

# The Fintech Industry in Romania - Assessing the Level of Acceptance for the Financial Services Consumers

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## Abstract

*The article explores the potential of Fintech for the Romanian financial market, assessing the real value added for the Romanian clients. The methodological approach is based on a customer-centric questionnaire related to the digital transformation of the financial industry in Romania and was completed by an analysis through the SPSS software. The research aims at finding how are the financial solutions of the FinTech companies perceived by the public and what are the major concerns related to the FinTech industry in Romania. The research hypotheses are willing to clarify the relationship between the plethora of financial services used, the online banking frequency and the FinTech affinities, suggesting that the early adopters of FinTech are digitally active banking clients. However, the paper outlines an embryonic phase of the FinTech development in Romania, where the respondents were most impacted by the FinTech industry in a passive way.*

**Key words:** FinTech, customer, innovation, banking services

**J.E.L. classification:** G21, G24

## 1. Introduction

The entirely process of financial globalization is currently passing a reorganization phase through the financial technology (FinTech), describing a more sophisticated customer in terms of required features, purchasing budget and personal involvement. The financial activity can no longer be viewed on algorithmic basis to achieve optimal returns due to the pressure of some innovative FinTech companies that raised the clients' standards in a more provocative way: they need digital solutions to their financial issues, personalized credit opportunities, reduced costs for their payment transfers or wider investment opportunities. “FinTech is basically the composition of companies or group of companies providing the modern, innovative and financial services through technologies” (Dorfeitner et al., 2017). Considering this definition, the first scope of the present paper is to explore the financial literacy of the Romanian public regarding the distinction between different financial entities (banks and FinTech companies), whether they are aware of the advantages/risks associated to the accessed financial services and how are the Fintech companies perceived by the Romanian population.

The first section includes an overview of the Romanian financial market, identifying the prerequisites of the Fintech development in our country: the number of people that are financially excluded, the Fintech network in Romania, the access to the internet, the technological progress, etc. Another critical point that will be discussed refers to the regulatory framework, in an attempt to provide a balanced relationship between customer protection requirements and technological innovation, as an efficient alternative to the conventional financial services. Starting from the idea that “FinTech firms may pose threats to the profitability of traditional banks as a result of the opening of new financial markets and new financial options” (Manta, 2018, p. 93), our endeavour is to identify the public perception regarding the online banking services, on the one hand, and the

Fintech companies, on the other hand.

In this context, the research hypotheses are willing to clarify the reasons that strengthen the customers’ affinities for the Fintech companies, exploring the customer behavior in many ways, from the level of awareness on the FinTech subject to the current satisfaction with the services offered by the banks. The questionnaire provides a good insight into the customers’ perspective on the Fintech industry by testing three main research hypotheses:

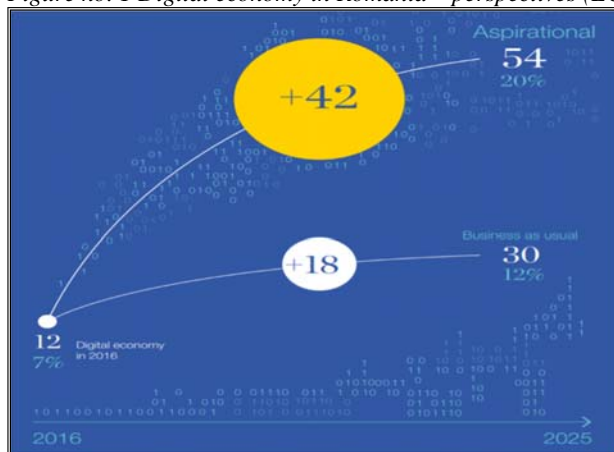
- H01: There is a strong relationship between the plethora of financial services used by the respondents and their Fintech affinities.
- H02: There is a direct relationship between the online banking use frequency and the willingness to try another financial option, including Fintech.
- H03: There is an indirect relationship between the satisfaction level of the banking clients and their interest for the FinTech services, as a primary determinant to embrace the change.

## 2. Literature review

The current technological development has impacted the consumer behavior in a progressive way, strengthening its ability to survive in a digitalized world with a plus of benefits: the financial transactions are currently less time consuming, cheaper, and faster. When these features are in line with the security needs derived from the very sensitive nature of the financial services, the process has more chances to become a key direction for disruptive technologies and FinTech opportunities. Until now, the financial services market is still the core of both traditional and innovative financial services providers, blurring the distinction line between competition and cooperation among these actors, especially in a time where the regulatory framework is clearly disproportionate.

Analyzing the FinTech ecosystem in Romania, Bălțoi (2020) has mentioned the good internet connectivity as one of the main factors of the rapid adoption of the FinTech services by the Romanian users. Focusing on the digital challengers as main growth engine in the next period, Novak et al. (2018) identify two potential growth scenarios for Romanian digital economy by the 2025 horizon (Fig. 1.): (1) the business as usual scenario estimates an increase by the percentage of GDP reached by the digital economy to 12% by 2025, from 7% in 2016, the market expanding by EUR 18 billion; (2) the aspirational trajectory of the digital economy in Romania translates into a growth of EUR 42 billion, reaching approx. 20% of GDP (2025). To achieve the second goal, there must be a mixed effort to embrace the innovative technologies for both public/private organizations and individuals, exploring their digital capabilities, investing in the digital infrastructure and developing advanced digital skills. The same study suggests that more than 50% of the working time in Romania is spent on processes that could be made through automation technologies.

Figure no. 1 Digital economy in Romania – perspectives (EUR billion; share of GDP, %)



Source: <https://www.mckinsey.com/>

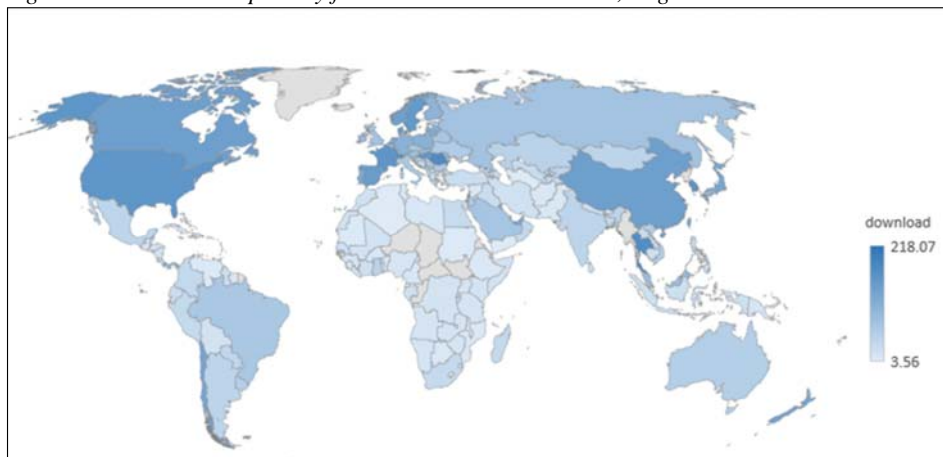
Another critical point is related to the regulatory dilemma: clear rules that often limit the innovation process due to the involved costs or a more flexible regulatory framework that raise the associated risks. The financial regulatory environment was developed before the emergence of the FinTech companies as key financial players and has structural differences among the countries, being both underinclusive and outdated by the magnitude of the phenomenon. In this context, scholars have introduced the term regulatory sandbox to design an optimal solution for the new financial entities, that refers to “a controlled space in which they can test innovative FinTech solutions with the support of an authority for a limited period of time, allowing them to validate and test their business model in a safe environment” (EBA, p. 7).

The traditional financial institutions must comply with the rules established by the authorities and the supervisory organizations, while the FinTech ecosystem is still soft regulated. According to Navaretti et al. (2017), less stringent bank regulation is related to higher investment volumes in FinTech, while Buchak et al. (2018) have concluded that the regulatory burden on the traditional banks from the US mortgage market leads to the FinTech growth. In fact, Fintech is a result of the global economic crisis and of the authorities’ failure to protect its citizens, being considered a proper interface for transparent transactions, without a constraint linked to a third-party regulator. The Fintech companies are operating on a very sensitive market, with high systemic risks, potential speculative bubbles and challenging structural shifts that requires a new regulatory framework that place the Fintech companies on the most urgent agenda.

### 3. Romania on the Fintech map

The internet infrastructure in Romania is highly competitive, the data provided by the Ookla through the Speed test Global Index suggesting the top position of Romania in the ranking. Thus, according to the fixed broadband connection, the download speed in Romania is about 175.39 Mbps, while the global average is about 84.33 Mbps. Moreover, the upload speed data available for August 2020 strengthen the Romanian performance (123.50 Mbps), exceeding more than twice the global average (44.10 Mbps). According to the Figure 2, Romania occupies the third place by download speed for fixed broadband connection, after Singapore (218.07 Mbps) and Hong Kong (SAR) - 205.69 Mbps. The COVID-19 pandemic crisis has highlighted the fundamental role of the internet network for supporting the economy including the educational needs, the remote working or the social requirements. The National Authority for Management and Regulation in Communications (ANCOM) statistics revealed an increase of the average fixed internet data traffic/inhabitant by 14% in 2019 compared to the previous year and a national fixed internet penetration rate of 64%. Moreover, approx. 74% of the total households with fixed internet connection from Romania were high-speed connections, while the structure of the penetration rate was 75% for the urban area and 49% for the rural area.

Figure no.2 Download speed by fixed Broadband connection, August 2020



Source: <https://www.speedtest.net/global-index#mobile>



The best-known Fintech in Romania (53.20% of the respondents) is Revolut, a London-based Fintech unicorn that offers to its users a profitable foreign exchange, direct debit services, Savings Vaults, a pre-paid card, and an accessible app to facilitate the transactions. Founded by two Russians (Nik Storonsky and Vlad Yatsenko) in 2015, Revolut was launched in Romania in May 2018, with more than 25.000 Romanian users and obtained at the end of the same year a European banking license to protect the money under the European Deposit Insurance Scheme (EDIS) and to provide personal loans or overdrafts. After only a year from its entrance on the Romanian market, Revolut announced its first milestone, 250.000 users, and one of the fastest growth rates in Europe. One of the main drivers of the successful adoption was the peer-to-peer network based on recommendations.

The Romanian user profile of Revolut revealed an average age of 32 years, living in one urban center like Bucharest, Cluj, Timișoara, Iași, Brașov and Constanța. We have focused our analysis on Constanța county and on the young segment of the population in order to obtain a more authentic profile of the Fintech services user and to strengthen the research hypotheses. The most respondents were from the segment of 18-25 years, divided in 22.1% male and 77.9% female. Thus, the starting point of the study was Revolut, as reference Fintech for the 4.0 industry, offering us the opportunity to explore the large area of Fintech companies through the client’s perspective. A Revolut analysis revealed that more than 47% of the Romanian young people (aged 18 to 38) save money regularly by using savings accounts (47.95%) or cash (23.22%), while most of the Millennials have declared that are happy to manage their personal budget. Revolut has also launched the stock trading service in Romania, offering the possibility to invest in more than 300 companies listed on the New York Stock Exchange and NASDAQ, providing real-time quotations and data, but also free transactions on a limited trading basis.

Revolut has reached over 1 million accounts in February 2020 on the Romanian market, becoming the second market for the unicorn after UK, with a total value of transactions (ecommerce transactions, foreign exchange, POS and bank transfers) of approx. EUR 3,8 billion. According to the figures, Revolut has surpassed some traditional top 10 banks in terms of the number of cards issued. The recent data also suggest a structural change of Romanian’s preferences: Revolut has transformed from a travel card to an every-day financial tool, with more than 60% of transactions executed in country. The investments facility was also accessed by the Metal Revolut card, totalizing over EUR 12 mil., while the main targeted companies were the following: Tesla, Apple and Microsoft. At the global level, Revolut reported more than 10 mil. users in 2019 and revenues of GBP 162.7 million, while losses tripled in the same period due to the large investments in product portfolio and international network expansion.

However, the Fintech regulation is still unclear in Romania and is tangentially touched by the authority bodies, following the European guidelines to introduce them in the national legal framework and is based on the Second Payment Services Directive (PSD2). This directive was transposed in the Romanian legislation by the Law no. 209/2019 establishing the access procedure for third-party payment service providers and creating the Romanian environment for open payment services. First of all, the law extends the action area in order to also cover the one-leg transactions, but also introduces the following third-party providers (TPPs): (1) PISP – a payment service provider that, after the request of payment service user that holds a payment account at another payment service provider, will initiate a payment order; (2) AISP – which is a payment service provider that has the role of an information aggregator, offering information about one/more accounts of an user with either more than one payment service provider or another payment service provider; (3) CBPII – with the main functionality of issuing card-based payment tools. Moreover, the same law distributes the liability when PISPs process transactions, without offering sufficient guidance to solve the problematic aspects in practice. Finally, the Law no. 209/2019 requires a better payment transaction security through the authentication process, which is based on: (1) knowledge, (2) possession and (3) inherence.

The industry is also regulated by the Law no. 93/2009 regarding the non-banking financial institutions, which provides the main access conditions to the credit activity in Romania for the non-banking financial institutions to maintain the financial stability. In the same extent, the Government Ordinance no. 99/2006 defines the specific rules that are applicable to the credit institutions in Romania. The instructions provided by the National Bank of Romania (NBR) on

governance issues referring the retail banking products, which are based on the European Banking Authority (EBA) guidelines, define the implementation requirements for remuneration policies and practices according to the offer of credit products, deposits, payment services, electronic money, etc., while the Government Ordinance no. 113/2009 regulates the payment services. The entities issuing e-money are regulated by the Law no. 127/2011, the e-commerce is subject to the Law no. 365/2002 and the accepted foreign currencies for payment transaction in Romania are included in the NBR Regulation no. 4/2005. There cannot be neglected the consumer protection laws, along with the Law no. 129/2019 on anti-money laundering measures, that complete the regulatory framework in Romania, which is still a general one with few dedicated references to Fintech. In this context, the Romanian legislation on this subject considerably limits the Fintech companies' expansion by offering them few possibilities for long-term investment plans and generating a high regulatory instability that postpone the Fintech maturation process.

### **3. Research methodology**

To achieve the main goal of the paper, a semi-structured questionnaire was conducted to the banking clients from Constanta County, including yes/no questions (Have you heard of the term FinTech?), multiple choice (Which of the following FinTech innovations have you heard about?) or scaled questions (What is your trust level in the FinTech companies?). There were also used matrix questions to determine the frequency in using the online banking payment methods. The questionnaire was distributed in the online version (Google form) through the internet (e-mail) in the period August – September, 2020, being obtained 312 valid questionnaires. The sample was structured on gender basis (77,88% women and 22.12% men) and by residence (35.25% rural population and 64.75% urban population). The data was processed by using the SPSS software, version 26. The questionnaire was considered the most efficient research instrument to collect primary data to analyze the customer's perception regarding the Fintech services providers, their attitudes towards both traditional banks and Fintech companies, along with an effective means of measuring the satisfaction in digital banking used to address the current Fintech accessibility issues.

The questionnaire design was focused on the customers' perceptions related to the financial technology (FinTech), starting from the factual questions (e.g. Which of the following FinTech innovations have you heard about? or Are you currently using a FinTech application?) in order to lay the ground for exploring the feelings (e.g. What is your main concern about using FinTech products?). The closed questions included in the google form were both dichotomous (yes/no questions) and polytomous, offering a wide list of alternatives for the respondents (e.g. FinTech companies, advantages of using the financial technology or the digital banking). Moreover, some closed questions were ranked using a rating scale in order to measure the strength of emotions (e.g. from strongly disagree to strongly agree). There were also employed open questions, allowing respondents to express what they know about Fintech by using their own words (e.g. How would you define the FinTech term?).

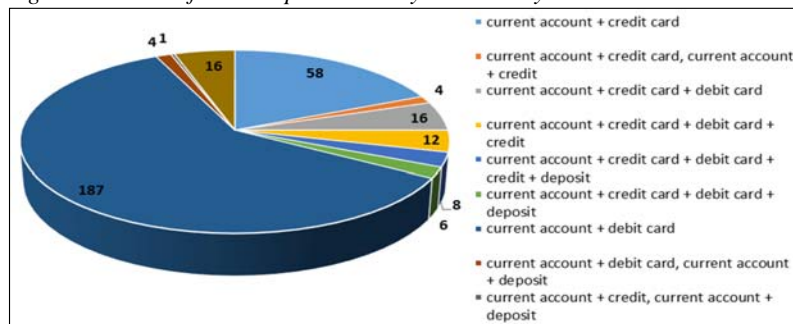
### **4. Findings**

To confirm the research hypotheses, we have identified the client's perceptions related to the digital transformation of the financial system based on the customer habits and behavior. According to the data included in the Figure 4, most respondents have owned only basic products (current account + debit card – 59,93% or current account + credit card – 18,58%). The same figure suggests that 5,12% of the total sample own a current account + deposit, while only 16.34% of them own more than two financial products. From this extent, there is still a low level of financial inclusion in Romania, and this can be a sufficient reason to mark the client's behavior regarding the Fintech industry as rudimentary. However, the situation cannot be underestimated, taking into consideration the plethora of financial services used by some customers that access more than two banking services.



The customer sophistication is more emphasized by the means used to access the service: (1) at the bank's headquarters, (2) internet banking and (3) mobile banking. The results of the questionnaire reveal the mobile banking prevalence, with 46.23%, followed by the internet banking (30,75%) and finally, the physical access at the bank's headquarters (23%). Thus, the new barriers for financial inclusion exclude the internet/mobile connectivity, especially that the previous section has demonstrated the favorable position of Romania according to these indicators. The data provided by the National Institute of Statistics for 2019 strengthen this result, considering that 75.7% of the total Romanian households had access to the internet from home. The structure of the mobile devices used by people aged 16-74, in the last three months, to access the internet, was the following: 97.9% smartphones and mobile phones, 38.2% laptop and 19.1% tablet. Unfortunately, on the top reasons for accessing the internet are not the banking services, the most frequent purposes for which the internet was accessed being those related to communication: social networks (81.7%), voice or video calls (66.9%), correspondence by e-mail (58.5%) or instant messaging (51.3%). The e-commerce has a relatively lower representation compared to other purposes for which the internet is used (42.4% of the total people that have ever used the internet), being used mainly by the young persons between 16 and 34 years (52.4%), employees (49.7%) and students (48.8%).

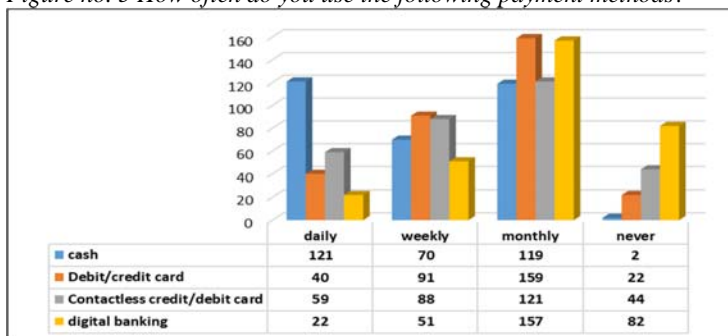
Figure no.4 What financial products do you currently own?



Source: author's compilation using the questionnaire

In the same context, the National Institute of Statistics figures suggest that only 11,3% of the people aged 16-74 that have used the internet for personal purposes in the last three months have accessed the internet banking, from which 16.8% employees, 7.6% self-employed people, 5.5% students and 2% were retired. According to the training levels, only 1.5% of the individuals that have used the internet banking were less educated, while 32.7% of them were associated with the higher education level and 7% with medium education. The results of the questionnaire highlight that cash is still preferred on daily transactions, while those based on contactless credit/debit card are gaining ground. However, 82 of the respondents have never used the digital banking services and only 22 of them use digital banking daily. Comparing the payment methods included in the Figure 5, it can be noticed that cash is mainly used in daily transactions, while contactless credit/debit card and digital banking are used on a monthly frequency.

Figure no. 5 How often do you use the following payment methods?



Source: author's compilation using the questionnaire

According to the Table 1, several research hypotheses were tested to clarify the relationship between the plethora of financial services used, the online banking frequency and the respondents’ FinTech affinities.

- H01: There is a strong relationship between the plethora of financial services used by the respondents and their Fintech affinities. A Pearson correlation coefficient was used to test the relationship between the two variables, No\_products and Fintech\_user. The results revealed a slight positive correlation between the two mentioned variables:  $r = 0.114$ ,  $N = 312$ ,  $p = 0.044$ . The null hypothesis was confirmed.
- H02: There is a direct relationship between the online banking frequency and the willingness to try another financial option, including Fintech. The Pearson correlation coefficient was used to test the relationship between the two variables, Digital\_banking and Fintech\_user. The results also revealed a slight positive correlation between the two mentioned variables:  $r = - 0.135$ ,  $N = 312$ ,  $p = 0.017$ . The null hypothesis was confirmed.

The results suggest that the Fintech affinities are in line with the number of financial services accessed, the plethora of financial services used by the respondents causing a more focused activity for finding efficient methods to access the banking accounts without the physical presence at the bank’s headquarters. The new result was emphasized by the Pearson correlation between the variables No\_products and Digital\_banking. The results revealed a slight positive correlation between the two mentioned variables:  $r = 0.132$ ,  $N = 312$ ,  $p = 0.020$ .

Table no. 1. Correlation between Fintech\_user, Digital\_banking and No\_products

		Fintech_user	Digital_banking	No_products
Fintech_user	Pearson Correlation	1	.135*	.114*
	Sig. (2-tailed)		.017	.044
	N	312	312	312
Digital_banking	Pearson Correlation	.135*	1	.132*
	Sig. (2-tailed)	.017		.020
	N	312	312	312
No_products	Pearson Correlation	.114*	.132*	1
	Sig. (2-tailed)	.044	.020	
	N	312	312	312

\*. Correlation is significant at the 0.05 level (2-tailed).

Source: author’s compilation using the questionnaire

- H03: There is an indirect relationship between the satisfaction level of the banking clients and their interest for the FinTech services, as a primary determinant to embrace the change. The Pearson correlation coefficient was used to test the relationship between the two variables, Satisfaction and Fintech\_knowledge. The results revealed a slight positive correlation between the two mentioned variables:  $r = 0.113$ ,  $N = 312$ ,  $p = 0.046$ . The null hypothesis was not confirmed. Thus, there is a direct relationship that suggests a slight influence of the satisfaction level with the digital banking and the interest for the Fintech industry, considering that the client’s involvement in the online banking make them aware of the Fintech opportunities, training in the same time their capacity to adjust to new disruptive technologies. Thus, the traditional banking and the Fintech industry are perceived rather as innovation enhancers than competitors on the market.

## 5. Conclusions

The COVID-19 pandemic crisis has highlighted the importance of the internet network for supporting the economy through the innovative technology. Fintech has the potential to disrupt the existing financial market structure, according to the results revealed by the customer-centric questionnaire. The current financial evolution favours the Fintech development in Romania by



shaping a map based on the Romanian initiatives, sustained by the digital capabilities, the infrastructure and the advanced digital skills acquired by the public. However, the Fintech industry in Romania is still in a rudimentary phase, being enhanced by the digital tools development and by the access to the internet, designing a passive role of the customers on the market, more related to the understanding stage. Revolut is, as far, the best-known international Fintech unicorn recognized by the Romanian people, reaching the milestones in an accelerate movement through a peer-to-peer mechanism based on recommendations. The results emphasize the perceptual distinction between traditional and innovative financial institutions, revealing a more sophisticated customer in terms of personal involvement in the purchasing process, the required features of the services and the familiarity with the digital banking options.

According to this study, the Romanian population is aware of the Fintech terminology, identifying at the same time the main advantages and the risks associated, placing the security issues on the top priorities. Exploring the Romanian public awareness towards the Fintech industry, we have found the emergence of a new type of customer that is more interested of the current features of disruptive technologies on the financial market. The customer-centric questionnaire reveals that the client’s sophistication is doubled by a more nuanced relationship between the plethora of financial services used (No\_products), the online banking frequency (Digital\_banking) and the FinTech affinities (Fintech\_user), suggesting that the early adopters of the FinTech services on the Romanian market are primarily digitally active banking clients, with multiple financial needs. At the same time, the relationship between the satisfaction level with the digital banking and the interest for the Fintech services suggests that the traditional banking institutions and the Fintech companies are perceived rather as innovation enhancers by the respondents than competitors, widening the market.

The results suggest that there is still a low level of financial literacy in Romania, most of the respondents accessing only basic products and having a limited knowledge about innovative financial services as other studies regarding the level of financial education in Romania showed (Drugă, 2021). This situation affects in a negative way the Fintech industry understanding, due to a poor financial education pattern. The context is improved by the favourable data related to the internet connectivity, that has significantly changed the customer’s habits on the means used to access the banking service, with a clear focus on mobile and internet banking. In terms of payment methods, cash is still preferred on daily transactions, while contactless credit/debit card and digital banking are used mainly on a monthly frequency, suggesting an embryonic stage more related to customer segmentation by age or educational background. From the legislative framework, the Fintech current is slowed down by the unclear regulation in the field, which is tangentially touched by the Romanian authority bodies. The current regulatory instability on the subject postpones the Fintech maturation process and limits the Fintech expansion in Romania due to the negative effects on the investment plans, requiring transparent models of functional approach and an active attitude of financial supervisors.

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