

Digitization of Banking Services Before and After the Pandemic

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Abstract. *The COVID19 pandemic, unleashed worldwide, with far-reaching negative effects, also had a positive effect, namely the acceleration of the digitalization processes, which started a long time ago, but which had a very slow course. Starting from this desideratum, digitization takes on new values and it is opportune to take a more in-depth approach to the actors who play in the market of transactions based on card payment systems in order to ultimately gain user loyalty, among these participants we distinguish: cardholder, issuing bank, acquiring bank, merchant, payment card scheme processor, clearing house and issuing processors. In this article I propose to highlight the behavior of the parties involved in transactions carried out with modern payment instruments, behavior that must have the purpose of ensuring that a two-component market creates optimal added value based on the proper coordination of the demands of the two components namely issuing banks and cardholders on the one hand and acquiring banks and merchants on the other.*

Keywords: payment instruments, cards, transactions, ATM, POS, digitization

JEL classification: G21, E42

1. Introduction

In order to understand the role of digitization in the first place, it is necessary to understand how the economy works in conditions of rapid evolution.

Digitization allows us to compare the prices of banking products and services on a large scale, which leads to a much tighter competition in this market, as we could also observe during the pandemic how much ground digital technologies gained among citizens.

The accelerated development of technology has led to the transformation of banking technology, determining the digitization of operations, the change of the business model and the way of communicating with users, requiring a much more in-depth study of customer perception as well as the identification of their expectations from the banks of the future.

Just as specialists say in unison that the bank of the future will be mostly digital, however, we must take into account the fact that human interaction is necessary to offer increased comfort to customers, depending on the degree of complexity of the requested services.

The process of digitization of banking products and services is an irreversible one, causing the banking system to do its best to attract the attention and preferences of customers through speed, flexibility, agility and interaction with customers.

According to the specialized literature, card payment systems identify two categories of users, the first refers to card holders who use the cards to purchase goods and services and the other category refers to merchants who offer their customers the opportunity to pay by card, these two categories form the main components of the market called by specialists two-sided or two-sided networks, the market in which the demand and the high price are dependent on each other in the

sense that the number of transactions carried out on one of the components is determined by the number of transactions on the other component.

We can see that, in Romania, consumers are looking for speed, interact a lot with specialists by phone, have unlimited access to high-speed internet, often use the card in daily payments and prefer contactless transactions, according to representatives from banking associations.

2. Analysis of the use of digital banking services in Romania

According to a study carried out by the Romanian Institute for Evaluation and Strategy (IRES) commissioned by the Romanian Banks Association, 46% of Romanians who use banking services make payments via internet/mobile banking.

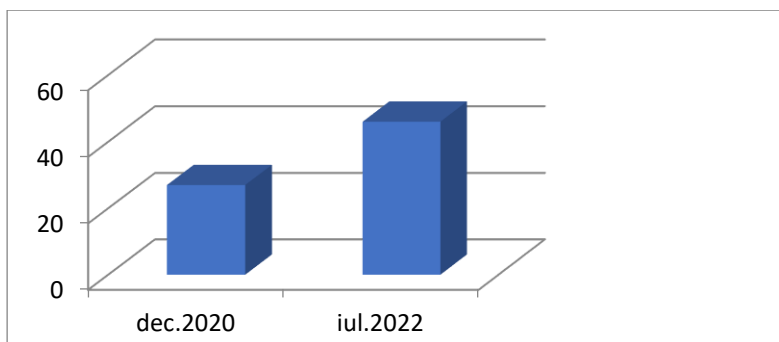


Figure 1. Volume of Internet/Mobile banking transactions

Source: Romanian Institute for Evaluation and Strategy (IRES)

So we observe a rapid adaptation of the behavior of consumers of banking products and services to the new trends, the number of users increasing in a short time from 27% in December 2020 to 46% in July 2022, the increase being 70% in a relatively short time (Source IRES) .

In order to reflect the evolution of consumer behavior regarding the use of modern payment instruments, we proceeded to analyze the following data provided by the BNR:

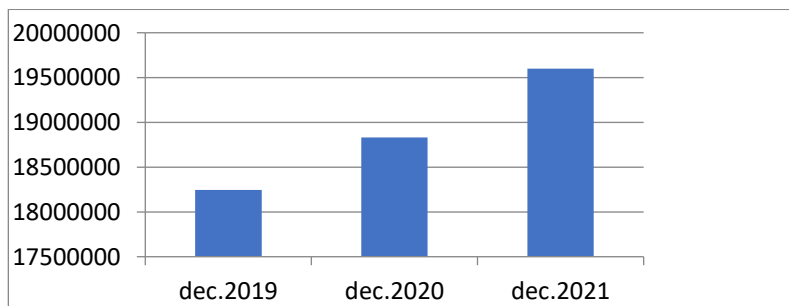


Figure 2. Total number of cards in circulation

Source: www.bnr.ro/Baza-de-date-interactiva-604.aspx

On 31 Dec 2019 there were 18,247,230 cards in circulation, on 31 Dec 2020 18,830,297 cards and on 31 Dec 2021 19,598,274 cards, analyzing the above data we

note an increase in the number of cards in circulation by 7.4% in 2021 compared to 2019, the increase in the number of cards in circulation being influenced not only by the behavior of card users but also by the improvement of the legislative framework that would determine the increase in the number of users by limiting the types of transactions that can be carried out with cash in favor of those carried out with modern payment instruments.

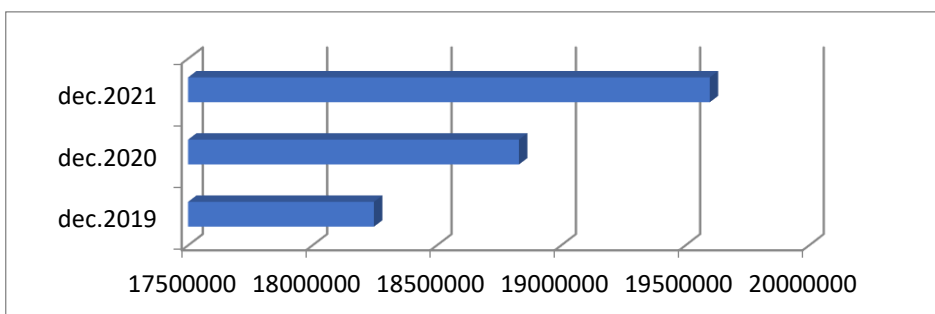


Figure 3. Total number of cards with payment function

Source: www.bnr.ro/Baza-de-date-interactiva-604.aspx

The number of cards in circulation, with the payment function, on 31 Dec 2019 was 18,198,377, in 2020 - 18,728,706 and in 2021 - 19,468,664 cards, increasing by 6.98% in 2021 compared to 2019.

It can be highlighted that the increase in the number of payment cards is greatly influenced by the expansion of the number of players on the market that offer the possibility of paying with the card as well as the use of loyalty policies for users of modern payment instruments.

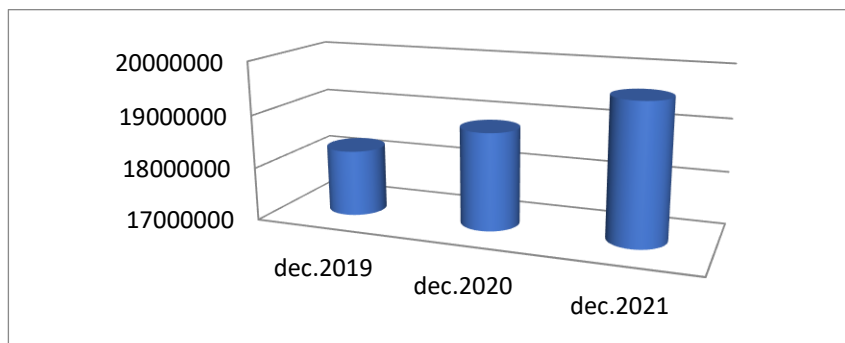


Figure 4. Total number of cards with debit function

Source: www.bnr.ro/Baza-de-date-interactiva-604.aspx

In 2021, there were 16,557,857 debit cards in circulation, 9.2% more cards compared to 2019 (15,163,091 cards).

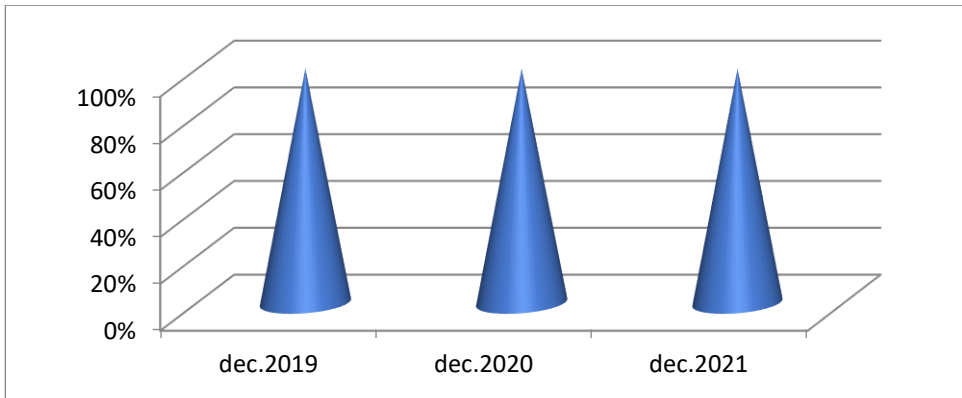


Figure 5. Total number of cards with credit function

Source: www.bnr.ro/Baza-de-date-interactiva-604.aspx

The number of cards with credit function in circulation at the end of 2019 amounts to 3,027,181 cards, 2,885,673 cards in 2020 and in 2021 - 2,904,171, we observe a decrease of this type of users by 4.06 compared to the reference year 2019.

The increase in the number of credit cards is influenced by the lending policies practiced by the banking system, which has levers available to accelerate or reduce short-term lending with the help of this payment instrument.

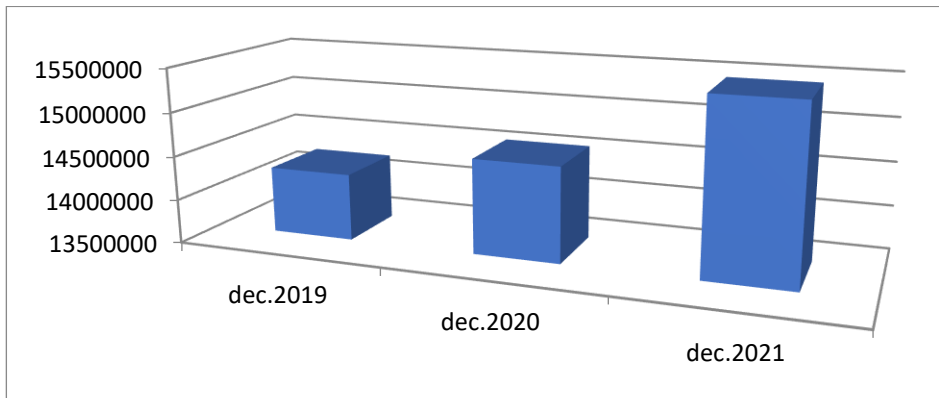


Figure 6. Total number of active cards

Source: www.bnr.ro/Baza-de-date-interactiva-604.aspx

Analyzing the number of active cards, we note that in 2021 their number amounts to 15,457,481, with 8.38% increase compared to 2019 (14,262,698 cards).

Another important aspect followed in the analysis of the evolution of the use of modern payment instruments is:

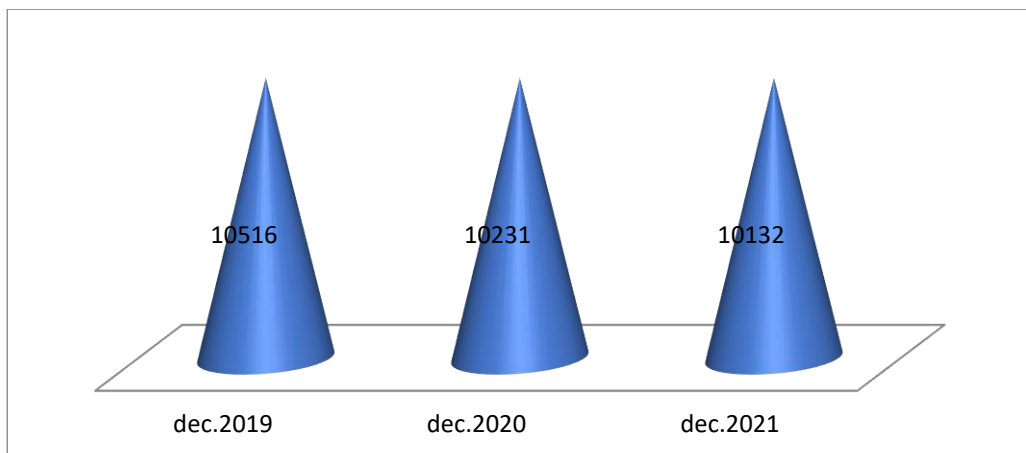


Figure 7. Total number of ATMs

Source: www.bnr.ro/Baza-de-date-interactiva-604.aspx

In 2019, the number of ATMs was 10,516, 3.65% less than in 2021 (10,132 ATMs), the reduction in their number being also caused by a slight reduction in the number of existing bank branches in the territory.

It is important to note that the number of users of modern payment instruments is closely related to how developed the ATM network is in the territory, a deficient network especially in rural areas, as well as the expansion of the types of operations that an ATM can offer.

It is not enough to educate the users, the fruits of this education must be able to materialize by identifying the uncovered and potential areas of ATM use.

ATMs are in a permanent transformation, the aim is to permanently and as quickly as possible adapt these equipments to the constantly changing needs of existing users and attract new ones.

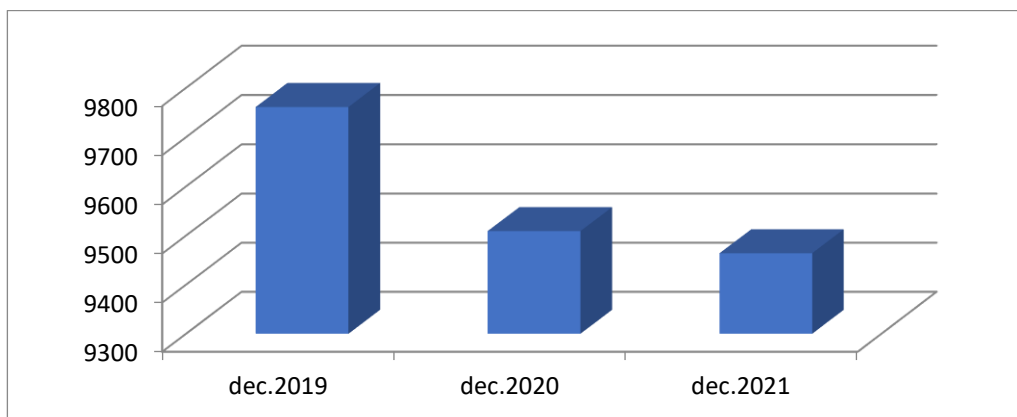


Figure 8. Total number of ATMs with cash withdrawal functions

Source: www.bnr.ro/Baza-de-date-interactiva-604.aspx

We observe a reduction in the number of ATMs, with the cash withdrawal function, from 9,761 in 2019 to 9,464 in 2021, with 3.04% less.

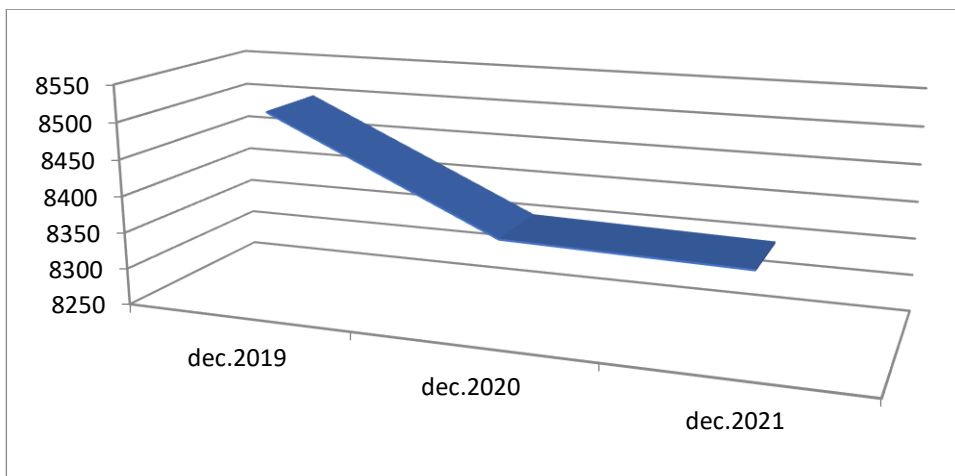


Figure 9. Total number of ATMs with credit transfer functions

Source: www.bnr.ro/Baza-de-date-interactiva-604.aspx

We find that in 2019 there are 8,507 ATMs of this type and in 2021 there are 8,355 ATMs, 1.79% less than in 2019.

Another important tool, analyzed in order to better reflect the increase in the number of users of modern payment instruments, is the number of existing POS.

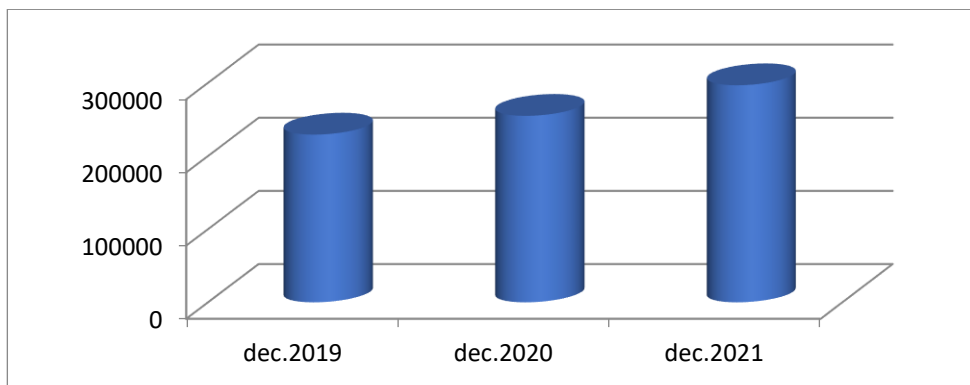


Figure 10. Total number of POS

Source: www.bnr.ro/Baza-de-date-interactiva-604.aspx

In 2019, a number of 229,289 POSs were installed, in 2020 - 254,909 POSs and in 2021 - 296,758 POSs, we observe a 29.43% increase in the number of POSs installed, which reflects a large increase in a short time in the number of payment transactions made with cards, an increase greatly influenced by the recently ended pandemic.

Another important aspect, analyzed in order to reflect the change in the compartment of consumers of banking services, is the number of transactions carried out with modern payment instruments, as follows:

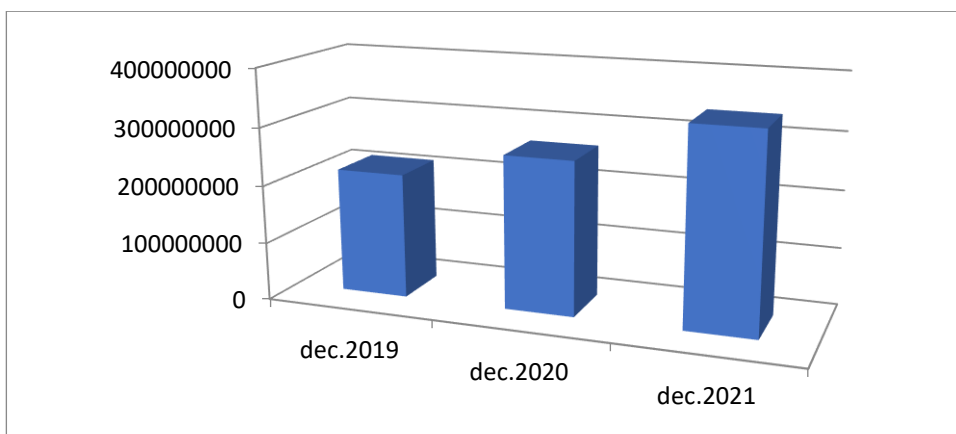


Figure 11. Total number of payment transactions with debit cards

Source:www.bnr.ro/Baza-de-date-interactiva-604.aspx

In 2019 the total number of payment transactions with debit cards was 216 million transactions, in 2020 it was 265 million transactions and in 2021 it was 339 million transactions, with 56.94% more transactions in year 2021 compared to 2019.

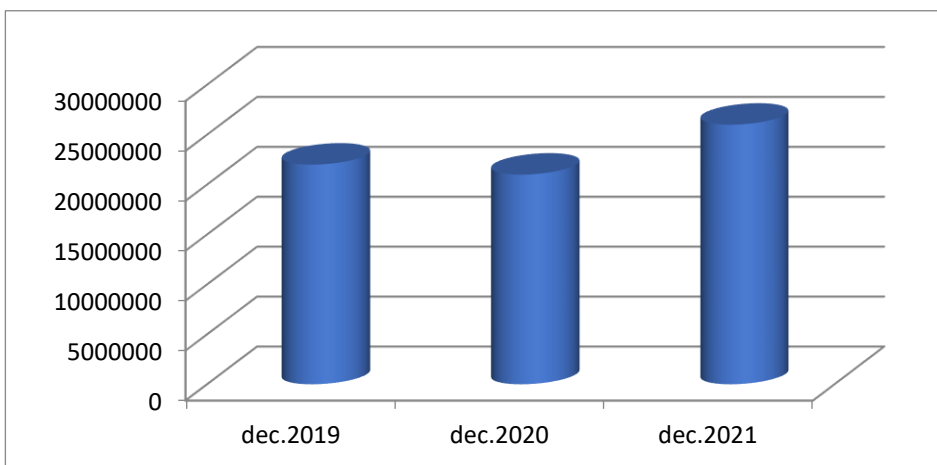


Figure 12. Total number of payment transactions with credit cards

Source:www.bnr.ro/Baza-de-date-interactiva-604.aspx

In 2019 the total number of payment transactions with credit cards was 22 million transactions, in 2020 it was 21 million transactions and in 2021 it was 26 million transactions, with 18.18% more transactions in year 2021 compared to 2019.

In order to reflect even more accurately the evolution of the use of modern payment instruments and implicitly the number of transactions carried out, to the detriment of payments made in cash, another analyzed indicator is the number of withdrawals and deposits carried out at ATMs, as follows:

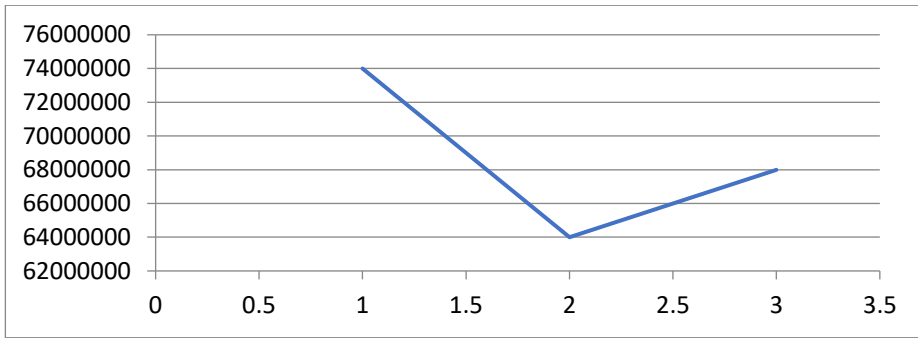


Figure 13. Total number of ATM cash withdrawals
 Source: www.bnr.ro/Baza-de-date-interactiva-604.aspx

The total number of cash withdrawals from ATMs shows a decrease in 2021 (68 million operations) compared to 2019 (74 million operations), with 8.11% fewer cash withdrawal operations, a decrease offset by the increase in the number of payments made using modern payment instruments.

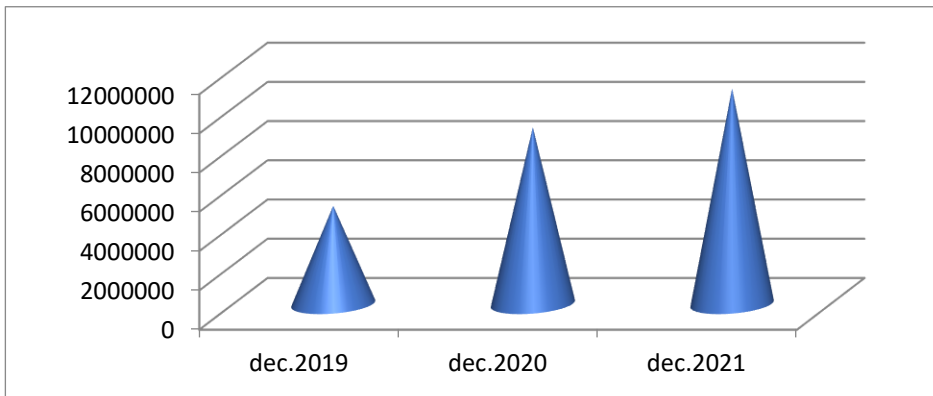


Figure 14. Total number of ATM cash deposits
 Source: www.bnr.ro/Baza-de-date-interactiva-604.aspx

In 2019, the number of cash deposits at ATMs was 5 million, in 2020 - 9 million deposits and in 2021 11 million deposits, we observe an accelerated increase in the number of cash deposits, by 80% in the year 2020 compared to 2019 and by 22.22% in 2021 compared to 2020, the annual increase in the number of cash deposits at ATMs implicitly reflects an increase in the number of operations performed with modern payment instruments.

There is currently a fierce battle between banks to improve the equipment infrastructure dedicated to cards and self-banking operations.

Another aspect analyzed is the evolution of the number of transactions made with POS.

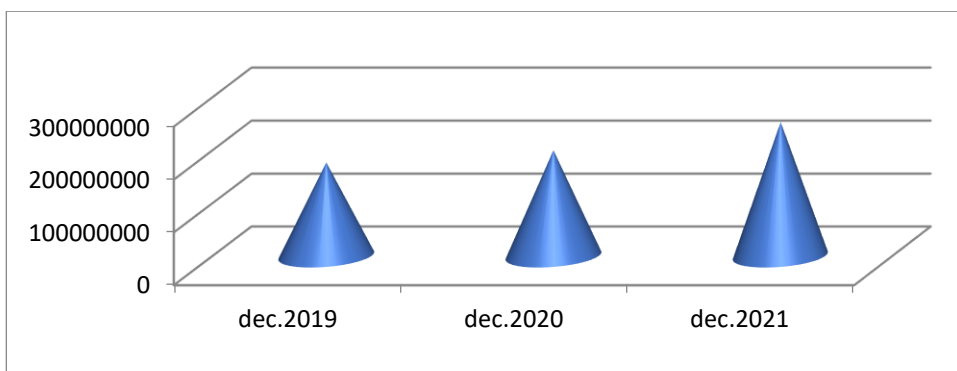


Figure 15. Total number of POS transactions
 Source: www.bnr.ro/Baza-de-date-interactiva-604.aspx

We note that in 2019 the number of transactions made with POS was 177 million, in 2020 it was 200 million - 12.99% more operations in 2020 compared to 2019 and 253 million transactions in 2021, with 26.5% more POS transactions than in 2020 and 42.94 more transactions than in 2019.

The results obtained through the previously analyzed indicators we can conclude that we are registering a rapid increase in the use of modern payment instruments at the expense of cash uses, the growth is also based on the pandemic that has just ended and thus opening the appetite of consumers to access the available technologies, an appetite that directly forces a permanent and much more accelerated development of technologies of this kind, thus increasing fierce competition between the existing providers on this market, results that can be graphically transposed as follows:

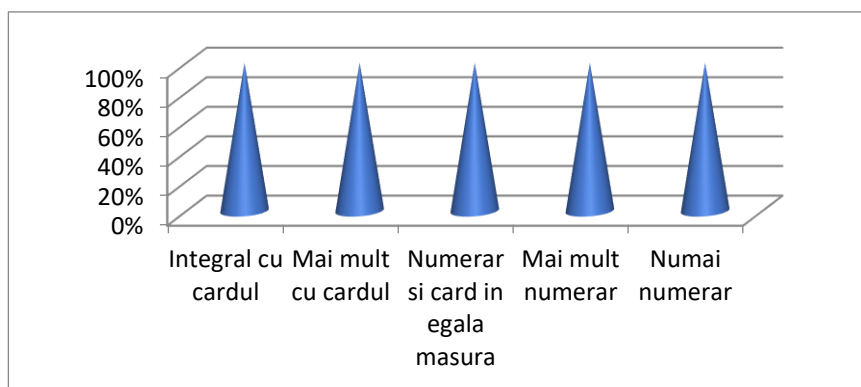


Figure 16. The degree of current use of cards as payment instruments
 Source: Study carried out by the Romanian Association of Banks, 2022

According to a study carried out by ghişeuibancar.ro in 2022, bank commissions for payments through internet banking, account management and balance inquiries at ATMs are presented as follows:

Table 1. Bank commissions for payments

- lei -

the bank	Monthly cost	Monthly account administration	Intrabank receipts	Interbank receipts	Intrabank payments	Interbank payments	Internet banking	ATM balance inquiry
Banca Transilvania	10,1	0	0	0	3,5	5,3	1	0,3
CEC	15,4	2,5	0	3,5	0	4,9	3	1,5
UniCredit	14,5	7,5	0	1	0	4,01	2	0
Raiffeisen	16	2,5	0	3	3	3,5	4	0
BRD	17	3,5	0	4	0	5	4,5	0
BCR	16,7	4,4	0	4	2	3	3	0,2

Source: *ghiseulbanca.ro*

Analyzing the above data, we observe that the practices of the main banks operating on the Romanian market are as follows:

- Regarding the monthly costs of account management and commissions related to interbank collection operations, Banca Transilvania ranks first with 0 lei costs and the lowest cost for using the internet banking service.

- In the commission area of intrabank payments, we identify the banks that have zero lei commission, namely: CEC, Unicredit and BRD.

- Regarding interbank payments, BCR has the lowest commission. The data above show us that Banca Transilvania offers the best package in terms of fees charged.

3. Conclusions

The trend is to completely eliminate transactions made with cash, although in Romania it was foreseen, in the past, that it would be difficult to achieve this goal, but it seems that the pandemic has radically changed this vision, I believe that the total elimination of cash transactions for the time being is not possible but not excluded.

According to a recent study carried out by the Romanian Association of Banks with the support of the Romanian Banking Institute, regarding the degree of financial inclusion, among the reasons why Romanians do not yet want to open a bank account we distinguish: "the desire not to track income/expenses, the lack of usefulness of an account, reduced income and the collection of income in cash", in this area the legal framework must intervene to gradually restrict the operations that can be carried out with cash thus inducing the need to open an account banking to facilitate access to certain services.

Another important aspect to note in the digitalization process of banking services and products is the introduction of the possibility of opening a bank account entirely online by using video identification, one of the recently accredited banks in this regard being Raiffeisen Bank. According to a study carried out by McKinsey & Company "The banking sector has become a leader in Romania, together with utilities and telecommunications, becoming detached leaders compared to the other players on the market in the area of the quality of the services offered, thus making it possible for

leaders to appear in each industry thus identifying very clearly who are the players who do not compete in order to improve the customer experience.

Following this study we can conclude that successful digitization can improve the implicit consumer experience and increase competition between market players who will differentiate themselves by price, product quality, accessibility and services offered.

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