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RegTech and Accounting of Financial Institutions Under Financial Inclusion: Conceptual Framework Analysis

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Abstract

The paper aims to analyze the expected impact of regulatory technology (RegTech) on the development of the accounting of financial institutions under financial inclusion. The nature of the work of financial institutions differs from the nature and laws of work and accounting in other commercial companies. Here comes the role of accounting to accommodate the surrounding variables in business environments and to work on the development of accounting practice in order to reach sound outputs for information users and then rationalize decisions that have an impact on the financial markets. Therefore, the paper concludes that the efforts of the professional and concerned authorities must be combined with regard to the development of accounting standards that are appropriate with the nature and work of financial institutions in order to accommodate the constantly developing technological factors within the sector due to the decrease in professional efforts about accounting in digital financial institutions.

Keywords: RegTech, Financial institutions, Digital transformation, Financial inclusion, Accounting standards

1. Introduction

RegTech, short for Regulatory Technology, plays a crucial role in the realm of financial institutions, especially concerning accounting practices, within the context of financial inclusion. Financial inclusion aims to provide access to financial services and products to underserved and marginalized populations, fostering economic growth and stability. RegTech's integration with accounting processes can significantly enhance the efficiency, transparency, and compliance of financial institutions operating under the umbrella of financial inclusion.

Although in 2007-2008 the great financial crisis created a credit crisis that caused the imposition of financial restrictions on many small and medium-sized companies, and the result was a sharp decline in economic output, and high unemployment rates throughout the world. Moreover, trust in banks and traditional financial institutions have been weakening, which in some areas has led to disoperation of banks, such as that of Britain's Northern Rock in 2008. This shaky environment has allowed the ground for new products and services for fintech startups, which started with a clean slate and did not need to overcome a history of failure and excessive risk-taking. As a result of consumer distrust of banks, market lending is becoming more prevalent (Saiedi et al., 2020). In particular, in the United States the misconduct of banks is associated with the emergence of the online lending market. Furthermore, research indicates that fintech startups have the ability to better address information asymmetry, as they leverage additional information about online borrowers, thus enabling them to obtain credit for the first time and in some cases at cheaper rates (Bertsch et al., 2020).

Fintech startups have provided their services by offering algorithm-based investment advice, mobile banking, instant online and mobile payment infrastructure, innovative risk management systems, and cost-effective foreign exchange services. Digital technologies increase and change rapidly, driving more competition and the need for economic units to innovate quickly and accurately. Therefore, economic units cannot ignore the importance of these digital technologies. Where digital technology refers to a set and models of various smart and innovative technologies in business environments, including “big data”, “data analytics”, “artificial intelligence”, and “cloud computing” (Ritter & Pedersen, 2020).

The current paper addressed the dynamic relationship between three variables, through an analytical framework of relevant accounting theories, models and principles.

2. Research Problem

The environment of institutions is characterized by many variables that affect the performance of accounting activities, as these variables have become a major challenge to modernize the nature of professional practices, business and accounting activities, as institutions face the challenge of digital transformation, which had to become a governing variable in developing performance and maximizing economic value resulting from directing and employing resources Organization and good use in a highly changing competitive environment, by focusing on technical and informational development.

This has caused a radical shift in the nature of the practices of the accounting profession in terms of recognition, registration, and disclosure by emerging technical means of big data technology, artificial intelligence, cyber security, electronic payment systems, and the provision of information to make rational decisions (Carroll *et al.*, 2023).

In light of the technological regulatory changes in business environment within companies in general and the banking sector and financial institutions in particular, there is a need to review the literature on the latest findings of previous studies on the role of digital transformation in accounting within the financial institutions sector and the role of systemic

factors and their technical decisions, laws and legislations in an attempt To develop financial institutions under the strategy of implementing financial inclusion.

Therefore, the research gap is represented in an attempt to analysis the latest findings of the literature and previous studies on digital accounting within financial institutions, with the support of technical systemic factors under the supervision of the financial inclusion strategy.

Or within other words; The research aims to clarify the role of technical systemic factors (regulatory technology) in the development of accounting for financial institutions under the supervision of the financial inclusion strategy. The researcher tries to review the literature and previous studies as sub-goals about what digital accounting is and its impact on financial institutions, environmental variables, including the legal environment and its impact on the development of accounting, professional bodies and organizations related to business development within the financial sector, financial inclusion and its relationship to digital accounting.

The importance of the research appears in the addition it adds to each of the scientific aspects in terms of the scarcity of research that discussed the development of digital accounting for financial institutions, the role and impact of environmental factors, especially the legal environment in the development of accounting, the relationship between technical systemic factors (regulatory technology and digital accounting for financial institutions under supervision Financial inclusion strategy While the practical aspects appear in the world's interest in digital transformation and financial technology.

3. Research Methodology

The analytical descriptive methodological research was adopted by reviewing the scientific literature and previous studies related to this paper and exploring the latest findings of previous efforts. And then analyze the results to achieve the main goal of the research and narrow the research gap. The research was classified to discuss the following points: the nature of environmental variables, especially regulatory technology and its impact on accounting, digital accounting within financial institutions, the efforts of relevant organizations and bodies on the development of financial institutions, and finally financial inclusion and its relationship to digital accounting for financial institutions under the control of regulatory technology. On other hand, dimensional RegTech framework, in which the many dimensions are combined and integrated. As is followed below in (Figure 1).

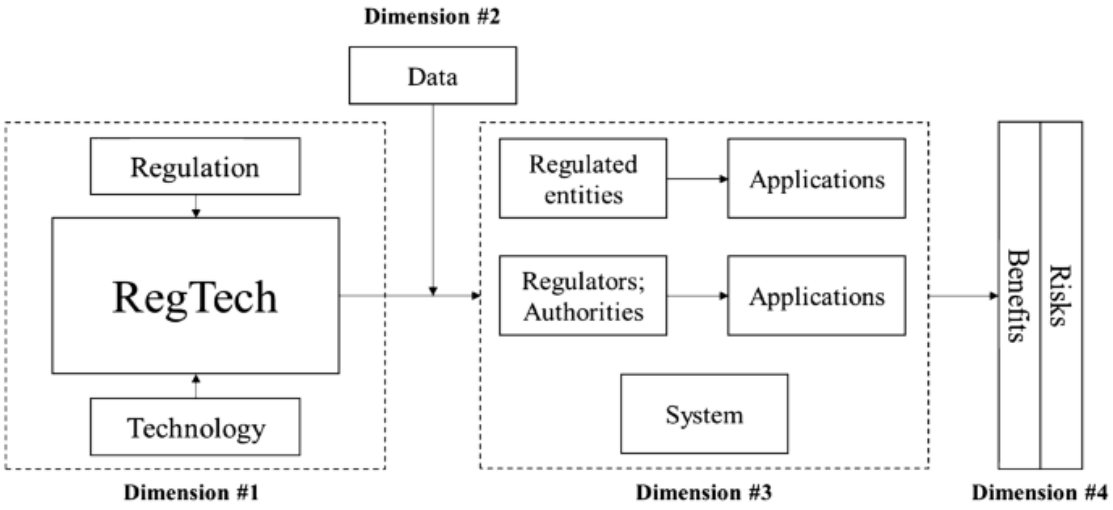

Figure 1. Multi-dimensional RegTech framework

Source: Ernst Young (EY) regulatory technology (RegTech)

4. Literature Review

There is richness in the literature covering accounting under digital transformation, which makes it important analyzing this in a systematic framework and accessing the latest findings of the literature and previous studies.

Haddad, (2021) these examine the impact of fintech start-ups on the performance and default risk of traditional financial institutions. He finds a positive relationship between fintech start-up formations and incumbent institutions' performance for the period 2005–2018 and a large sample of financial institutions from 87 countries. He further analyzes the link between fintech start-up formations and the default risk of traditional financial institutions. Fintech start-up formations decrease stock return volatility of incumbent institutions and decrease the systemic risk exposure of financial institutions. The findings indicate that legislators and financial supervisory authorities should closely monitor the development of fintech start-ups, because fintech not only have a positive effect on the financial sector's performance but also can improve financial stability relative to the status quo.

While the study of Bieliaieva et al. (2021) looks at the main financial techniques that bank adopt to improve their financial performance. The study population consists of commercial banks listed on the Amman Stock Exchange and the Abu Dhabi Stock Exchange, and contains financial information and data from 2012 to 2020. The results showed that financial technology has a positive impact on both total deposits and net profits. This study recommends encouraging banks to adopt comprehensive strategies to achieve sustainable development.

Talha and others, (2022) Investigate determine the impact of information technology on the field of finance and accounting, and the study in the research paper relied on the analysis of secondary data. The study was conducted in China, so that research data was collected in various sites, including global development indicators and financial reports used by

companies. The main independent variable is information technology; scientific practices, business practices, and cultural practices also include independent variables. While accounting and finance included return on assets, return on equity, fiscal unit policy, revenue bonus, commercial mortgage, bill financing and pension-based financing the dependent variables. E displays programs and runs various results such as descriptive statistics, covariance, unit root test analysis, histogram, and case, in order to measure the research study, and the result shows that the analysis of the variance ratio for the total result of each indicator indicates that there are positive and more important effects of modern information technology on finance and accounting. Accordingly, information technology is the technology that plays a vital role in the accounting and financial departments.

Paper Johansson et al., (2019) discussed the regulatory situation following the last global financial crisis in 2008, and the need for regulation from the beginning, with many calling for stricter policies to avoid a repeat of the same crisis. These voices have been partially heeded, as a large number of new policies, regulations and standards have been implemented since then. The new rules, which were professionally drafted, have proven to have harmful consequences. Excluding potential customers and high barriers to entry are just side effects of the rapidly rising compliance costs that the raft of new regulations has brought upon businesses. RegTech, a new category of innovations previously classified as part of FinTech, are the tools of the future for regulatory compliance. What is unique about this article is its description of past, current, and future developments in RegTech, presenting some current real-life cases within RegTech companies, and discussing their status in the world of ever-changing policies and rules. And Kunhibava et al., (2023) this study aims to explore the challenges in using Regulatory Technologies (RegTech) in Islamic and conventional financial markets while exchanging recommendations in this regard. The study concluded that there are no regulatory frameworks to support the challenges facing Islamic and conventional financial markets when using regulatory techniques, with low awareness among financial market participants as well as a lack of experience in the field of regulatory technology. RegTech offers a cost-effective and efficient means of complying with regulations and ensuring the accuracy of information provided to regulatory bodies. What is unique about this study is that it discusses the modernity of regulatory technology in the financial world, especially in Islamic financial markets, while providing recommendations that help address the challenges faced in using RegTech. Despite the scarcity of relevant literature, the study helps conventional and Islamic financial market entities and authorities determine the potential impact of regulatory technology on their business and the financial system. This study helps in finding innovative ways to manage risks.

Gonçalves and others (2022) this study aimed to analyze the impact of digital transformation in the accounting sector, multiple case studies were adopted to collect broader empirical evidence. The study shows that although digital transformation has begun in small and medium-sized Portuguese accounting services organizations, industry technologies, optical character recognition (OCR), artificial intelligence (AI), robotics and enterprise resource planning (ERP) in the cloud are among the technologies singled out by the respondents. It turns out that organizational culture and price are among the main obstacles to digital

accounting. The study shows that digital transformation is in the early stages of Portuguese accounting services for SMEs, in terms of emerging technologies. Which supports clarity and understanding of the role of accounting and accountants in organizations and society in the context of the digital age. In addition, it provides practical insights into the possibility of a relationship between technological development (digital in particular) and the dynamics of the labor market for accounting professionals.

Dyball and Seethamraju, (2022) a study investigating the potential impact of client use of blockchain technology on audits of financial statements of Australian accounting firms. The data was primarily collected from interviews with a range of stakeholders including audit partners from first and second tier accountancy firms in Australia. Interviews focused on the potential impact of blockchain on the stages of obtaining (holding) an engagement, planning an engagement, risk assessment, audit evidence, and reporting on audits of financial statements of clients using blockchain technology. Interpreted perceptions of changes in financial statement audits using professionalism and business reasoning. The study found results, the most important of which are: that Australian accounting firms have obtained engagements with clients working in the field of crypto currencies or a small group of clients using the Blockchain platform. There are opinions that the blockchain technology is unique and therefore poses risks that have not been encountered before in audits. These risks are likely to lead to a change in how companies plan and design audit methodologies and perform audits of financial statements. Blockchain technology presents both opportunities and challenges for companies to implement and develop auditing as an emerging field in auditing.

Al-Okaily and others, (2023) aim that digital transformation has brought about changes in business enterprises, especially in the field of digital accounting transformation, Therefore the main objective of the study is to explore the important role of digital accounting transformation in improving business performance in the context of the banking industry. The results showed that the adoption of digital accounting and the adoption of financial technology innovation and technological competition are the main drivers for improving business performance. And upon revealing all the supposed paths that improve business performance, while it was found that technological know-how indirectly affects the relationship between (the adoption of digital accounting and financial technology innovation) and improving business performance, this study also adds policy makers with a useful vision for institutions looking to adopt Digital technologies to improve business performance.

Mostaque and others, (2023) This study aims to recognize the concept and objectives of digital transformation and the quality of financial reports and measurement models with qualitative characteristics of accounting information, to achieve the study's objective, the study dealt with a questionnaire form designed to survey accountants, department heads, account managers and banking executives. This form was distributed to banks listed on the Iraqi Stock Exchange, and its number was swallowed. (102) A valid form for statistical analysis, the researcher has used statistical methods to analyze the results and test hypotheses: Alpha Cronbach Persistent Coefficient, Pearson Binding Coefficient, Metrics for Descriptive Statistics and Simple Linear Regression Analysis and the study reached a set of conclusions,

the most important of which was the inverse correlation between digital transformation and the quality of the financial report. Whenever the economic unit moves towards digital transformation whenever this results in the adequacy and reliability of accounting information and thus the benefit to its users, the study also found a moral impact of digital transformation on the quality of financial reports (appropriate and fair presentation).

After reviewing and analyzing previous studies, the researcher finds out, including the following:

1) With technological progress reaching the point at which it is now, and regulatory technology being applied with minimal effort to a wide network of rules and policies, it has become necessary for regulatory bodies to acknowledge the existence and potential of regulatory technology when preparing new regulations. This is important not only for the benefit of building sound policies, but also for its reflection on the quality of financial reports of financial institutions, through technological financial regulations and rules that support the reduction of financial risks and expected credit losses within financial institutions, and enjoy greater transparency, effectiveness, and fairness of presentation.

2) RegTech increases efficiency, reduces costs, anticipates risk, security, protects investors, and rationalizes the decisions of users of financial reports.

3) Accounting within financial institutions is carried out through international financial reporting accounting standards without taking into account the activity and nature of the work of financial institutions whose regulatory law differs from the corporate law. With technological regulatory factors, there must be concerted efforts by the competent professional bodies to develop accounting practices for financial institutions.

4) legislators and financial supervisory authorities should closely monitor the development of fintech start-ups because fintech not only has a positive effect on the financial sector's performance but also can improve financial stability relative to the status work environment of the country.

5) The growing interest in financial technology has led financial institutions to increasingly invest huge sums in information technology. These investments usually include comprehensive improvements in data collection and information systems, and this is necessitated by the need for evidence of corporate regulatory technology through regulatory bodies that support these improvements to protect investors from risk and balance with the required return on investment.

6) Regulatory technology helps financial institutions of all sizes maintain compliance with constantly changing regulations and the decisions and legislation they include, by combining regulatory expertise and cloud technology, and in order to impose continuity and increase pressure on the financial organization, it is necessary to keep up and realize the importance of establishing the accounting infrastructure to support the company's growth in time. It is the provision of a compelling value proposition (i.e. a

measurable return on investment) that takes into account the nature of the work of these institutions.

Contribution on The difference between the current paper and previous related studies is that this paper dealt with regulatory technology from the perspective of the role of technological controls and regulations in developing accounting for financial institutions under the supervision of financial inclusion at the world level, as this paper came to analyze the practical accounting practice within financial institutions in light of technological regulatory developments. After the survey and analysis, this paper contributes to activating the development of accounting standards for financial institutions to suit the technological regulatory environment within the financial sector. In addition to that, concerted efforts by professional bodies look into the existing accounting standards that are applied within financial institutions and try to work on developing new standards that are compatible with The current and emerging financial situation of the financial sector, taking into account the nature of the work of these institutions.

5. The Conceptual Framework Analysis of Accounting Regulatory Technological (RegTech)

5.1 Accounting Environment

Accounting represents an integrated and comprehensive system of information in any business organization, and it is a system that is open to the rest of the systems within the organization, and at the same time it is open to the surrounding environment that influences and is affected by it. Thus, changes that occur in the accounting environment will necessarily affect accounting as an information system. The factors that make up the accounting environment have been divided into three groups: economic factors, political and legal factors, and social factors. Here, the researcher will discuss the regulatory aspects and the legal environment and its impact on accounting and its development (Hassan et al., 2003).

5.2 Regulatory Aspects and the Legal Environment

The Regulatory and legal factors were not isolated from the environment surrounding accounting, and therefore four factors were highlighted: the stability of the country's policy and relations, legislation and the legal system, the accounting profession and its status, and international ties and relations. Stability of the country's politics and relations: The process of a country's acceptance of the electronic revolution and information technology must reflect the policy of that country and its relations with the management of the country's affairs in all aspects of the various countries of the world and its political and national aspirations. Politics is the art of governance and management of the country's affairs in all aspects, internal and external. Politics is the ceiling of the house that overshadows everything below it, controls everything below it, and supervises all the activities that take place inside that house. The relationship between accounting and politics converges from the fact that accounting is a social science and that every social function must be of a political nature or have political dimensions and repercussions on society, as the existence of political obstacles and barriers lead to the failure of accounting to keep pace with current developments in the world, the

most important of which was information technology In all its forms, which affected the outputs of the accounting work. Some researcher believe that accounting, its rules and standards are mostly the product of political action rather than carrying accurate logic or proven abstractions (Huyen et al., 2021).

Management depends on the treatments mentioned in the accounting rules and standards. Then is not an accounting technical problem, but rather a political problem (Madawaki 2014); And Legislation and legal system: It is the legal rules in any country that determine the relationship between individuals and institutions and their interactions, as well as put in place the regulations and legislation that regulate the various professions, including the accounting profession, its practices and requirements. The legislative authorities should study the interests of the various parties that will be affected by these legislations and work to find a kind of balance between them in order to achieve their goal (Madawaki, 2014).

In this field, there are two directions, the first: is the civil law entry countries, where the laws include a set of legislation and accounting procedures that regulate the accounting profession, its practices and requirements, as it is imposed on individuals and institutions and for the benefit of society and others. It is necessary here that the legal system in the country shows the extent Which laws (such as commercial law or corporate law., etc) will regulate accounting legislation, given that this law is issued by the state and that the state is an agent of society and has the right to legislate laws that regulate the lives of individuals, institutions and professions, and this is what is called social agreements. As for the second trend, it is the countries of entry to the general law, where the law does not tend to cover all issues related to accounting with one legislation, but rather leaves the large and wide role for issuing regulations and instructions for the accounting profession from Through its bodies or councils or the like. And that the focus of these bodies and their requirements in these countries tend to be more transparent and timely than in the countries of the first direction (Branson and Abu Alia, 2011); There is no doubt that when advanced professional accounting organizations are available in a country, it is logical that their tendencies tend to be more interactive in business and trade issues and issues of developing accounting systems and expanding the use of information technology and developing the efficiency of its employees to keep pace with the era of the global village and monitoring accounting practices and applications to serve Business organizations and the country's economy. The development of the accounting profession must reflect the development taking place in all aspects of society. In countries that lack extensive ownership of capital by companies, investors and shareholders, there is less need for skilled accountants who work in accordance with international accounting standards and international auditing rules and are based on an advanced information technology base (Lutfi et al., 2016); International links and relations: Links and relations between countries play a major and important role in creating an appropriate investment atmosphere that is beneficial to investment and economic activity in general. International relations emerging in conditions of political stability call for a kind of cooperation between countries based on ties and economic partnerships. These economic ties are in dire need of bases for measuring the financial and economic results achieved from them. The entry of a country into a partnership with another country within an agreement in which each side seeks

to achieve its interests and obtain economic, social or cultural benefits, and it is logical that countries search among themselves for countries similar to some extent in terms of development and progress, or that this country has a future because It evolves and keeps pace with the times, and thus each of them can achieve the goals for which the agreement or partnership entered into. It is certain here that such agreements or partnerships are concluded between countries that have a basis for technological development in its various forms, including information technology, or that they able to have this rule after a period of time.

5.3 RegTech and Financial Institutions

In the years since the Global Financial Crisis (GFC) of the late 2000s, financial technology or FinTech aptly emerged as a tool enabling to transform banking and financial services internationally. With the ease and smooth provision of financial services to customers, this in turn works to reduce costs for financial institutions as they are the target companies currently in the market. Despite expectations regarding FinTech companies as newcomers to the market, established companies are constantly being identified as the main beneficiaries of the impact of technology on finance (Ernst and young, 2019).

The same can be expected for the supervisory authorities, when technology is used wisely by the authorities. Looking forward towards future technological developments in finance, emphasis is increasingly placed on “RegTech”, such as the use of technology by financial and regulatory agencies as purposes (such as compliance with reporting requirements), and, by extension, on “SupTech”, such as the use of technology by authorities for supervisory functions.

Regulatory technology (Reg-Tech) is a major component of financial technology; in 2016, the UK's Financial Conduct Authority (FCA) defined Reg-Tech as information technology that helps financial institutions meet financial regulatory compliance requirements more effectively and efficiently. In 2015 regarding technology the International Institute of Finance (IIF) stated that financial institutions are facing the problem of rising costs and proposed technology solutions aimed at solving regulatory compliance challenges (Silva, Kimura, & Sobreiro, 2017). RegTech is a term for digital finance or FinTech. Within strategy in general; "RegTech" is simply defined as "regulatory technology, a subset of financial technology that focuses on technologies that may facilitate the delivery of regulatory requirements more efficiently and effectively than existing capabilities”. As another subset of FinTech. These definitions reflect the perspective of financial institutions, and narrowly define Reg-Tech as a technical means to help financial institutions efficiently meet the regulatory requirements of financial regulators. While currently the concept of Reg-Tech has expanded to include financial stability monitoring, in terms of early warning of financial market risks, identification of digital financial risks, cross-border abnormal capital control, anti-money laundering control, and many other areas. These issues have recently received increased attention from central banks. Therefore, Reg-Tech can help regulators improve the efficiency of risk monitoring and identification, as well as reduce the workload of the regulator.

The emergence of RegTech / RegTech's progress is a natural result of two major factors: the new regulatory environment in the aftermath of the 2008 financial crisis (Arner et al., 2017)

and the sweeping digitization process of the financial landscape, also known as FinTech. Also, the increase in banking crises in global banks had a pivotal role in the 2008 crisis (Kalemli-Ozcan et al., 2013), which led to the elimination of confidence in the financial sector to a large extent, which had a negative impact on the damage to the economy and the well-being of Individuals. Weak regulation was blamed for the financial crisis (Admati & Hellwig, 2014), and in response, financial regulators introduced a new and stricter regulator for example, Basel Committee-3: a set of internationally agreed measures developed by the Basel Committee on Banking Supervision. The regulations were post-crisis, and mainly aimed at strengthening the system's ability to absorb shocks, thereby improving the timing, quantity, and quality of resources to support financial stability (IMF, 2020).

At the same time, side effects appeared in the number of requirements introduced by these legislation, and the extent Limited compliance automation, timing of legislative changes, short transition periods for companies to comply with certain legislation and inconsistency or lack of clarity in requirements submitted (IMF, 2020).

Digitization and emerging electronic payment methods have proven to be beneficial for business models, services and operations in the field of financial technology, and as a means to respond to the risks posed by digitization in the financial sector, RegTech has found a new aperture, enabling financial institutions to fulfill their compliance obligations at a lower cost, with greater effectiveness and less complex compliance issues for entities (Quill & Lennon, 2019).

5.4 Efforts Made Internationally and Locally Regarding Digital Regulation Within the Financial Sector

5.4.1 Developments in the European Union

In March 2018 the European Commission announced its Fintech Action Plan, the most notable EU-wide initiative in recent times was the Commission's Digital Finance Strategy 2020, which consists of three regulatory proposals [on markets in crypto assets, on distributed ledger technology (DLT) Pilot system for financial market infrastructures and digital operational resilience for the financial sector] and a separate strategy for retail payments. Although the committee's strategy is clearly geared towards digital finance, the strategy does not explicitly refer to RegTech (Totolo et al., 2020).

5.4.2 Developments in the United Kingdom

Being a practical example for the UK in regulating innovative technologies, the Financial Conduct Authority (FCA) has been active since 2016 in giving fintechs the opportunity to experiment with products, services and solutions without being subjected to regulatory sanctions. RegTech is central to the innovations being tested under the FCA safeguards. Indeed, the frequency of RegTech-related activities is evident from the successive groups of accepted participants since the introduction of the Sandbox (FCA, 2022). From 2016 to 2018, the Bank of England's fintech accelerator was heavily involved in testing SupTech use cases, a pattern also illustrated by the tech sprints organized by collaboration between the Bank of England and the Financial Conduct Authority over the same period. There may be little doubt

as to the UK's commitment to providing hands-on support to regulated financial technology firms and institutions. Compared with the EU's determination to launch comprehensive strategies and policy goals in two years, the UK has not shown such a "high-level" attitude towards developing interdependent policy and regulatory strategies (FCA, 2020).

5.4.3 Digitalization and IFRS Foundation

The role of the International Financial Reporting Standards Foundation towards technology and digitization is an important role in the field of digital reporting, by providing a classification of international financial reporting standards to support electronic filing and consumption of financial information compatible with international financial reporting standards. The IFRS Foundation is about to embark on a digital transformation. During the recent Trustees meeting, a long-term plan for the IFRS Foundation to work on overhauling its entire technology systems was signed, as well as a plan to create a roadmap for the "digital experience" offered to stakeholders around the world. This investment program is called the "Business and Technology Process" for a period of three years. Recognizing the importance of this initiative, it established a permanent subcommittee on technology to oversee the program. The regulators now fully accredit electronic filings with the IFRS classification used in Chile, Peru, Mexico, Korea and South Africa, South Africa, Australia and the United States: The European Commission has finalized proposals to require listed companies to prepare consolidated financial statements using the IFRS standards to mark their primary financial statements using the IFRS classification for financial years beginning on or after January 1, 2020. One European electronic format, which is Electronic annual financial reports from the European Union introduced to support the accessibility and transparency of financial information. These measures are an excellent step to move towards the full benefits of electronic reporting that will be achieved by adopting the IFRS classification. The IASB recently hired two employees to lead its standard technology-related business. As part of this work, it continues to explore how technological developments affect the way financial information is consumed, as well as how technology-related innovations affect the standard-setting process.

5.5 RegTech With Accounting in Financial Institutions

The financial institution is part of the financial system that serves the community by providing the financial services it needs to carry out its daily activities and develop its economies. The financial system is nothing but a network of financial institutions, financial intermediaries, businessmen and individuals, as well as the components that participate in it and organize its operations according to mechanisms and legislation formulated. Therefore, the primary function of financial institutions under this system is to transfer money from lenders to borrowers or from units with a financial surplus to units with a financial deficit that brings together bidders and seekers of money through other financial institutions that mediate these transactions such as (banks and finance companies, etc). and with the development that occurred between technology Modern communication technology and the increase in population, as well as massive deals, increasing the complexity of the financial system, and the means available for financial transactions, all of the above prompted dealers to resort to

financial institutions to manage their affairs and money, which contributed to the emergence of the role of financial institutions clearly in the lives of individuals as they are an important part of the financial system of any country. The financial institutions can be defined as a business organization like the rest of the other commercial and industrial business organizations, except that it differs from it in that its assets are financial assets such as loans and securities instead of buildings, machinery and raw materials that represent the assets of industrial companies, and its liabilities are also financial liabilities such as deposits and savings of various types; So types of Financial Institutions offer various products and services for individual and commercial clients. The specific services offered vary widely between different types of financial institutions; some Banks, Credit Unions, and Savings & Loans: These financial institutions accept deposits and offers checking and savings account services; make business, personal, and mortgage loans; and provides basic financial products like certificates of deposit (CDs). They may also act as payment agents via credit cards, wire transfers, and currency exchange. These types of financial institution can include: Commercial or private banks, Savings and loans associations, Credit unions, Foreign banks, Savings banks, industrial institutions, thrifts. And others, Investment Companies, Advisors, and Brokers: issue and invest in securities (stocks, bonds, mutual funds and ETFs or exchange-traded funds). Mutual funds are one example of a product offered by an investment company, where many investors' money is pooled and invested in stocks, bonds, money market instruments, other securities, or even cash in an ongoing manner. Other examples of investment-related financial institutions include investment advisors and brokers. Brokers accept and carry out orders to buy and sell investments (such as securities) for customers (Shan and Troshani, 2020)

5.5.1 Techniques for the Development of Accounting Registration and Bookkeeping Electronically

Artificial intelligence and robotics: With the help of artificial intelligence and bots, repetitive and time-consuming tasks such as data entry, invoices, payment reminders, inventory updates and bookkeeping can be automated, and this will save time for accountants to focus on the most important tasks; Cloud computing technology: Cloud computing changed the rules of the game in the accounting industry. It allowed accountants to access client data and provide information and financial reports through cloud computing anytime and anywhere. This allowed easy collaboration with clients and working on client accounts remotely. In addition, it was possible to allow for accountants to be more involved with their clients and encourage strategic assignments rather than cumbersome paperwork. Tax software innovations: the tax programs that have been established in recent years have improved the accuracy of data and computing while reducing the margin of errors, which companies want to adopt to eliminate tax penalties with stakeholders and authorities, where tax programs are also used to improve the efficiency and effectiveness of tax audits.

5.5.2 How Digital Transformation Is Changing the Accounting Industry

The world is in the throes of a digital revolution that is changing the face of industries across the globe. This transformation, fueled by technological advancements, has permeated every

sector, including the traditionally conservative field of accounting and finance. As businesses increasingly recognize the need to modernize their operations and processes, digital transformation in the finance sector has become an area of significant investment and focus. In 2018, 40% of all technology spending was directed toward digital transformations, amounting to a staggering $2 trillion in total enterprise spending. The trend shows no sign of slowing down. Between 2020 and 2023, direct investments in digital transformation are projected to reach $6.8 trillion. The benefits of embracing digital transformation are undeniable. Companies with higher digital maturity reported a 45% revenue growth, compared to a mere 15% for those with lower maturity levels. It's clear that digital transformation is not just a fad; it's a strategic imperative that can drive competitive advantage and growth. Enter digital transformation. By adopting digital tools and technologies, finance and accounting departments have been able to streamline and automate their processes, thereby increasing efficiency, accuracy, and transparency. Real-time access to financial data has enabled quicker and more informed decision-making, while the use of technologies like artificial intelligence (AI) and machine learning (ML) has opened up opportunities for predictive analysis and risk management (Accord, 2023).

5.5.3 Accounting in Banks and Financial Institutions

IFRS Standards for Banks and Financial Institutions are slightly different for banks and financial institutions. IFRS is still the same, but the way you use it is a little different, unlike product-based companies and other service-based companies, banks basically operate with money itself, and for other types of companies money is often the only medium for their transactions and most Goods or services are not about money. In other words, financial transactions such as having a bank account "underpin" transactions for the main line of business, but the main product or service of any bank or financial institution is money in various forms: lending money, saving money, multiplying (or sometimes shrinking) money. Allowing you to use money by (credit cards, checks, etc.). As a result, the financial reports of the activities of banks look very different from those of commercial companies (ESMA, 2013).

5.5.3.1 The International Financial Reporting Standards

IFRS regulations apply to the banking industry and set the accounting and reporting standards for financial institutions. Banks are required to follow these standards in preparing their financial statements, including their balance sheet, income statement, and cash flow statement. Some key IFRS requirements for the banking industry include the recognition and measurement of financial instruments, impairment of assets, and hedge accounting (Nguyen et al., 2023). The goal of IFRS is to ensure that financial statements provide a transparent and accurate picture of a bank's financial position and performance, which helps to promote trust and confidence in the financial system. Let’s go with each of the requirements in brief: Recognition and measurement of financial instruments: This refers to how banks should recognize and measure different financial instruments, such as loans, deposits, and securities, on their balance sheet. IFRS requires banks to use fair value measurement or amortized cost as the basis for recognizing and measuring these financial instruments, depending on their

characteristics and the purpose for which they are held. Impairment of assets: This refers to the process of recognizing and measuring a reduction in the value of a financial asset due to a decline in its expected future cash flows. Banks are required to perform regular impairment assessments and to make provisions for any expected losses. Hedge accounting: This refers to the accounting treatment for hedging activities, where a bank takes a position in a financial instrument to offset its exposure to changes in the value of a related asset, liability, or firm commitment. IFRS requires banks to apply hedge accounting if certain conditions are met, in order to better reflect the economic results of their hedging activities in their financial statements (Shaikh & Karjaluoto, 2016).

(a) IFRS standards and the financial statements regulations in the banking sector

Financial Instruments (IFRS 9/IAS 39, IAS 32), Presentation of financial statements (IAS 1, IAS 7, IFRS 7)and Consolidation and special purpose entities (IFRS 10, IFRS 12). Working for a bank or any other financial institution, IFRS is a little bit different there. IFRS is still the same, just the way how you use it is a bit different. Unlike product-based and other service-based companies, banks work basically with money itself. For other types of companies, money is mostly only the mediator of their transactions and most goods or services do not revolve around money. In other words, money transactions – like having a bank account are "supporting "transactions to the main business line. But the main product or service of any bank or financial institution is money in various forms: Lending money, saving money, Multiplying the money (or sometimes shrinking your money, too) Taking care of money, Enabling of use the money (credit cards, cheques ,etc.)The financial reporting of banks' activities looks pretty different from what you would expect based on a "normal" company. Here are the main specifics of the IFRS use by banks and the IFRS standards that are the top priority for any CFO, accountant, or finance person working in banks and financial institutions. The three hottest IFRS topics for banks and financial institutions will be discussed:

(b) Financial Instruments (IFRS 9, IAS 39 and IAS 32)

The standards about financial instruments are absolutely a must whereas money is a financial instrument itself. Financial instruments are very complex and involve lots of considerations and topics. Not only banks face financial instruments, any trading company has some financial instruments, too (if selling and invoicing). The truth is that banks enter into many complicated transactions, issue various types of compound financial instruments (in which both equity and liability element is present, e.g. convertible bond), generate loans to different portfolios of clients with different credit risk and many others. Within the financial instruments, the hottest issues are as follows: Impairment of financial assets as introduced by IFRS 9 in July 2014 brings many big challenges, especially to banks. In brief: IFRS 9 introduced the expected credit loss model for recognizing loss allowance to financial assets. And banks are affected severely because the majority of other types of companies can use a simplified approach permitted by IFRS 9 for the impairment of financial assets and calculate loss allowances solely in the amount of lifetime expected credit losses. Banks cannot use a simplified approach for the biggest group of their financial assets – loans, because the loans

do not fall within the exception. Banks need to apply the three stages general model for recognizing loss allowances. Impairment of loans is recognized on an individual or collective basis in three stages under IFRS 9;The Stage one: When a loan is originated or purchased, ECLs resulting from default events that are possible within the next 12 months are recognized (12-month ECL) and a loss allowance is established. On subsequent reporting dates, 12-month ECL also applies to existing loans with no significant increase in credit risk since their initial recognition. Interest revenue is calculated on the loan's gross carrying amount (that is, without deduction for ECLs). In determining whether a significant increase in credit risk has occurred since initial recognition, a bank is to assess the change, if any, in the risk of default over the expected life of the loan (that is, the change in the probability of default, as opposed to the amount of ECLs); The Stage two: If a loan's credit risk has increased significantly since initial recognition and is not considered low, lifetime ECLs are recognized. The calculation of interest revenue is the same as for Stage one; The Stage three: If the loan's credit risk increases to the point where it is considered credit-impaired, interest revenue is calculated based on the loan's amortized cost (that is, the gross carrying amount less the loss allowance). Lifetime ECLs are recognized, as in Stage two. And according to Disclosure: Banks subject to IFRS 9 are required to disclose information that explains the basis for their ECL calculations and how they measure ECLs and assess changes in credit risk. They must also provide a reconciliation of the opening and closing ECL amounts and carrying values of the associated assets separately for different categories of ECL (for example, 12-month and lifetime loss amounts) and by asset class. Regulatory treatment of accounting provisions the timely recognition of, and provision for, credit losses promote safe and sound banking systems and play an important role in bank supervision. Since Basel I, the Basel Committee on Banking Supervision (BCBS) has recognized that there is a close relationship between capital and provisions. This is reflected in the regulatory treatment of accounting provisions under the Basel capital framework. In October 2016, the BCBS released for public comment a consultative document and a discussion paper on the policy considerations related to the regulatory treatment of accounting provisions under the Basel capital framework, in light of the shift to ECL by both the IASB and US Financial Accounting Standards Board. Given the diversity of accounting and supervisory policies in respect of provisioning and capital across jurisdictions, coupled with uncertainty about the capital effects of the change to an ECL accounting framework, the BCBS decided to retain – for an interim period – the current regulatory treatment of provisions as applied under both the standardized approach and internal ratings-based approaches. The BCBS will consider the longer-term regulatory capital treatment of provisions further, including undertaking analysis based on quantitative impact assessments (ESMA, 2013).

(c) Regulatory treatment of accounting provisions

The timely recognition of, and provision for, credit losses promote safe and sound banking systems and play an important role in bank supervision. Since Basel I, the Basel Committee on Banking Supervision (BCBS) has recognized that there is a close relationship between capital and provisions. This is reflected in the regulatory treatment of accounting provisions under the Basel capital framework. In October 2016, the BCBS released for public comment

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(d) Classification and measurement of financial instruments

Financial assets make up most of banks' assets, standard IFRS 9 classifies the financial assets based on two tests: Contractual cash flows test, and Business model test. Based on the assessment of these tests, the financial asset can be classified either as measured at: Amortized cost, or at fair value through profit or loss (FVTPL) or at fair value through other comprehensive income (FVOCI; and here, further accounting depends on the type of an asset). The banks and other financial institutions, mainly companies trading securities, investment funds and similar entities, need to dedicate their time and effort in order to analyze their own business model for individual portfolios of financial assets either Trading, Collecting cash flows or Both?), and then decide on their classification and measurement. Every single financial asset and liability needs to be initially recognized at its fair value (sometimes you add transaction cost).

(e) Presentation of financial statements (IAS 1, IAS 7and IFRS 7)

Banks present their financial position and financial performance in a totally different way than other companies. As follow: Statement of financial position in a bank (IAS 1): The standard does not prescribe the format of the statement of financial position – however, it brings some examples of accepted formats. the statement of financial position of any bank isn't the balance sheet that is used in other types of companies, starting with non-current assets (property, plant and equipment, intangibles), followed by current assets (inventories, receivables, cash), and then the second part starting with equity, non-current liabilities finishing with current liabilities. the used statement is in which individual items are ordered by their liquidity, starting from the most liquid assets, and finishing with the least liquid ones. The equity & liabilities part corresponds with the assets – it starts with the current liabilities in descending order of liquidity and finishes with equity. Money is the key. When you look to bank's financial statements, you want to see how much money and liquid asset it owns rather than how many buildings and computers there are. In other words – liquidity order is much more relevant for banks (Hussain et al., 2002).

Statement of profit or loss and other comprehensive income in a bank

Similarly, as with the statement of financial position, IAS 1 does not prescribe the exact format of the statement of total comprehensive income. It is up to the entity's choice to

present its results in a format fitting the best of the entity's business. That bank' statements of profit or loss and other comprehensive income usually start with interest income and interest expenses. Normally, you would expect to see the interest reported somewhere close to the end of the statement, in the financial operations, and often netted off. However, interest income and expenses are the most important caption for the bank as that's what banks usually do – they deposit money and give the interest (their interest expense) and they lend money + charge the interest (their interest revenue). As the banks usually charge you some fees for the bank account, fee and commission income follows as the interest rates are quite low right now and fees are climbing the roof (Mahutova, 2022).

Statement of cash flows

Money rules in the banks and therefore, cash flow statements are different. When preparing the statement of cash flows, normally classify individual cash flows into three parts: Operating part, investing part, and Financing part. Although IAS 7 Statement of Cash Flows gives you examples of items reported under each heading, this basically does not apply to banks. The reason is that the bank's principal revenue and cash flow generating activities are totally different from other companies. Therefore, interest is paid in the financing part and acquisition of securities in investing part, for banks all these activities are reported in the operating part. The other items are the same process too: including profit from trading activities, etc. and according to Disclosure: presented by other non-financial companies, banks must present a number of other disclosures related to their activities. The most important disclosures are: Capital disclosures under IAS 1 and whole range of disclosures in line with IFRS 7 Financial Instruments; These disclosures relate mainly to financial instruments which is what the bank is about anyway (Mahutova, 2022).

Consolidation and special purpose entities (IFRS 10, IFRS 12)

Banks prefer to use special-purpose entities, before some time, it was a creative way of hiding some undesirable or toxic assets from the eyes of the public, as the special purpose entities were usually not included in the consolidation. However, after a few accounting scandals (for example, Enron), there were new and strong rules adopted. In IFRS, we have the standards IFRS 10 Consolidated Financial Statements and IFRS 12 Disclosure of Interests in Other Entities, which require the inclusion of structured entities in the consolidation when they meet the conditions (basically, when banks have control over SPE). Even today, many banks use literally hundreds of SPEs for various purposes, mostly for securitization of their loan receivables, holding some tax-efficient leases, for asset-backed financing, etc. The bank needs to evaluate very carefully whether they control structured entity using the same methodology as for any other entities controlled by voting rights. As a result, you can see lots of entities including in the bank's consolidated financial statements (Mahutova, 2022).

5.6 Professional Bodies (Accounting, Banking & Finance) Concerned With the Development of Accounting in Financial Institutions

5.6.1 AAOIFI: is one of the most prominent international non-profit organizations supporting Islamic financial institutions. It was established in 1991 and is headquartered in the Kingdom of Bahrain. It has significant professional achievements, foremost of which is the issuance of 100 standards in the fields of accounting, auditing, work ethics, and governance, in addition to the Sharia standards adopted by central banks and financial authorities in the AAOIFI group. of countries as mandatory or indicative, and the Authority's standards are currently applied by the leading Islamic financial institutions around the world, which have provided an advanced degree of homogeneity for Islamic financial practices worldwide. AAOIFI issues five types of standards, the total of which has been issued so far has reached 98 standards, detailed as follows: 2 ethical standards, 58 legal standards,7 governance standards, 26 accounting standards, 5 auditing standards.

5.6.2 American Bankers Association: Founded in 1875, the American Bankers Association represents banks of all sizes, supporting the nation’s banking industry and employees.

5.6.3 The American Finance Association (**AFA**): The purpose of The American Finance Association is to promote knowledge of financial economics.

5.6.4 American Society of Women Accountants (**ASWA**): Formed in 1938, the American Society of Women Accountants (ASWA) provides opportunities for women in all fields of accounting and finance.

5.6.5 Association for Financial Professionals, Inc. (**AFP**): The Association for Financial Professionals (AFP) serves treasury and finance professionals.

5.6.6 Consumer Bankers Association (**CBA**): The Consumer Bankers Association (CBA) is the only member-driven trade association focused exclusively on retail banking.

5.6.7 International Federation of Accountants (**IFAC**): IFAC is a global organization representing 3 million accountants.

5.6.8 National Association of Black Accountants: Since 1969, this group has strived to promote and develop minority professionals in the fields of accounting and finance.

5.6.9 National Bankers Association (**NBA**) The mission of The National Bankers Association is to create an inclusive financial services industry and a vibrant business environment for minority financial institutions, their customers, and the communities they serve.

6. Results and Conclusions

RegTech offers benefits to both the financial sector and regulators. For the financial sector, enabling financial institutions to control costs and risks more effectively, freeing up excess

regulatory capital, and offering new opportunities for fintech startups, consulting firms, and technology firms. As for the regulators, it allows the development of continuous control tools to identify risks and problems during their creation and reduce the time it takes to investigate compliance violations. It also promotes the development of traditional financial systems and protection funds, which enable the identification of potential events and results proposed for reform and the adoption of a new approach in operational processes. RegTech also enables rapid response and actual implementation of control in the financial markets, by operating procedures and control tools in a digital manner that facilitates the reformulation of the concepts of financial regulation. Thus the institution with the most data on borrowers will be in a better position to assess their credit risk and extend credit, and these institutions are increasingly likely to be large technology companies (eg, Google, Alibaba, Apple) or points of retail operations that It operates customer loyalty plans, in place of traditional financial institutions. This technical regulation, in turn, will require the financial services provider to further evolve in RegTech as the market moves from relying on KYC-type information to a KYD model, with transformative implications for finance and its regulation.

In light of the state's tendency to activate financial inclusion, it has become an urgent necessity to shift from traditional accounting information systems to electronic accounting information systems as a means of raising the efficiency of these systems to meet developments in the contemporary business environment.

At the international level, the ABA and other professional organizations meet regularly with regulators and accountancy standard-setters both nationally and internationally. To represent within the Council sessions all changes that occur in the financial institutions sector, so that the Council considers them in its agenda for updated standards or if there is a need to issue new standards.

7. Recommendations

a. Financial Institutions units must keep abreast of technological developments and respond to changes in the surrounding environment by holding the necessary training programs for accountants to qualify them and improve their skills in using digital transformation techniques and modern technological means to perform their work and providing the necessary devices and networks to implement digital transformation.

b. The need for academics and researcher to conduct further scientific research and highlight the importance of applying digital transformation techniques such as artificial intelligence, big data, robots, cloud computing in banking units and the impact of their application on those units.

c. Regulators and standard-setters should seek to issue standards and guidelines commensurate with modern technological developments and their application in the field of accounting

d. The need for Financial Institutions to implement digital transformation strategies in order to achieve the objectives of banks and support financial inclusion, by strengthening the partnership between banks and technology companies for mutual

benefit, supporting digital transformation and facilitating access to financial services, in addition to strengthening the role of banks in developing the technological infrastructure to provide the requirements of digital transformation and enhance inclusion.

8. Future Research and Studies Proposals

Preparing more research and studies dealing with the obstacles and problems of financial inclusion within financial institutions in the light of contemporary financial changes and developments. And Future studies should look at the comparison of the effects of the adoption of digital accounting and FinTech innovation on business performance across various sectors and geographical areas. as well as investigate its effects on particular facets of corporate performance, such as revenue generation, cost-effectiveness and client happiness. the creation of frameworks and tools to help firms embrace and use Fintech and digital accounting management technology. The impact of activating digital transformation technology on developing the intellectual framework for financial accounting. The role of digital transformation technology in developing international accounting standards.

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