

МЕНЕДЖМЕНТ

The Key Strategies for Digitization Transformation in RA Banks

Hambardzumyan Arman S.

PhD student at the Chair of Managerial Accounting and Auditing at ASUE (Yerevan, RA)

arman.hambarcumyan@yandex.com

ՀՏԳ՝ 336.71:004; EDN: CBFTNQ; JEL: E59, G29,

Keywords: Finance 4.0, digitization, internal control, technology, automation

ՀՀ բանկերի թվայնացման հիմնական ռազմավարությունները

Համբարձումյան Արման Ս.

ՀՊՏՀ Կառավարչական հաշվառում և աուդիտ ամբիոնի ասպիրանտ (Երևան, ՀՀ)

arman.hambarcumyan@yandex.com

Անփոփագիր. Բանկերը արագորեն փոխակերպում են իրենց բիզնես գործընթացները՝ հարմարվելու այսօրվա թվային տնտեսության պահանջներին: Այնուամենայնիվ, արագ զարգացող տեխնոլոգիաների ներդրումը կարող է առաջացնել անորոշություն և սթրես, և պահանջել զգալի ֆինանսական ռեսուրսներ: Թվայնացման գործընթացը հեշտացնելու համար բանկերը պետք է պարզեցնեն հիմնական բիզնես գործընթացները: Այս հոդվածում ընդգծվում է թվայնացման կարևորությունը բանկային ոլորտում, դրա ազդեցությունը բիզնես գործընթացների վրա և այն մարտահրավերները, որոնց բախվում են բանկերը նոր տեխնոլոգիաներին հարմարվելու հարցում: Թվայնացման համապարփակ պատկերացում տրամադրելով՝ հոդվածը նպատակ ունի խրախուսել բանկերին ընդունել այս փոխակերպումը և հարմարվել թվային տնտեսությանը իրենց երկարաժամկետ աճի և հաջողության համար:

Հանգուցարաններ՝ Ֆինանսներ 4.0, թվայնացում, ներքին հսկողություն, տեխնոլոգիա, ավտոմատացում

Основные стратегии цифровизации банков РА

Амбарцумян Арман С.

Аспирант кафедры управленческий учёт и аудит, АГЭУ (Ереван, РА)

arman.hambarcumyan@yandex.com

Аннотация. Банки быстро трансформируют свои бизнес-процессы, чтобы адаптироваться к требованиям современной цифровой экономики. Однако внедрение быстро развивающихся технологий может вызвать неопределенность и стресс и требует значительных финансовых ресурсов. Чтобы облегчить процесс оцифровки, банкам необходимо упростить основные бизнес-процессы. В этой статье подчеркивается важность цифровизации в банковском секторе, ее влияние на бизнес-процессы и проблемы, с которыми сталкиваются банки при адаптации к новым технологиям. Предоставляя всестороннее понимание цифровизации, статья призвана побудить банки принять эту трансформацию и адаптироваться к цифровой экономике для их долгосрочного роста и успеха.

Ключевые слова: Финансы 4.0, цифровизация, внутренний контроль, технология, автоматизация

Introduction

Nowadays, technology is developing at lightning speed and inevitably becoming a key tool for business survival and increased adaptability. Digitization aims to improve the economic environment, speed up the production process, and increase consumer convenience. To be successful in today's world, digital transformation and technology must be taken seriously [5, p. 2]. The transformation of technology must be done thoroughly, as the world has not yet witnessed similar transformations. In this case, the expectations of businesses to succeed are growing even more [11, p. 15]. Either way, it's often easier said than done [17]. Today, it is not enough to simply be open to technology. Companies must be consistent so that all levels of the organization

successfully participate in the digital transformation process [5].

In the case of companies in the financial sector, digital transformation is also inevitable, as their customers are forming greater expectations every day in terms of accountability, social responsibility, and governance.

In the financial sector, especially the banking sector, there is dynamic and intense competition for financial instruments and services. This causes banks to constantly seek to grow or transform in order to gain an advantage over competitors. The emergence and introduction of mobile banking applications, ATMs, phone banking, and internet banking into the market are some of the most striking examples. Currently, bank transactions can

be carried out through digital channels [19]. In the late 1990s, financial transactions began to be carried out in the banking system using the Internet. The emergence of mobile applications, telephone banking, and internet banking made the banking system even more accessible to customers. Then, when the crisis of 2008 had a negative impact on accumulated bank loans, banks were required to face and solve some primary problems, the solution of which was made possible by the invention of new technological sources of financial services [3].

Banks serve as systems for managing the flow of consumers, borrowers, and depositors and are considered financial companies that provide loans by attracting deposits. In order to maintain economic growth, the banking system should act by controlling a number of risks. The definition of various norms by a number of global financial organizations sets clear guidelines for the normal operation of local financial institutions. The availability of new technologies can lead to greater efficiency and creativity, as a result of which, for example, small and medium-sized commercial banks will attract more consumers [2, pp. 5-7]. The thesis about the leading role of banks in the financial system continues to be relevant for the modern economy. However, digitization and virtualization in the era of Industry 4.0 are adjusting financial relationships and interactions between key market participants. Many business processes and services have moved to the virtual domain. Today, consumers prefer mobile or internet banking, online advice, and transactions with their accounts. There are online platforms that allow borrowers to take a loan bypassing traditional financial institutions (peer-to-peer platforms) or to raise funds for investments and other needs under various conditions, on a charitable basis, with monetary or non-monetary remuneration (crowdfunding platforms). It is widely believed that P2P loans are more accessible and "cheaper" than bank lending because transaction costs are significantly reduced, and there is no interest margin. However, research shows that there are many factors that influence the formation of the value of loans in the peer-to-peer market and the selection of borrowers by lenders [8, p. 11]. On the other hand, P2P and crowdfunding platforms often finance groups of borrowers for whom bank loan products are unavailable or too expensive. This applies to small and medium-sized

businesses, which, even in developed countries, face a number of obstacles, such as high loan interest rates, the need for collateral, and lack of affordable loans [15, p. 9]. As a result, most such businesses today are implementing new and improved digital processes in their core business functions such as procurement and finance to meet Industry 4.0 and meet consumer expectations.

Finance 4.0 is a term used to describe the ongoing transformation of the finance industry through the use of advanced technologies [13]. It represents a shift from traditional banking practices to a more digital and customer-centric approach. Finance 4.0 leverages technologies such as artificial intelligence, machine learning, blockchain, and the Internet of Things to optimize business processes, improve decision-making, enhance risk management, and increase customer satisfaction. It also focuses on the integration of digital platforms and mobile technologies to offer customers real-time banking services. Finance 4.0 aims to create more efficient, flexible, and agile financial systems that can meet the demands of the modern economy.

Research analysis

Banks have faced significant disruptions over the past two years due to COVID-19, which has created many challenges and, in many cases, forced necessary changes in business models. The topic of Finance 4.0 has been explored by ACCA, IIA, and IMA in their research. The main purpose of these reports is to highlight the continuous nature of change for organizations and to show that they can meet current challenges through transformation. The continuous cycle of transformation involves the use of technology and data-driven approaches. At the same time, it should be realized that neither of them can be the main driving force of the transformation itself. The desire to transition to Finance 4.0 does not mean that the bank is ready for it. During the implementation of changes, a number of internal and external problems may arise, which may even be fatal for the bank's operations. Thus, the transformation must be done gradually, step by step, in order not to shock normal operations, because banks are affected by a number of interrelated factors, each of which individually or in combination can have a significant impact on the bank (Figure 1).

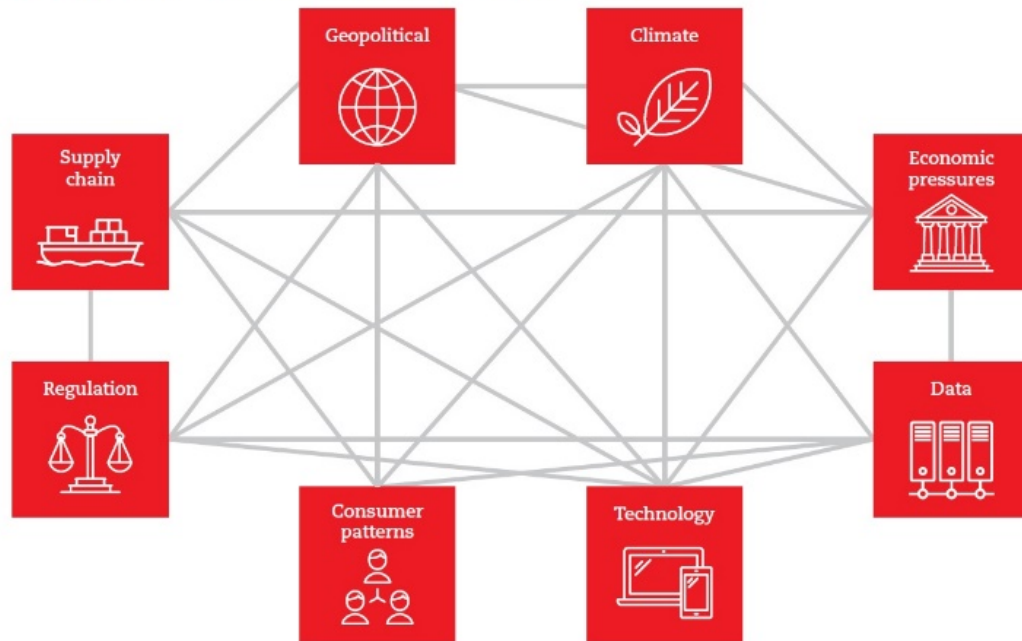


Figure 1: Factors affecting the bank's internal control system

It is worth noting that any transformation consists of several elements: people, process, data and technology. A bank's internal control system also includes a range of similar elements, so inevitably the bank's internal control environment will also change due to these transformation activities (Figure 2).

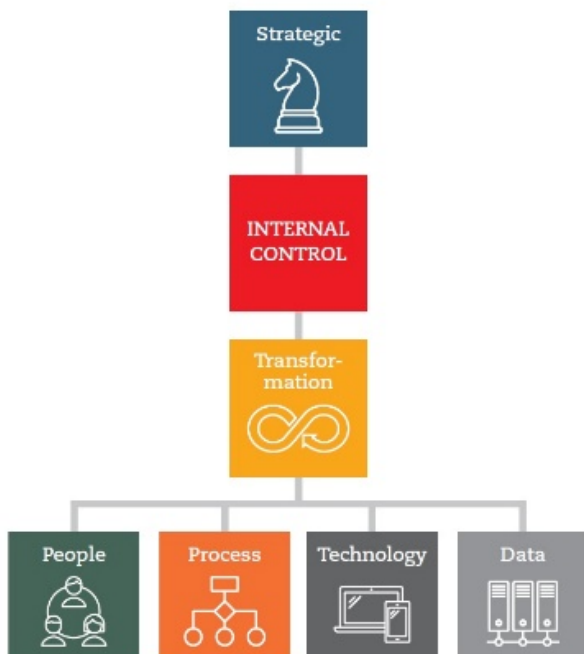


Figure 2: Elements required to modify internal control

The following Figure 3 can be considered as a guide for the transition to Finance 4.0:



Figure 3: A guide to a successful transition to Finance 4.0

There is no escaping the fact that technology and data are changing the business landscape. Before the pandemic, banks were more focused on understanding how to create value from the data at their disposal. The idea that COVID 19 has accelerated the pace of technology adoption can already be considered a fact. The phrase "Five years in five months" has often been used as a slogan by leading banks around the world. The speed of

technological changes will not slow down in the coming years. According to statistics taken from Datareportal Digital's July 2021 [12] World Statistics Report:

- The number of global mobile users has reached 5.27 billion, which is equal to 67% of the total world population,
- The number of mobile users in 2021 grew by 2.3% compared to 2020, increasing by 117 million in 12 months, which is almost 10 million new users per month,
- Internet users increased by more than a quarter of a billion in the 12 months to July 2021, a year-on-year increase of around 6%,
- Today, 4.8 billion people worldwide use the Internet, which is equal to almost 61% of the total world population,
- The number of social media users grew by more than 13% in 2020, representing an increase of more than half a billion users in just 12 months,
- In 2021, there are 4.48 billion social media users worldwide, representing nearly 57% of the world's total population.

Along with the facts, there are a number of predictions, such as:

- The value of web hosting services is estimated to reach \$267.1 billion by 2028, at a compound annual growth rate of 18% over the period 2021–2028 [7],
- IoT Analytics estimates there will be 30.9 billion Internet of Things (IoT) devices by 2025,
- It is estimated that by 2040, 95% of all purchases will be made through e-commerce [4],
- CAGR for AI will be 42.2% by 2027 [9].

In 2020-2022, banks need to remain flexible to cope with economic and non-economic factors that affect their operations. Flexibility requires the bank's operating model to be continuously updated and modified to take advantage of opportunities and manage constraints in the economic environment. This, in turn, means that internal controls must be adaptive and dynamic. The need for agility is growing as financial organizations increasingly adopt cloud-based best-in-class application technologies and data. Figure 4 provides a more vivid representation of the digital transition of organizations:

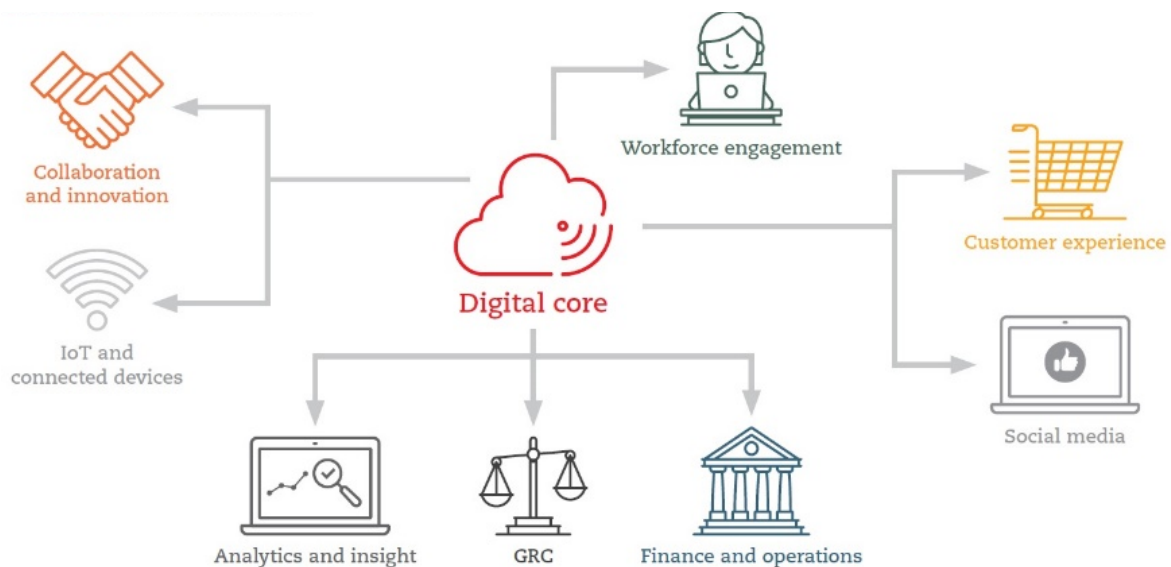


Figure 4: *The Digital Core*

In February 2022, COSO published guidance on the use of flexible methodologies for internal controls. The guidance provides 20 recommendations on how enterprise risk management can be approached in a more flexible business environment [18].

It can be noticed that the section on bank reports is changing day by day. Stakeholders, such as owners and customers, want to see a greater range of reporting that includes non-financial aspects as well as reporting on the bank's social

responsibility. A number of organizations, such as the US SEC [16], the European Financial Reporting Advisory Group (EFRAG) [6], and the International Sustainability Standards Board (ISSB) [10], have already published guidelines regarding the mentioned accountability.

Each of the factors described in Figure 5 affects an organization's internal control environment. The consequences can be enormous if organizations do not take them into account.

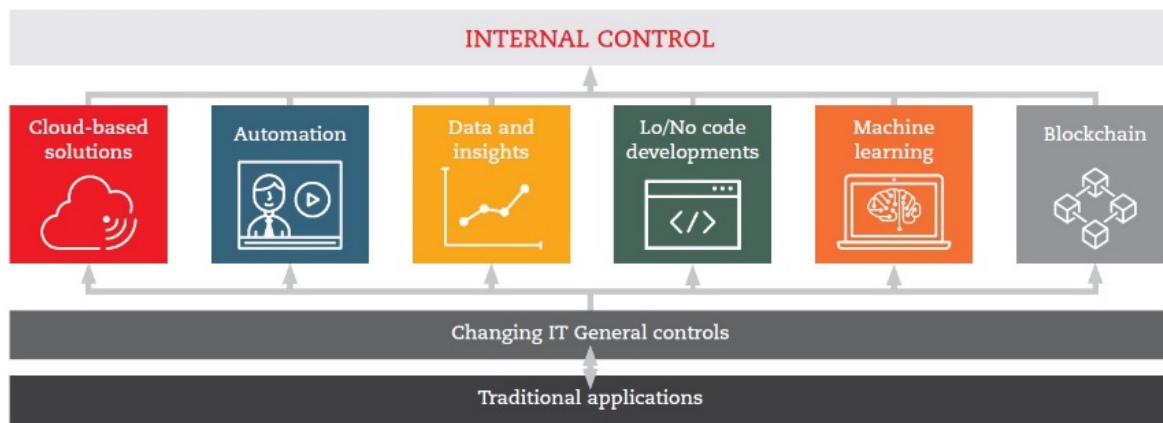


Figure 5: Factors affecting internal control

Digital transformation affects the range of skills and knowledge needed by employees. The results of the ACCA [1] and IMA [14] studies were the same for financial professionals: professional development can only be achieved through

continuous learning, but it is not just about learning technical skills. Interpersonal communication skills are also crucial, as an accounting, finance, and internal audit professional must also be a trusted advisor. Figure 6 shows the range of skills required.



Figure 6: A potential skill set model in the internal control context

The ability to view large volumes of transactions in real-time can be considered a necessity for all banks, but it is becoming increasingly difficult as the volume of data and potential risk profile expands. Internal control has traditionally been a reactive activity. It looks at the transactions made in each line of the Three Lines of Defense model, either at the time of their execution or after their execution in a certain short period. However, when a transaction is long overdue, for some, especially third-line (internal audit) professionals, examining those transactions raises questions about their significance to the organization. Using data verification methods, such as embedded codes, to identify possible patterns in real-time transactions allows for faster execution of controls.

Conclusion

An effective internal control system remains important to bank managers and owners. Technology continues to evolve, and this progress is accelerating as data, applications, and other

processes become critical in an agile business environment. Internal control must be a fundamental part of this transformation. One of the important cornerstones of Finance 4.0 is the internal control system, which, taking into account all the current factors, should become fully automated and performed through continuous monitoring.

Improved productivity through optimization and automation is the first benefit that banks will experience. This is also one of the primary objectives of Finance 4.0 projects. In other words, banks can save costs, increase profitability, reduce errors and delays by automating functions, accelerate real-time sales by increasing the volume throughout the entire chain, digitize paper documents, and intervene faster in case of operational problems. It should be noted that Finance 4.0 optimizes processes at all possible stages and sub-stages, starting from attracting capital to lending, and so on.

Real-time data collection and fast processing are some of the most important advantages of

Finance 4.0. They are used not only to optimize banking processes to make them efficient but also to study the needs and demands of customers, and thus respond to them quickly. The main goal of the bank is to attract customers; therefore, it is necessary to always have and offer products that the consumer wants. Services must also be delivered on time and quickly, as speed is not only a competitive advantage, but it is increasingly important in the real-time economy. Moreover, customers simply expect it.

A number of operational accidents, such as equipment and server failures, or human error, can cause significant losses for a bank, including temporary suspension of operations. In addition to the cost of replacing and repairing equipment, a bank's reputation can also be at risk. However, if these devices are connected and monitored online (for example, through health monitoring) via IoT, potential problems can be identified and resolved before they occur. The benefits of this approach are enormous, and similar problems can even be solved remotely. Additionally, automating certain functions can also help reduce the impact of human error.

Improved decision-making is one of the key benefits of Finance 4.0 for finance professionals. With real-time data and analytics, banks can make more informed decisions that are based on up-to-date information. This can be particularly useful when it comes to making investment decisions, assessing the creditworthiness of customers, or determining which products and services to offer to different market segments.

Another benefit of Finance 4.0 is enhanced risk management. Advanced analytics and machine learning can help banks identify and manage risks more effectively. This can be particularly important in the current economic climate, where financial institutions face increased scrutiny from regulators and customers alike. By leveraging real-time data and advanced analytics, banks can gain greater insights into their risk exposure and take proactive measures to mitigate those risks.

Customer satisfaction is another area where Finance 4.0 can make a significant difference. With faster processing times and more personalized service, banks can improve customer satisfaction and loyalty. This can be achieved through the use of digital channels, such as mobile apps and online banking portals, which allow customers to access their accounts and make transactions more quickly and easily.

Lower costs are also a key benefit of Finance 4.0. By automating processes and reducing the need for manual intervention, banks can lower costs and improve efficiency. This can be achieved through the use of technologies such as robotic process

automation (RPA) and artificial intelligence (AI), which can automate routine tasks and free up employees to focus on more complex and value-added activities.

Improved regulatory compliance is another important benefit of Finance 4.0. With more advanced reporting and monitoring capabilities, banks can more easily meet regulatory requirements and avoid penalties. This can be particularly important in highly regulated industries such as banking, where non-compliance can result in significant financial and reputational damage.

Enhanced fraud prevention is another area where Finance 4.0 can make a significant difference. Advanced analytics and machine learning can help banks detect and prevent fraud more effectively, by identifying suspicious patterns and behaviors in real-time.

Finally, Finance 4.0 can enable banks to be more innovative, experimenting with new products, services, and business models to stay ahead of the competition. By leveraging emerging technologies such as blockchain and digital currencies, banks can create new revenue streams and deliver value to customers in new and innovative ways. Overall, Finance 4.0 has the potential to transform the financial industry, improving efficiency, reducing costs, and enabling banks to deliver better services to customers.

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Сдана/Հանձնվել է՝ 28.02.2023

Рецензирована/Գրախոսվել է՝ 28.03.2023

Принята/Ընդունվել է՝ 04.04.2023