Fintech (Solarz and Swacha-Lech, 2021; Morgan, 2021). For instance, individual researchers, technology firms and research institution present huge findings of their works. Increase in education of financial literacy will improve Fintech adoption. In 2019, the Fintech Adoption Index for 27 global countries reached 64%, representing a significant increase in digitally active populations (Solarz and Swacha-Lech, (2021). However, researchers report conflicting findings on students' knowledge and understanding of Fintech due to various concepts and applications. A survey was conducted by Duma (2018) to determine if students have heard about cryptocurrency, revealed that 75% of respondents expressed a positive understanding, while only 36.3% of respondents were familiar with the underlying blockchain concept. A study in Pakistan by Ali et al. (2018) with 62% of female respondents revealed that only 2% of respondents are very familiar with Fintech, 16% are moderately familiar, 14% are not sure, and 18% have very little knowledge, with the majority (48%) having no idea or knowledge of this term.

The education sector in Somalia, especially higher education, is crucial for a nation's advancement and achieving its future vision. It transforms society through high-quality academic, training, and research programs, achieving societal goals, technological,

ideological, cultural development, and empowering individuals and institutions (Abdulle et al., 2023). Several research like Hassan (2023); Sayid et al. (2012), in Somalia has focused on digital finance and financial technology, examining how people accept these technologies and improve their financial inclusion. However, no specific research has been conducted on the Fintech literacy of female students or how familiar they are with these concepts. Therefore, this study will focus on the Fintech literacy of female students of some selected universities in Mogadishu, Somalia. The specific objectives of this study are as follows: (i) to examine female students' literacy on basic concepts of financial technology; (ii) to assess the impact of demographic elements (age, major, year of study, and university) on their level of literacy; and (iii) to evaluate female students' view on Fintech education and courses in their current curriculum. The following section of the paper provides a comprehensive literature review, summarizing existing research on the topic. In the third section, we detail our research methodology, including the research design, instruments used, data collection procedures, and analytical techniques employed. The fourth section presents the findings of our study, along with a detailed discussion of the results. Finally, the concluding section summarizes the key findings, offers recommendations based on our research, acknowledges the limitations of our study, and suggests potential directions for future research.

2. LITERATURE REVIEW

2.1. Fintech and Fintech Firms: Nature and Development

The term "Fintech" was first used by Bettinger in 1972, and the term's most well-known origin may be traced back to the early 1990s and is known as the "Financial Services Technology Consortium," an initiative initiated by Citigroup to support technology collaboration efforts, but regulators, consumers, and industry participants have just begun to take an interest in this area since 2014 (Ali et al., 2018). Financial technology, or Fintech, has emerged as a promising tool to support financial inclusion, or the ability of marginalized households and small businesses to access financial products and services (Morgan, 2021). Fintech is the use of software, applications, and digital platforms to deliver financial services to consumers and businesses through digital devices like smartphones (Awale and Kulmie, 2024; Morgan, 2021). In short, Fintech, or financial technology, utilizes innovative technologies to enhance and automate traditional financial services, revolutionizing money interactions, making them more accessible, efficient, and user-friendly.

A Fintech firm is a company that leverages technology to provide innovative financial solutions. These firms often disrupt traditional financial institutions by offering more efficient, accessible, and customer-centric services (Awale and Kulmie, 2024). Key Characteristics of Fintech Firms include technology-driven, innovative business models, customer-centric approach (Mhlanga, 2024). For example, Fintech firms heavily rely on technology to deliver their services. This includes Artificial Intelligence (AI), Machine Learning, Blockchain, Cloud Computing. Similarly, the firms often introduce new innovative business models that challenge traditional banking practices, such as Peer-to-Peer Lending, Mobile

Payments and Cryptocurrency Exchanges. Moreover, Fintech firms prioritize customer experience and satisfaction, and they often offer user-friendly interfaces, 24/7 customer support, and personalized services (Malhotra and Malhotra, 2023).

2.2. Key Drivers of Fintech Innovation

Fintech growth is driven by technological advancements in artificial intelligence, machine learning, blockchain, and cloud computing, as well as changing consumer expectations for convenience, speed, and personalized experiences (Frost, 2020). The global economic landscape, influenced by economic fluctuations and regulatory changes, provides opportunities for Fintech to address emerging needs and challenges (Schindler, 2017). Several factors have fueled the growth of Fintech. The following figure 1 presents key drivers of Fintech innovation. Other factors may include regulatory environment, technological research, and others. According to Fadhul and Hamdan (2020) Fintech has a multi-dimensional scope that can alter financial expectations and reality. Countries worldwide race to be leaders in this massive industry, with investing in R&D determining the leaders and winners. Regulators have provided a free space for investors and creators to test their products before applying them in the real market, gaining investor trust. However, the Fintech industry faces a significant challenge and has a long way to master it.

2.3. Fintech as Financial Knowledge

Financial knowledge is the understanding of financial concepts and principles, enabling individuals to make informed decisions about their money, including budgeting, saving, investing, debt management, insurance, retirement planning, and taxation, which can improve their financial well-being and security (Bhat, 2008). Today, financial knowledge is more crucial than ever before. As individuals are increasingly responsible for their own financial well-being, and with rising life expectancies straining pension and social welfare systems, financial literacy has become essential (Lusardi, 2019). Previous studies have primarily focused on two aspects of financial literacy: Actual financial knowledge and perceived financial knowledge (Nguyen, 2022) (Figure 2). Actual financial knowledge refers to an individual’s objective understanding of financial concepts like interest rates, budgeting, and investing, often assessed through quizzes or tests (Allgood and Walstad, 2011).

Perceived financial knowledge, on the other hand, is a person’s subjective belief about their financial knowledge, often measured through self-assessment questionnaires (Nguyen et al., 2017).

This dual approach aims to comprehensively assess both the understanding of fundamental economic and financial concepts (Remund, 2010) and the confidence and ability to apply this knowledge (Orton, 2007). Given this, assessing both dimensions of financial knowledge are crucial. Nguyen (2022) examines the impact of financial knowledge on using Fintech. The research, based on survey data from 527 individuals, found that women have lower levels of actual and perceived financial knowledge than men. Men were found to be more likely to use Fintech services than women. A study by Chen et al. (2023) reveals a significant “Fintech gender gap”, with only 21% of men using Fintech products and services, despite the promise of financial inclusion. The gap is attributed to country characteristics and individual-level controls, with gender differences in willingness to use new technology. Researchers argue that a lack of awareness and knowledge is an underlying barrier to the effective adoption of Fintech.

In this regard, Manikandan and Chandramohan (2016) investigated the awareness of mobile wallet services among management students at the Alagappa Institute of Management in Karaikudi, Tamil Nadu, India. Their study indicated that a lack of awareness was the primary barrier to the adoption of these services. Additionally, they found that students residing on campus had lower awareness compared to those who lived off-campus. A more recent study by Pramawati et al. (2023) explored Fintech education. When asked about their usage of Fintech, over 64% of respondents indicated frequent or daily use. Social media and the internet emerged as the primary sources of Fintech information for 60.9% of respondents, followed by learning materials and peer-to-peer learning. Several studies including Awale and Kulmie (2024) and Ali et al. (2018) highlight a gap in Fintech knowledge and awareness among students. In Pakistan, a study by Ali et al. (2018) found that only 2% of students are familiar with Fintech terms, and 68% are completely unaware of crowd funding, highlighting the need for further education on these concepts.

2.4. Fintech in Somalia

Financial technology (Fintech) is playing a significant role in daily transactions, with digital money platforms like EVC Plus enabling contactless payments in various areas. Fintech in Somalia promotes

Figure 1: Key Drivers of Fintech Innovation

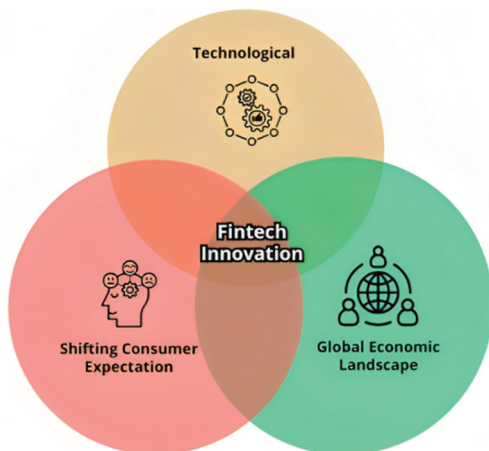
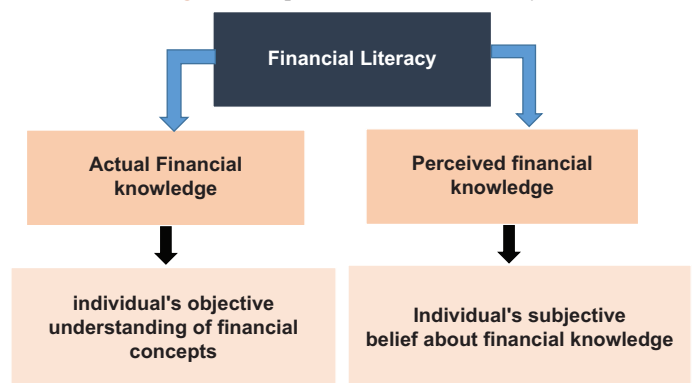


Figure 2: Aspects of Financial Literacy



inclusivity and boosts economic participation for all citizens, as it reduces corruption and supports those affected by floods, droughts, and conflicts (Mohamed, 2024). Hilowle (2024) documented that technology can significantly accelerate Somalia's economic development by improving financial inclusion, productivity, health, education, and job creation. However, challenges like limited access, political instability, regulatory environment, inadequate infrastructure, and a shortage of skilled labor hinder its full realization. Strategies include investing in infrastructure, promoting digital literacy, supporting entrepreneurs, and fostering collaboration. The author suggested that the Federal Government should invest in infrastructure, education, startups, innovation, and digital financial services to drive technological advancement.

Somalia has long faced significant challenges in financial inclusion, primarily due to infrastructure constraints, limited access to services, and regulatory hurdles. Fintech, however, offers a promising solution by providing innovative alternative channels for accessing financial services. Researchers like Mohamed and Nor (2023) examined the macroeconomic impacts of Fintech in Somalia particularly the mobile money, and stated that mobile money boosts consumer spending, reduces transaction costs, and enhances access to finance, promoting aggregate output expansion. It also maintains exchange rate stability and price levels, boosting trade openness. Mobile money improves productivity and price stability, leading to increased real income. One of prominent example is Premier Wallet that enables unbanked Somalis to buy, withdraw, shop, and top up without a bank account. Its Wallet Send feature challenges the Hawala system, i.e. remittance/money transfer system, allowing money transfers across 110 countries (Hassan, 2023). However, In Somalia, there is a significant gap in Fintech awareness and education among economics and management science students. Many students lack familiarity with crucial concepts such as blockchain, neo-banking, and IoT in finance. To address this gap, Awale and Kulmie (2024) suggest that universities should integrate Fintech topics into their curricula, invest in resources, foster collaborations with Fintech companies, strengthen industry partnerships, and offer cross-disciplinary electives.

2.5. Related Studies

Several studies conducted on digital and financial technology literacy focusing their nature, adoption, risks, and associated benefits. Some studies examined Fintech awareness and literacy among different groups including gender, age, and educational background. Rai and Sharma (2019) argue that there is a significant difference in awareness of digital financial services among male and female students in higher educational institutions. Previous studies like Chen and Volpe (1998) who survey of 924 students found demographic differences in financial literacy levels and decision making; that males scored higher, older students scored higher, and those with more work experience scored higher. Rai and Sharma (2019) citing from Chen and Volpe (1998) documented difference in awareness level has been found in the business and non-business stream students. Both authors strongly assert that the level of financial literacy is significantly influenced by one's educational background. Other studies like Hayhoe et al. (2000) found that female college students tend to use more financial

practices like regular savings, budgeting, and bill payments than male students. These financial practices require familiarity with financial knowledge and awareness of applications.

Gender differences in Fintech awareness and digital adoption have been investigated for decades. Amin et al. (2005) found that 38% of male and 61% of female respondents are aware of Short Message Service (SMS) banking; surprisingly, only female respondents used SMS banking with 0.95%. In India, Rani and Kumar (2024) on gender disparities in Fintech adoption in India included two cross-sectional surveys regarding men and women. Study F is done on (317) female users toward Fintech adoption, whereas study M is finished with (333) men users. This study found that perceived usefulness and ease of use significantly impact attitude and behavioral intention in both studies. Perceived value significantly influences behavior, while perceived risks insignificantly do. Since 2015, there has been a significant rise in the awareness and adoption of Fintech services (Singh et al., 2020). For instance, Singh et al. (2020) users with higher awareness and digital experience tend to prioritize their own attitude and perception, while those with lower awareness and digital experience are more influenced by social influence.

Iradianty and Aditya (2021) explored student awareness of digital payment services, surveying 104 students from various higher education institutions in Indonesia, with 51.92% of Female respondents. The results show that, based on 104 participants, the male and female students' awareness towards digital payment services is relatively very high (Male=90.74% and Female=96%). This expresses that female has more awareness than male students. In Jordan, Shehadeh et al. (2024) investigated digital financial literacy and usage of cashless payments, and found that digital financial awareness, experience, and skills significantly influence cashless payment usage among the targeted demographic, while the digital legal framework and subjective financial knowledge did not. Gender differences also showed a stronger association between digital financial experience and cashless payment usage. One of the ways to improve the financial literacy is through training, education and workshops.

Phillips (2021) examined cryptocurrency awareness among students and stated that the University of Arkansas, asking respondents about the most significant obstacles to cryptocurrency adoption that personally impact you, and 62% of them responded that lack of reliable information of how to use cryptocurrency, and stated that the University of Arkansas could positively incorporate cryptocurrencies and blockchain technology into its classrooms and other aspects of students' lives, according to a study. The study suggests introducing an Introductory Cryptocurrency course or a Smart Contracts course to learn Solidity for Ethereum Smart Contracts, which would be suitable for business schools.

3. METHODOLOGY

3.1. Research Design

This study utilizes a quantitative cross-sectional descriptive research design to examine the awareness and knowledge of financial technology (Fintech) among female students in economics and management sciences at selected universities

in Somalia. A cross-sectional study is a type of research that collects data from a group of participants at a single point in time (Kesmodel, 2018). Therefore, a cross-sectional design is ideal for this research because it provides a comprehensive snapshot of students' current Fintech literacy and awareness at a single point in time. This approach allows for efficient data collection and offers valuable insights into the current state of Fintech in higher education. While previous studies by Mohamed and Mohamud (2024), Hassan (2023), and Abdi et al. (2022) have explored the relationship between Fintech and economic development, financial sector innovation, and financial inclusion, there is a notable gap in research specifically focused on Fintech literacy among university students. This study aims to bridge this gap by assessing the level of Fintech literacy among female students at selected universities in Mogadishu, Somalia. Therefore, the study participants consisted of undergraduate students enrolled in finance-related programs at four Somali universities: Jamhuriya University, Banadir University, and the University of Somalia, and SIMAD University. A purposive sampling method was employed to collect data from 92 students, ensuring a diverse representation across academic years, majors, and demographic backgrounds. This approach aimed to provide a comprehensive understanding of Fintech literacy among students from female students with various academic programs.

3.2. Research Instrument

To gather data for this study, a structured questionnaire adapted from validated instruments (Ali et al., 2018) was used. Data collection is a fundamental step in research, analysis, and decision-making across various fields, as it involves gathering and measuring information on targeted variables (Sahu, 2013). The questionnaire was specifically designed to assess students' literacy of Fintech within the unique context of Somalia. This instrument was divided into three main sections. The first section is about demographic Information, collecting essential data about the respondents, including their age, university, major, and year of study. This information was crucial for analyzing how demographic factors might influence Fintech awareness and knowledge. The second section assessed students' level of literacy with various Fintech concepts, such as blockchain, smart contracts, neo-banking, crowdfunding, cloud computing, big data analytics, robo-advisors, artificial intelligence (AI), and the Internet of Things (IoT). Questions were designed to evaluate both their general awareness of these concepts and their understanding of how they are applied in the financial industry. The final section of the questionnaire aimed to identify perceived gaps in the current curriculum related to Fintech education. Students were asked to assess whether their current academic experiences adequately prepared them for careers in the Fintech industry.

3.3. Data Collection and Analysis

The questionnaire was distributed online via Google Forms, with the survey link shared through WhatsApp groups of the students. This method was chosen for its efficiency and ability to reach a wide audience quickly, however, only 92 female students responded in a suitable manner. The collected data were analyzed using SPSS software, version 24. Descriptive statistics, such as frequencies and percentages, were used to summarize demographic information

and measure overall Fintech literacy and awareness among female students. Regression analysis was conducted to explore the impact of demographic factors like age, university, major, and academic year on Fintech literacy and awareness, helping identify significant predictors and shedding light on how different demographic groups experience Fintech education in higher education.

4. RESULTS AND DISCUSSION

This section presents the study's findings on the awareness and knowledge of Fintech among economics and management sciences students at selected universities in Somalia. The results are analyzed in relation to demographic characteristics, students' familiarity with Fintech concepts, and gaps in the current curriculum. This discussion aims to assess how well students are prepared for the Fintech industry and identify areas for potential curriculum enhancement.

4.1. Demographics Characteristics

This section outlines the demographic characteristics of the study participants, with a specific focus on female students. It provides valuable insights into the sample's composition, setting the context for interpreting the findings on Fintech awareness and knowledge. The demographic profile, including factors such as age, institution, major, and year of study, is detailed in Table 1.

The demographic analysis of the study participants highlights a diverse composition in terms of age, institution, major, and year of study. Among the 92 female students surveyed, the majority were aged between 20 and 25 years (80.4%), with a smaller portion aged <20 (15.2%) and between 26 and 30 (3.3%). Only 1.1% were above 30 years old. Institutionally, Jamhuriya University had the highest representation at 30.4%, followed by SIMAD University (28.3%), Banadir University (22.8%), and the University of Somalia (18.5%). In terms of academic focus, most students were majoring in Finance (41.3%), followed by Accounting (31.5%), Business Administration (16.3%), and Economics (10.9%). The majority of students were in their 4th year (52.2%), with 3rd-year students comprising 23.9%, 2nd year students at 16.3%, and 1st-year students representing 7.6% of the sample.

Table 1: Presents demographics characteristics

Variables	Category	Frequency	Percentage
Age	<20	14	15.2
	20-25	74	80.4
	26-30	3	3.3
	Above 40	1	1.1
Institution	Banadir University	21	22.8
	Jamhuriya University	28	30.4
	SIMAD University	26	28.3
	University of Somalia	17	18.5
Major/Area of study	Finance	38	41.3
	Accounting	29	31.5
	Business administration	15	16.3
	Economics	10	10.9
Year of study	1 st Year	7	7.6
	2 nd Year	15	16.3
	3 rd Year	22	23.9
	4 th Year	48	52.2

4.2. Awareness and Literacy of Fintech among Female Students

This section examines female students' understanding with different Fintech concepts, such as blockchain, neo-banking, smart contracts, cloud computing, crowdfunding, big data analytics, robo-advisors, artificial intelligence (AI), and the Internet of Things (IoT) in the financial sector. Table 2 summarizes the findings, showcasing the varying degrees of awareness and understanding across these important Fintech areas. According to Table 2, the analysis of students' understanding with various Fintech concepts highlights a wide range of awareness levels. A significant majority of female students (54%) are not familiar with the term "Fintech," while 17% have only slight familiarity, and 20% are somewhat knowledgeable. A smaller percentage (5%) have moderate familiarity, and just 3% are highly familiar with the term, reflecting a general lack of awareness across the student population. When it comes to blockchain and smart contracts, 32% of students report no familiarity, while 48% have minimal knowledge, indicating that although awareness is higher than for other concepts, a substantial gap remains. Neo-banking shows the least awareness, with 60% of students unfamiliar with the concept and only 1% reporting an advanced understanding. Crowd funding is slightly better known, yet 61% of students report no knowledge, with only 2% being highly familiar. In contrast, cloud computing stands out as a relatively well-known concept, with 28% of students moderately familiar and 8% highly knowledgeable. Big data analytics in finance remains a less familiar area, as 32% of students report no understanding and 49% have limited awareness.

Robo-advisors also show low familiarity, with 59% of students lacking knowledge and only 8% having moderate or greater familiarity. Artificial intelligence (AI) in finance is slightly more recognized, with 34% unaware but 12% having moderate to high familiarity. Finally, the Internet of Things (IoT) in finance is the least familiar concept, as 76% of students report no familiarity, indicating a considerable knowledge gap. Overall, the data indicates that students have varying levels of understanding of Fintech concepts, with some, like cloud computing and AI, being more recognized, while others, such as neo-banking, robo-advisors, and IoT, show

significant knowledge gaps. These results align with prior studies, such as Ali et al. (2018), which similarly found limited Fintech knowledge among students, emphasizing the need for further education in this area. Additionally, Fintech education is essential in today's world, particularly, young people. Bermeo-Giraldo et al. (2023) reveals Colombia's mobile user base is rapidly increasing, but the adoption of Fintech is slow, with most university students unfamiliar with the concept. According to Rajkumar et al. (2020) The millennial generation, known for their technology savvy traits and 3C's (Creative, Connected, Confidence), is set to significantly shape the future world as consumers and workers. Moreover, Fintech familiarity effects Fintech Services Usage as noted by Mulyono (2022). The author indicated that financial literacy significantly enhances the knowledge and usage of Fintech services, thereby fostering a positive impact on the industry. Bermeo-Giraldo et al. (2023) found that financial education positively impacts perceived benefit. This emphasizes the importance of increasing awareness of the benefits of Fintech technology for young female students.

4.3. Current Curriculum Regarding Fintech Education

The university curriculum is redesigned to incorporate interdisciplinary approaches, promoting skill development and economic growth. This approach is complemented by a focus on university reputation, student attitude, academic quality, course offerings, and job prospects, all of which contribute to student satisfaction (Nor, 2018). This section explores how well the current curriculum addresses Fintech education, focusing on students' responses about Fintech's inclusion in courses, available resources, and preparedness for the industry. Table 3 indicates that there are significant weaknesses in the present Fintech education in the curriculum. Only 31.5% of students reported that Fintech topics are integrated into their coursework, indicating a significant gap in coverage. The majority (68.5%) of students are not exposed to these essential concepts, which are increasingly relevant in today's financial landscape. This lack of exposure could hinder their ability to understand and navigate emerging financial technologies. Furthermore, 63% of students expressed a strong need for a dedicated Fintech course,

Table 2: Fintech literacy among female students

No.	Items	Not at all (%)	A little (%)	Somewhat (%)	Moderately (%)	Extremely (%)	Total (%)
1.	Familiarity with Fintech	54	17	20	5	3	100
2.	Blockchain and smart contracts	32	48	19	2	0	100
3.	Neo-banking	60	22	13	4	1	100
4.	Crowdfunding	61	11	14	12	2	100
5.	Cloud computing	24	17	23	28	8	100
6.	Big data analytics in finance	32	49	14	2	3	100
7.	Robo-Advisors	59	16	16	5	3	100
8.	Artificial intelligence (AI) in finance	34	29	25	11	1	100
9.	Internet of things (IoT) in finance	76	15	2	5	1	100

Table 3: Presents student views on the Fintech education in their current curriculum

No.	Items	Yes (%)	No (%)	Total (%)
1.	Is Fintech included in your courses?	32	69	100
2.	Should students take a course on Fintech?	63	37	100
3.	Do current courses prepare you for the Fintech industry?	33	67	100
4.	Are there enough resources (e.g., books, online courses) to learn about Fintech?	27	73	100
5.	Do university courses align with market needs and developments?	47	53	100

underscoring the demand for more comprehensive education in this area. This suggests that students recognize the importance of Fintech and believe that a specialized course would provide the necessary knowledge and skills to prepare them for careers in the industry. Despite being exposed to Fintech topics, only 32.6% of students feel adequately prepared for the Fintech industry, highlighting a significant disconnect between academic content and the demands of the industry. This suggests that while students may be aware of Fintech, they may not be acquiring the practical skills and knowledge needed to succeed in the field.

Additionally, 72.8% of students believe there are insufficient resources, such as books or online courses, to support their learning about Fintech. This lack of resources can hinder students' ability to delve deeper into the subject and develop a comprehensive understanding. Regarding the alignment of university courses with market needs, 53.3% of students feel that the current curriculum does not meet industry expectations. This discrepancy may be due to the rapid pace of innovation in the Fintech sector, which can make it challenging for universities to keep their curriculum up-to-date. These findings underscore the urgent need for curriculum updates to better equip students for the Fintech industry. According to Kursh and Gold (2016), the integration of business and technology presents promising career prospects for students, faculty, and universities, therefore, to prepare the next generation of Fintech architects, some universities are implementing specialized programs, courses, and student groups. The results of this study aligns with previous research by Ali et al. (2018) and Shino et al. (2022), which also highlighted the growing demand for Fintech education. By incorporating more relevant content, practical skills, and up-to-date resources, universities can ensure that their graduates are well-prepared to meet the challenges and opportunities of the rapidly evolving Fintech sector.

4.4. Impact of Demographics on Awareness and Knowledge

This section explores the influence of demographic elements—such as age, year of study, university, and major—on students' awareness and literacy of Fintech concepts. Specifically, we examined the impact of age, year of study, university, and major. Regression analysis was employed to analyze these relationships, and the results are presented in Table 4.

Table 4: Regression results for impact of demographics on awareness and knowledge

Model	Coefficients	Standard error	t	Sig.
(Constant)	1.693	0.336	5.034	0.000
Age	0.072	0.134	0.537	0.593
Year of study	0.074	0.064	1.165	0.247
University	0.030	0.055	0.540	0.591
Major	0.136	0.060	2.282	0.025
	R 0.267			
	R square 0.071			
	Adjusted R square 0.029			
	F-value 1.670			
	Sig 0.000			

Dependent variable: Fintech literacy score (Significance level at 5%)

The regression analysis presented in Table 4 evaluates the impact of demographic variables (age, year of study, university, and major) on students' Fintech awareness and knowledge, measured by their Fintech Literacy Score. The model shows an R value of 0.267, indicating a weak positive relationship between the demographic factors and Fintech literacy. With an R Square of 0.071, only 7.1% of the variance in Fintech literacy can be explained by these factors, while the Adjusted R Square of 0.029 highlights the limited predictive power of the model. Despite the weak overall relationship, the model is statistically significant, as indicated by the F-value of 1.670 and a significance level of 0.000. However, when examining the individual variables, most do not show a significant impact. Age (coefficient 0.072, Sig = 0.593), year of study (coefficient 0.074, Sig = 0.247), and university (coefficient 0.030, Sig = 0.591) all fail to demonstrate a meaningful influence on Fintech literacy. The exception is major, which has a statistically significant impact, with a coefficient of 0.136 and a significance level of 0.025. This suggests that a student's field of study plays a notable role in their awareness and knowledge of Fintech. While demographic factors overall have a limited effect on Fintech literacy, the student's academic major is a key predictor of their familiarity with financial technology concepts. Previous studies by Awale and Kulmie (2024), Shino et al. (2022), Khuong et al. (2022), and Ali et al. (2018) highlight the importance of Fintech education and digital literacy for students, emphasizing the need to equip them with the skills and knowledge to navigate the increasingly digital financial landscape.

5. CONCLUSION AND RECOMMENDATIONS

This study has revealed a significant knowledge gap in Fintech among female university students in Somalia. The analysis found that students have limited familiarity with key Fintech concepts, including blockchain, neo-banking, crowdfunding, and the Internet of Things (IoT) in finance. Even in more recognized areas like cloud computing and artificial intelligence (AI), students' understanding remains incomplete. The current curriculum falls short in addressing the growing demand for Fintech-related skills. Most students reported that Fintech topics are not included in their courses, and many felt unprepared for the Fintech industry due to a lack of sufficient resources and relevant course content. A regression analysis revealed that a student's academic major is a key factor influencing Fintech literacy, while other demographic factors, such as age and year of study, had minimal impact. This highlights the importance of tailoring academic programs to foster Fintech knowledge.

To address these issues, universities must prioritize curriculum updates to include more focused Fintech content. Given that 63% of students believe a dedicated Fintech course is necessary, institutions should consider introducing standalone modules or integrating Fintech topics into existing programs. Furthermore, universities should invest in resources like online courses and workshops that focus on Fintech, while collaborating with industry experts to provide practical learning opportunities. Such initiatives

would address the 72.8% of students who believe current resources are inadequate. Tailoring Fintech education to different academic disciplines, particularly finance, economics, and management, is essential, as a student's major significantly influences their Fintech literacy. Additionally, establishing partnerships with Fintech companies to offer internships, workshops, and guest lectures would provide students with real-world experience and help them apply theoretical knowledge to industry challenges.

This study has several limitations. The cross-sectional design, which captured data at a single point in time, does not account for changes in students' Fintech literacy over time. Additionally, the focus on female students at selected universities in Somalia limits the generalizability of the findings to other populations. While the sample size was sufficient for this study, it may not fully represent the broader student body. Furthermore, relying on self-reported data may introduce bias, such as over- or underestimation of Fintech knowledge. Furthermore, future research should consider a longitudinal approach to track changes in Fintech literacy over time. Expanding the sample to include a more diverse population would improve the generalizability of the findings. Incorporating objective assessments of Fintech knowledge would offer a clearer picture of students' competence. Finally, research could explore the impact of specific educational interventions on enhancing Fintech preparedness among students.

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