Perception of FinTech Products and Services Among Rural and Urban Residents

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Abstract

This study compares the perceptions of FinTech services among rural and urban residents in Poland. It draws on data from a CAWI survey conducted in 2020 (N=1,153) and uses chi-squared tests, the Fisher-Freeman-Halton test, and post-hoc comparisons. The results indicate that while general attitudes towards FinTech do not differ significantly between rural and urban residents, rural respondents without prior FinTech experience are less likely to consider security and offer attractiveness as key decision factors than residents of small cities. Conversely, device ownership and social influence were less relevant for rural residents than those in mid-sized cities. No significant differences in service evaluation were observed among experienced FinTech users. These findings suggest that perceived differences primarily concern the decision-making stage, not actual use. The results may support the adaptation of FinTech development strategies to the needs of different social groups, thereby enhancing financial inclusion.

Keywords: FinTech, digital finance, financial services, rural residents, financial inclusion.

1. Introduction

1.1. Background and research landscape

The rapid development of financial technologies (FinTech) has become a key component of digital transformation, reshaping the financial services sector and giving rise to new business models. FinTech refers to technology-enabled innovation affecting business models, processes, financial products, services, and institutions [8], [10], [22]. Examples include mobile payments applications, online currency exchange platforms, and peer-to-peer lending services. The concept is viewed either as the application of technology in finance (object-based) or as a sector of digital financial institutions (subject-based) [11], [23]. For this article, FinTech is understood as the sector of non-bank financial institutions that offer financial products and services through modern technologies. Research often focuses on adoption factors, using TAM and UTAUT models to explain the role of perceived usefulness, ease of use, and social influence in user decision-making [4], [7], [13], [34]. Traditional models, such as TAM, may not fully capture the behavioral aspects among underserved populations. Insights from behavioral economics, such as status quo bias or risk aversion, can help explain why users delay adopting new financial tools, even when beneficial [32]. Trust, perceived data security, and user experience (UX) design also shape user perceptions [28], [31]. Communication-related mechanisms, including the credibility of digital channels and peer influence, may modulate how information about FinTech is received and interpreted, particularly in low-trust environments. FinTech is also perceived as a tool to bridge the digital divide between different communities [33], [35]. It plays a critical role in financial inclusion by reducing barriers to accessing financial services [3], [5], [21], [26]. However, the effectiveness of these solutions does not depend solely on the availability of technology. A key factor enabling the effective use of FinTech is a level of digital financial literacy (DFL) [27]. This concept encompasses financial knowledge, attitudes, and behaviors that allow individuals to use FinTech services safely and responsibly. Attitudes towards FinTech - especially those related to perceptions - shape users' decisions about its use, making them an important area for research.

1.2. Context and motivation

The literature highlights that perceptions of FinTech vary according to socio-economic and regional conditions. Research shows that urban residents tend to be more open to FinTech due to higher levels of digital literacy and better access to technological infrastructure [35]. In contrast, rural residents may be more cautious about engaging with innovative financial solutions, which may be related to limited technological skills and different financial habits [25]. These findings suggest that perceptions of FinTech services may be shaped not only by technological factors but also by the level of DFL [12] and social factors [3], [35]. Recent studies show that digital financial inclusion in rural areas remains uneven and fragmented across national contexts [2]. Poland also faces similar challenges. Many rural municipalities near urban centers combine relatively good infrastructural access with persistent sociocultural and perceptual barriers to using FinTech services. Despite having a well-developed financial sector and a rapidly growing FinTech market [19], the level of DFL in Poland stands at 50 out of 100, below the OECD average of 55 out of 100 [27]. This suggests that even with widespread access to FinTech services, low DFL may hinder their effective use. In addition, it should be noted that Poland stands out among EU countries with a high proportion of its population living in rural areas - around 40% - compared to the EU average of around 25% [30], [6]. This significant proportion of rural residents in the country's demographic structure highlights the need to understand their attitudes toward innovative financial services and the potential barriers to their adoption. Previous research has mainly focused on the development of the FinTech sector [16], [18] and on factors influencing FinTech adoption [1], [29]. At the same time, less attention has been paid to attitudes, perceptions, and willingness to use these services [20]. While several studies have addressed FinTech adoption in Poland, to the best of the author's knowledge, no peer-reviewed publication since 2020 has examined rural–urban perception differences using a large-scale, quota-based survey sample.

1.3. Research objective and questions

Despite the growing number of studies on FinTech, there remains a gap in understanding how user perceptions vary with geographical location and prior UX. Attitudes and willingness to use FinTech among rural populations remain under-researched. This study aims to address this gap by identifying differences in the readiness to use FinTech services between rural and urban residents and by examining the factors influencing the decision to use these services based on users' prior experience. This aligns with DFL's "attitudes" component [27] and responds to the need for more context-sensitive and user-focused research on FinTech-related decision-making.

The following research questions were formulated for this study:

RQ1. Are there differences in willingness to use FinTech services between rural residents and residents of cities of different sizes?

RQ2. Does previous experience with FinTech influence perceptions?

RQ3. What factors shape perceptions of FinTech, and does their importance vary by location?

Recognizing these differences supports better tailoring of FinTech strategies to the specific needs of urban and rural populations. The findings can provide practical insights for regulators, financial institutions, and technology companies, contributing to more effective financial inclusion efforts.

2. Data and Methods

This article is based on selected data from a survey of 1,153 adults conducted by a professional research organization in October and November 2020, during the peak of pandemic restrictions in Poland. This period may be interpreted as a stress test for FinTech readiness: many users who had previously avoided digital channels were forced to rely on remote services. The data likely capture the upper bound of FinTech exposure during an exceptional societal context. Quota sampling ensured representativeness. The survey was commissioned by the author as part of the project "Anonymized for purposes of review". It was conducted using the Computer-Assisted Web Interviewing (CAWI) method, which, while efficient, may underrepresent digitally excluded individuals. The closed-ended questionnaire used a five-point Likert scale.

For this study, selected questions were used, as shown in Figure 1.

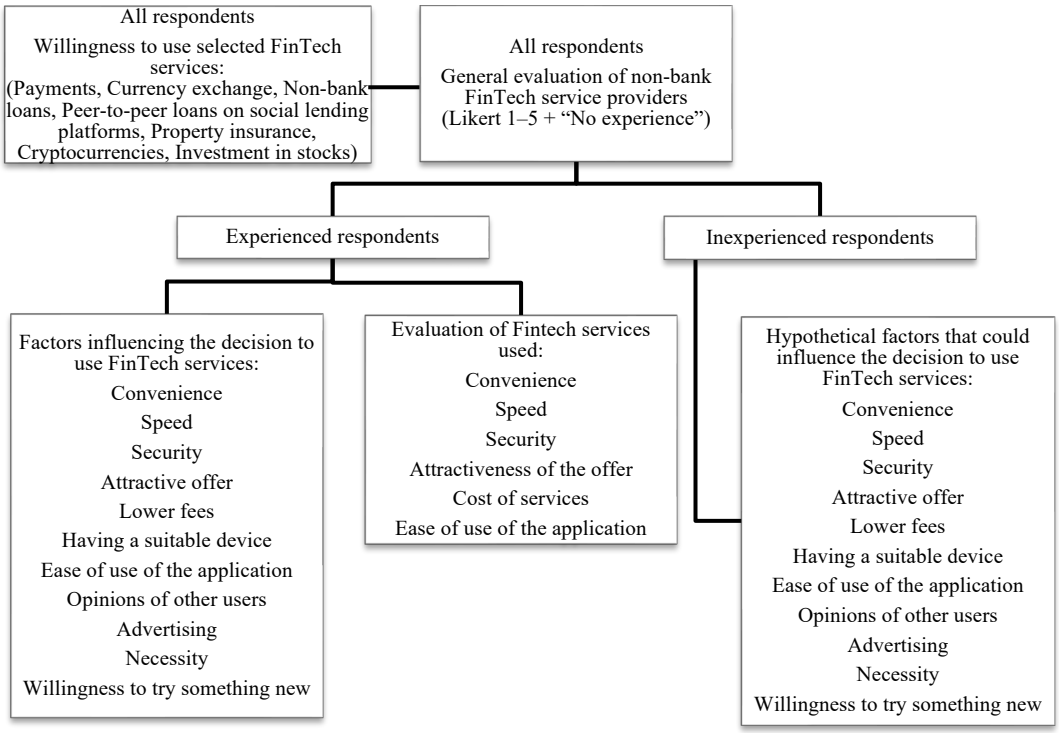

Fig. 1. Structure of survey questions and segmentation of respondents based on FinTech experience (source: own elaboration).

For the analysis, differences in the perception of FinTech products and services between rural and urban residents were considered. The sample structure by place of residence and FinTech experience is shown in Table 1. The lower share of respondents from large cities reflects population distribution quotas and was not intended to represent usage rates across urban centers. However, this sampling structure should be considered when interpreting group comparisons.

Table 1. Distribution of respondents by experience with FinTech and place of residence (source: own elaboration based on the author's survey data).

Place of residence	Rural areas	Cities up to 100,000	Cities 100,000-500,000	Cities over 500,000	Total
Inexperienced	167	133	75	46	421
Experienced	303	229	113	87	732
Total	470	362	188	133	1,153
Structure (%)	41%	31%	16%	12%	100%

The chi-squared test of independence was used to analyze associations [17] between response distributions and subgroup classifications. Where the expected frequency in any category was less than 5, the Fisher-Freeman-Halton exact test was used instead of the chi-squared test. Post-hoc tests were performed with p-value adjustment using the Bonferroni correction for variables with statistically significant response differences. The same tests were used for the overall analysis of differences between categories for post hoc comparisons. All analyses were performed at a significance level of $\alpha = 0.05$, with a corrected significance level of $\alpha = 0.0167$ used for post hoc testing.

3. Results and Discussion

The first question asked of all respondents concerned their willingness to use various FinTech services, such as payments, currency exchange, non-bank loans, peer-to-peer loans on social lending platforms, property insurance, cryptocurrencies, and stock

investing. No statistically significant differences were observed between rural and urban residents except for two cases. The chi-squared test of independence revealed a statistically significant difference in the reported willingness to use currency exchange services ($p = 0.022$). Post-hoc tests revealed a statistically significant difference in the response distributions between rural residents and those from large cities ($p = 0.003$). In contrast, the difference between rural areas and mid-sized cities ($p = 0.02$) did not meet the Bonferroni-adjusted significance threshold (0.0167). Figure 2 shows the percentage distribution of responses regarding currency exchange services among respondents from rural areas and large cities.

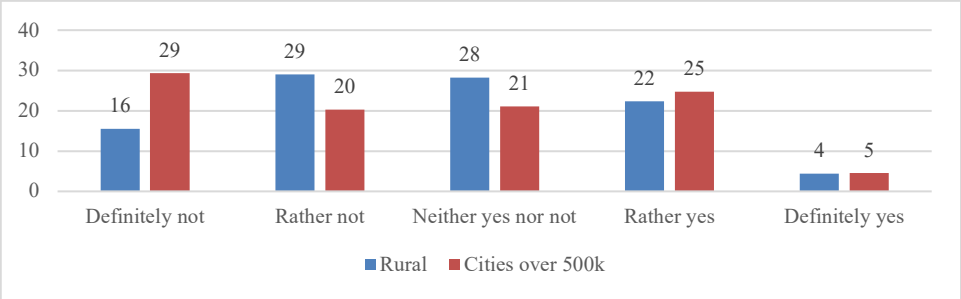

Fig. 2. Percentage distribution of responses to the question: "Would you like to use non-bank currency exchange services offered through innovative technologies?" among respondents from rural areas and large cities (source: own elaboration based on the author's survey data).

Urban respondents were significantly more likely to select "definitely not" and "rather yes" than rural respondents. This variation may reflect a broader spectrum of attitudes toward FinTech within urban populations. In contrast, rural respondents were likelier to select "rather not" and "neither yes nor no". The percentage of "definitely yes" responses was similar for both groups. This may reflect more diverse financial experience and awareness of currency exchange options in large cities. Such differences may be due to greater exposure to innovative financial services among city dwellers, consistent with previous findings [35] that city dwellers are more likely to use FinTech due to better access to information and technological infrastructure. FinTech can contribute to financial inclusion only if users have adequate digital literacy and access to alternative financial services [33]. For peer-to-peer lending on social lending platforms, statistically significant differences in response distributions between groups were found (Fisher-Freeman-Halton test, $p = 0.0272$). However, none of the post-hoc comparisons between groups met the Bonferroni-adjusted significance threshold (0.0167). This may indicate that differences in perceptions of peer-to-peer lending are noticeable but not pronounced enough to suggest clear regional trends.

The next question, which was also asked of all respondents, concerned the overall evaluation of non-bank FinTech service providers (measured on a five-point Likert scale, with the option of selecting "I have no such experience"). The responses also allowed identifying respondents with and without experience in each group. The percentage distribution of responses is shown in Figure 3.

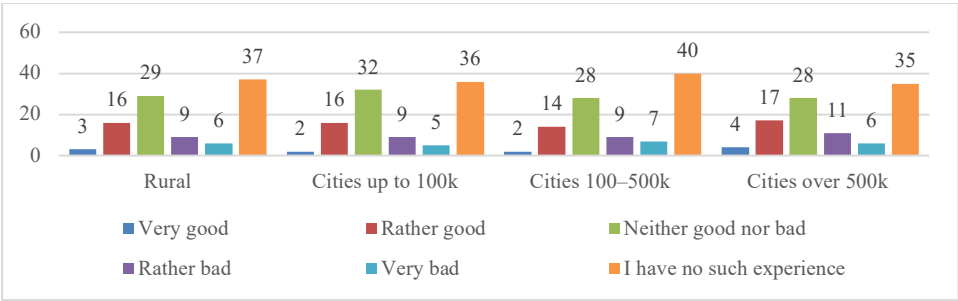

Fig. 3. Percentage distribution of responses to the question: "How would you generally evaluate the services of non-bank financial providers using innovative technologies?" by place of residence (source: own elaboration based on the author's survey data).

Next, to better understand the mechanisms behind the differences in FinTech perceptions, the analysis focused on the factors that encouraged respondents to use these services and those that could potentially persuade them to do so. The first step was to analyze the responses of participants with prior experience with FinTech services. Respondents rated the following factors: ease of use, speed of service, security of transactions, attractiveness of the offer, lower fees, ownership of an appropriate device (e.g., smartphone, computer), ease of use of the application, influence of others' opinions, advertising as a source of information, necessity (e.g., lack of other alternatives), and willingness to try something new. They then rated FinTech experience in terms of convenience, speed of service, security, attractiveness of the offer, level of fees, and ease of application use. Statistical analysis revealed no significant differences in these aspects based on location. This may suggest that the key differences are primarily related to the decision stage - whether to start using FinTech services - rather than the actual use of these services. The fact that individuals who already use FinTech evaluate it similarly regardless of where they live suggests that once the initial barrier to using the FinTech ecosystem is overcome, users evaluate its functionality based on similar criteria [28], [31]. This is consistent with other findings [9], which emphasize that the availability of technology and infrastructure plays a crucial role in the decision to use FinTech but does not necessarily influence how tech-savvy users use such services. Similar findings [24] suggest that users with higher levels of digital literacy and technological awareness are more likely to use FinTech.

For respondents with no prior experience, the importance of each factor was analyzed. Advertising, necessity (e.g., lack of alternatives), and willingness to try something new did not show statistical significance. For factors such as convenience (Fisher-Freeman-Halton test, $p = 0.0268$), speed (Fisher-Freeman-Halton test, $p = 0.005$), lower fees (chi-square test, $p = 0.001$), and ease of use (chi-square test, $p = 0.010$), overall significance was observed; however, post-hoc tests did not confirm statistically significant differences between specific groups after Bonferroni correction ($p > 0.0167$). This means that while group-level differences in responses were noticeable, it was not possible to clearly identify which groups were significantly different from each other. Security (chi-square test, $p = 0.007$) was less frequently cited as an important factor by rural residents than by small city residents ($p = 0.007$). This may indicate that security is not perceived as a key issue for rural respondents. This contradicts studies [15] identifying security as one of the main factors influencing users' decisions regarding FinTech [28], [31]. In rural areas of Poland, low familiarity with FinTech leads to a lack of awareness of potential risks, leading to security not being perceived as an essential consideration. It is also possible that rural respondents place greater trust in financial institutions or lack a frame of reference that would allow them to evaluate the security of FinTech services as a critical criterion. Alternatively, this may indicate that people in rural areas are not considering using FinTech at all, making security issues mainly irrelevant to them. The attractiveness of the offering (chi-square test, $p < 0.001$) was considered less important by rural residents than by mid-sized city residents ($p = 0.004$). This may be due to lower exposure to competing FinTech products and more limited access to alternative offerings in smaller localities. Ownership of an appropriate device (chi-square test, $p = 0.008$) was more critical for mid-sized city residents than for rural residents ($p = 0.008$). This may reflect that FinTech services are more widely available in mid-sized cities, making device ownership a key factor in enabling their use. In rural areas, however, the primary barrier may be infrastructure constraints and limited access to services. This is supported by other research [14] that highlights the issue of limited access to the Internet and digital technologies in rural communities. Although these studies focus on older users, the conclusions regarding infrastructural limitations may also be relevant in FinTech use. Under such conditions, simply owning a device does not guarantee the ability to use FinTech services [2], which may explain why their perceived importance is relatively lower. The opinion of others (chi-square test, $p = 0.011$) was more important for residents of mid-sized cities than for rural residents ($p = 0.013$), which may be due to the smaller number of people actively using FinTech in rural communities. This is consistent with previous findings [35], which emphasize that the effectiveness of social recommendations depends on the number of users within a given group. Lower population density and smaller social networks may

reduce the impact of social influence in the context of financial technology use. Table 2 presents only those factors found to be statistically significant for respondents with no prior experience by place of residence.

Table 2. Responses of inexperienced respondents by place of residence. Factors that were statistically significant globally and in post-hoc comparisons (source: own elaboration based on the author's survey data).

		Place of residence						Post-hocs	
		Overall	Rural	Cities up to 100k	Cities 100–500k	Cities over 500k	χ^2 test (p-value)		
N=		421	167	133	75	46		Comparison	P-value
Security, n (%)	1	110 (26.1)	52 (31.1)	27 (20.3)	20 (26.7)	11 (23.9)	0.007*	Rural vs. small cities	0.007*
	2	113 (26.8)	54 (32.3)	31 (23.3)	18 (24.0)	10 (21.7)			
	3	94 (22.3)	28 (16.8)	43 (32.3)	13 (17.3)	10 (21.7)		Rural vs. medium cities	0.072
	4	55 (13.1)	19 (11.4)	21 (15.8)	8 (10.7)	7 (15.2)			
	5	49 (11.6)	14 (8.4)	11 (8.3)	16 (21.3)	8 (17.4)		Rural vs. large cities	0.218
Attractive offer, n (%)	1	58 (13.8)	20 (12.0)	14 (10.5)	12 (16.0)	12 (26.1)	<0.001*	Rural vs. small cities	0.019
	2	140 (33.3)	71 (42.5)	34 (25.6)	26 (34.7)	9 (19.6)			
	3	122 (29.0)	43 (25.7)	52 (39.1)	15 (20.0)	12 (26.1)		Rural vs. medium cities	0.004*
	4	51 (12.1)	19 (11.4)	22 (16.5)	4 (5.3)	6 (13.0)			
	5	50 (11.9)	14 (8.4)	11 (8.3)	18 (24.0)	7 (15.2)		Rural vs. large cities	0.020
Having a suitable device, n (%)	1	54 (12.8)	19 (11.4)	12 (9.0)	13 (17.3)	10 (21.7)	0.008*	Rural vs. small cities	0.254
	2	116 (27.6)	58 (34.7)	32 (24.1)	17 (22.7)	9 (19.6)			
	3	131 (31.1)	48 (28.7)	48 (36.1)	23 (30.7)	12 (26.1)		Rural vs. medium cities	0.008*
	4	69 (16.4)	28 (16.8)	28 (21.1)	6 (8.0)	7 (15.2)			
	5	51 (12.1)	14 (8.4)	13 (9.8)	16 (21.3)	8 (17.4)		Rural vs. large cities	0.076
Opinion of others, n (%)	1	47 (11.2)	26 (15.6)	9 (6.8)	5 (6.7)	7 (15.2)	0.011*	Rural vs. small cities	0.064
	2	111 (26.4)	51 (30.5)	33 (24.8)	19 (25.3)	8 (17.4)			
	3	141 (33.5)	48 (28.7)	52 (39.1)	26 (34.7)	15 (32.6)		Rural vs. medium cities	0.013*
	4	69 (16.4)	27 (16.2)	27 (20.3)	8 (10.7)	7 (15.2)			
	5	53 (12.6)	15 (9.0)	12 (9.0)	17 (22.7)	9 (19.6)		Rural vs. large cities	0.196

Note: When 1 is strongly disagree and 5 is strongly agree. *p < 0.05; significance tested with Chi-square or Fisher–Freeman–Halton test; Bonferroni-corrected p = 0.0167 for post-hoc comparisons.

4. Conclusion

This study aimed to assess differences in the readiness to use FinTech services between rural and urban residents in Poland and to identify the factors influencing their decision to use such services. Particular attention was given to the role of prior UX and location-related variation. The findings address the research questions and offer insights relevant to improving financial inclusion.

In response to the first question, readiness to use FinTech was broadly similar across groups, except for currency exchange and peer-to-peer lending, which were more appealing to large city residents. This may be due to greater exposure to diverse financial products and broader awareness of available alternatives in urban areas. The second research question concerned the influence of prior experience with FinTech on perceptions. The main differences occurred at the decision-making stage - whether to start using FinTech services - rather than in their actual use. Individuals with FinTech experience rated the services similarly regardless of where they lived, suggesting that once the initial entry barrier is overcome, FinTech users tend to have similar views about the functionality and benefits of these services. Thus, attitudes toward FinTech may shape subsequent behaviors, aligning with the concept of DFL. As for the third question, which focused on the factors shaping perceptions of FinTech, rural residents were less likely to consider security, attractiveness of offers, and ownership of an appropriate device as essential decision-making factors. In addition, the opinion of others was less relevant to rural residents than to those living in mid-sized cities. These differences may reflect lower exposure to

alternative services and smaller social networks, limiting access and influence, particularly in rural areas.

These insights can guide FinTech implementation strategies tailored to diverse user segments. Introducing new financial services should accompany educational initiatives on digital security and usability, along with efforts to build trust through user-centered design. Improving social recommendation mechanisms may also be crucial, particularly in mid-sized cities where peer opinion matters more.

A limitation of this study is the use of the CAWI method, which may have excluded digitally marginalized individuals. Since the data were collected during the peak of pandemic-related restrictions in 2020, this period may be viewed as a stress test for FinTech readiness, reflecting upper-bound exposure, including reluctant users. Recent advances, such as embedded finance and AI-driven personalization, suggest that future research should revisit user attitudes, especially among digitally cautious groups. Studies could also assess the impact of educational programs on financial attitudes and, consequently, DFL across different social segments. Future work should apply qualitative methods and more nuanced segmentation techniques (behavioral or infrastructural clustering) rather than relying solely on administrative divisions. While this study did not explore age-related differences, these have been analyzed separately using the same dataset [20]. Future work might also examine how UX design and the credibility of information channels shape FinTech adoption across user groups.

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References

1. Adamek, J., Solarz, M.: Adoption factors in digital lending services offered by FinTech lenders. Oeconomia Copernicana 14(1), 169-212 (2023)
2. Baetova, D.R., Blinov, O.A., Zagorenko, A.A.: Financial inclusion of rural areas in the conditions of digitalization: Studies in Europe and Russia. In: Vadyunina, S.G., Klochkov, Y.V., Mikhaylov, V.S. (eds.) Challenges and Solutions in the Digital Economy and Finance, pp. 679–688. Springer (2022)
3. Das, A., Das, D.: Perception, Adoption, and Pattern of Usage of FinTech Services by Bank Customers: Evidences from Hojai District of Assam. Emerging Economy Studies 6(1), 7-22 (2020)
4. Davis, F.D., Bagozzi, R.P., Warshaw, P.R.: User acceptance of computer technology: a comparison of two theoretical models. Management Science 35(8), 982-1003 (1989).
5. Demir, A., Pesqué-Cela, V., Altunbas, Y., Murinde, V.: Fintech, financial inclusion and income inequality: a quantile regression approach. The European Journal of Finance 28(1), 86-107 (2020)
6. Eurostat: Urban-rural Europe - introduction. Statistics Explained (2024), https://ec.europa.eu/eurostat/statistics-explained/. Accessed March 15, 2025
7. Ferilli, G.B., Palmieri, E., Miani, S., Stefanelli, V.: The impact of FinTech innovation on digital financial literacy in Europe: Insights from the banking industry. Research in International Business and Finance 69, 102218 (2024)
8. Financial Stability Board: Financial Stability Implication from Fintech (2017), https://www.fsb.org/uploads/R270617.pdf. Accessed March 15, 2025
9. Friedline, T., Naraharisetti, S., Weaver, A.: Digital Redlining: Poor Rural Communities' Access to Fintech and Implications for Financial Inclusion. Journal of Poverty 24(5-6), 517-541 (2019)
10. Gomber, P., Koch, J.-A., Siering, M.: Digital finance and FinTech: Current research and future research directions. Journal of Business Economics 87(5), 537-580 (2020)
11. Harasim, J., Mitręga-Niestrój, K.: FinTech - dylematy definicyjne i determinanty rozwoju. Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu 531, 169-179 (2018)
12. Hasan, M., Noor, T., Gao, J., Usman, M., Abedin, M.Z.: Rural Consumers' Financial Literacy and Access to FinTech Services. Journal of the Knowledge Economy 14(2), 780-

804 (2022)
13. Hasan, R., Ashfaq, M., Shao, L.: Evaluating drivers of FinTech adoption in the Netherlands. Global Business Review 25(6), 1576-1589 (2024)
14. Hodge, H., Carson, D., Carson, D., Newman, L., Garrett, J.: Using Internet technologies in rural communities to access services: The views of older people and service providers. Journal of Rural Studies 54, 469-478 (2017)
15. Hu, Z., Ding, S., Li, S., Chen, L., Yang, S.: Adoption Intention of Fintech Services for Bank Users: An Empirical Examination with an Extended Technology Acceptance Model. Symmetry 11(3), 340 (2019)
16. Iwanicz-Drozdowska, M., Cichowicz, E., Cicirko, M., Kawiński, M., Nowak, A.K.: New technologies in the financial industry: case of Poland. Economics and Business Review 9(3) (2023)
17. James, G., Witten, D., Hastie, T., Tibshirani, R.: An Introduction to Statistical Learning: with Applications in R. Vol. 103. Springer, New York (2013)
18. Kliber, A., Będowska-Sójka, B., Rutkowska, A., Świerczyńska, K., Zdunkiewicz, W.: FinTechs in Poland: Insights, Trends and Perspectives. Technical Report (2020)
19. Kliber, A., Będowska-Sójka, B., Rutkowska, A., Świerczyńska, K.: Triggers and Obstacles to the Development of the FinTech Sector in Poland. Risks 9(2), 30 (2021)
20. Krupa, D., Buszko, M.: Age-dependent differences in using FinTech products and services-Young customers versus other adults. PLoS ONE 18(10), e0293470 (2023)
21. Krupa, D.: Financial Attitudes and Behaviours of Young Adults. In M. Osińska (Ed.), Economic Challenges and Young Adults: Perspectives from Germany, Poland and Czechia, pp. 193-218. Routledge, Abingdon & New York (2025)
22. Liu, J., Li, X., Wang, S.: What have we learnt from 10 years of fintech research? A scientometric analysis. Technological Forecasting and Social Change 155, 120022 (2020)
23. Milian, E.Z., Spinola, M.D., Martins, J.T.: Fintechs: A Literature Review and Research Agenda. Electronic Commerce Research and Applications 34, 100833 (2019)
24. Nam, Y., Lee, S.T.: Behind the growth of FinTech in South Korea: Digital divide in the use of digital financial services. Telematics and Informatics 81, 101995 (2023)
25. Ning, R., Wang, M.: The Impact of Fintech on the Income Gap between Urban and Rural Residents. Academic Journal of Business & Management 5(4), 10-17 (2023)
26. Norta, A., Leiding, B., Lane, A.: Lowering Financial Inclusion Barriers with a Blockchain-Based Capital Transfer System. In: IEEE INFOCOM 2019 - Conference on Computer Communications Workshops (INFOCOM WKSHPS), 319-324 (2019)
27. OECD: OECD/INFE 2023 International Survey of Adult Financial Literacy. OECD Business and Finance Policy Papers No. 39. OECD Publishing, Paris (2023)
28. Panait, M.C., Apostu, S.A., Gigauri, I., Confetto, M.G., Palazzo, M.: Defeating the dark sides of FinTech: A regression-based analysis of digitalization's role in fostering consumers' financial inclusion in Central and Eastern Europe. Risks 12(11), 178 (2024)
29. Solarz, M., Swacha-Lech, M.: Determinants of the adoption of innovative fintech services by Millennials. E&M Economics and Management 24(3), 149-166 (2021)
30. Statistics Poland: Population. Size and structure and vital statistics in Poland by territorial division in 2023. As of 31 December. Statistics Poland, Warsaw (2024)
31. Stewart, H., Jürjens, J.: Data security and consumer trust in FinTech innovation in Germany. Information and Computer Security 26(1), 109–128 (2018)
32. Thaler, R.H., Sunstein, C.R.: Nudge: Improving Decisions About Health, Wealth, and Happiness. Yale University Press (2008)
33. Tok, Y.W., Heng, D.: Fintech: Financial Inclusion or Exclusion?. IMF Working Papers 2022(080). International Monetary Fund (2022)
34. Venkatesh, V., Thong, J.Y.L., Xu, X.: Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology. MIS Quarterly 36, 157-178 (2012)
35. Wu, G., Peng, Q.: Bridging the Digital Divide: Unraveling the Determinants of FinTech Adoption in Rural Communities. SAGE Open 14(1), 1-14 (2024)