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## **Poland–Turkey Comparison of Mobile Payments Quality in Pandemic Time**



# Introduction

- The main purpose of this research was to identify and compare the issue of mobile payments in two countries, Poland and Turkey since the beginning of the COVID-19 pandemic.
- The presented research consists in the comparison of the perception of the possibilities related to:
  - using new technologies as well as
  - determining the similarities and differences between countries considering the impact of the COVID-19 pandemic.
- The data for the study were collected with the application of the CAWI method (Computer Assisted Web Interview) in March 2021.
- The survey covered nearly 645 respondents in total. In Poland, 395 in Turkey 250.
- The basis for comparisons was populations from two culturally distinct countries, which are at a similar level of development as regards the use of the Internet.
- The studies were carried out simultaneously in both countries and examined the group of young people aged 18–25.
- The study presented in the article fills the research gap regarding international comparisons of the use of m-payments.

# Assumptions - structure of questionnaire

The conducted survey included twenty-six questions, consisted of three parts:

- **Infrastructure information:**
  - the mobile device used,
  - the length of time the mobile device is used,
  - the impact of the COVID-19 pandemic on the purchase of a mobile device, and
  - the mobile device operating system,
- **Information about the environment in which mobile payments are made:**
  - the place (bank) where the respondent holds his or her main account,
  - the impact of the COVID-19 pandemic on opening a bank account,
  - the access to the bank account,
  - the impact of the COVID-19 pandemic on the method of accessing the bank account, using a mobile device to support financial operations,
  - the preferred method of handling financial operations, reasons for not using mobile devices to support financial operations or transactions, the impact of the COVID-19 pandemic on the use of a mobile device to support financial operations/transactions,
  - the time (length) of use of a mobile device to support financial operations/transactions,
  - the time of use of the bank's mobile application,
  - the advantages of using the bank's website, the impact of the COVID-19 pandemic on the intensity of using the bank's website,
  - the advantages of using the bank's mobile application and the impact of the COVID-19 pandemic on the intensity of using the bank's mobile application,

# Assumptions - structure of questionnaire

- **Information on the use of mobile payments during the COVID-19 pandemic:**
  - tools used to implement mobile payments during the COVID-19 pandemic,
  - types of mobile payments used,
  - the impact of the COVID-19 pandemic on the number of mobile payments,
  - the advantages of using mobile applications to make payments during the pandemic COVID-19,
  - the advantages of using the website to make mobile payments during the COVID-19 pandemic,
  - the types of mobile payments used during the COVID-19 pandemic and preferences concerning specific forms of delivery before the COVID-19 pandemic and preferences regarding the forms of delivery used during the COVID-19 pandemic.

# Analysis of the Main Results

- In both countries, the most frequently owned mobile device is a smartphone:
  - in Poland 99%, and
  - in Turkey 98%.
- The used mobile devices for over 4 years:
  - in Poland more than 94%
  - in Turkey more than 60%.
- It follows that, in Poland, people started to use mobile devices, in particular smartphones, slightly earlier.
- Buying new mobile devices:
  - in Poland 26% of Polish respondents believe that the COVID-19 pandemic did not affect the purchase,
  - in Turkey 25% of the purchases of mobile equipment were associated with the outbreak of the COVID-19 pandemic.

# Analysis of the Main Results

- In both countries, the distribution of responses focused on holding accounts in 4–5 banks.
- In Poland:
  - commercial banks mBank SA 25%, Bank Millenium SA 11%, ING Bank Śląski SA 11%) and
  - the largest state-owned bank - PKO Bank Polski 28%.
- In Turkey:
  - state-owned bank Türkiye Cumhuriyeti Ziraat Bankası A.Ş. (43%), Türkiye İş Bankası A.Ş. (11%), Turkey's largest bank; Yapı ve Kredi Bankası A.Ş. (9%); ,
  - commercial banks - Türkiye Halk Bankası A.Ş. - almost 8%).
- Communication with the bank:
  - only mobile applications in Turkey 85%; in Poland 46%,
  - in the case of simultaneous use of the mobile application and the bank's website 48%,
  - only through the bank's website in Turkey 13% and in Poland 6%.
- During the COVID-19 pandemic, as many as 37% (Poland and Turkey) of respondents changed the way of communicating with the bank, mostly to mobile solutions. In Poland only 2%.

# Main methods of using mobile devices to access financial services

The way in which respondents handle their finances	Poland	Turkey	Average
I use a mobile banking application	36.06%	35.75%	35.91%
I contact the hotline - I talk to a consultant	35.03%	32.30%	33.66%
I contact the hotline - I use IVR	<b>6.59%</b>	<b>12.78%</b>	9.69%
I use text messages (SMSs)	1.04%	4.49%	2.76%
I visit the bank's website	<b>18.55%</b>	<b>10.54%</b>	14.54%
I use a virtual bank branch (the website providing communication with a consultant in the form of a written, audio or video chat)	2.73%	4.15%	3.44%

# Analysis of the Main Results

- About the reasons for not using mobile devices to manage financial services.
  - in Poland,
    - greater convenience, functionality and certainty in using the banking service with a laptop 21%,
    - greater security 21% and
    - no need to use mobile equipment 14%.
  - In Turkey,
    - concerned no need to use mobile hardware and software 43%, and
    - 11% of the respondents pointed to creating a budget manually on paper.
- Influence on the use of mobile devices to carry out financial operations during COVID-19:
  - 77% of Turkish respondents admit that COVID-19 was the reason why they started to use mobile solutions.
  - 15% in Poland - this indicates that mobile payments were commonly used in Poland even before the pandemic.

# Analysis of the Main Results

- In question about the time of use of e-banking websites and m-banking applications.
  - in Poland use the bank's website mainly for 2 to 4 years (49%) or over 4 years (37%).
  - in Turkey, the largest share (47%) uses the banking website for 1 to 2 years (which shows that they only started using it during the pandemic), and 44% of respondents use the bank's website for 2 to over 4 years.
- In question about the time of use of m-banking applications.
  - In Poland:
    - 54% use the bank's mobile application for 2 to 4 years,
    - 22% (less than half of the share) use it for 1 to 2 years.
  - In Turkey:
    - 57% have been using mobile applications since the outbreak of the COVID-19 pandemic.

# Reasons for using a website to contact the bank

Accessing bank services via a website	Poland	Turkey	Average
Convenience and saving time	41.89%	41.09%	41.61%
Curiosity, to test the solution	1.89%	0.99%	1.57%
It was recommended by a friend or a family member	4.32%	5.45%	4.72%
It was recommended by an employee of the bank where I hold my account	<b>10.81%</b>	<b>4.46%</b>	8.57%
A friend/family member uses such a form of communication	11.62%	12.38%	11.89%
It is trendy/popular	1.62%	0.99%	1.40%
A bank's advertisement encouraging to use this form of banking	1.89%	1.49%	1.75%
Security of banking operations	<b>24.86%</b>	<b>32.18%</b>	27.45%
I do not use it	1.08%	0.99%	1.05%

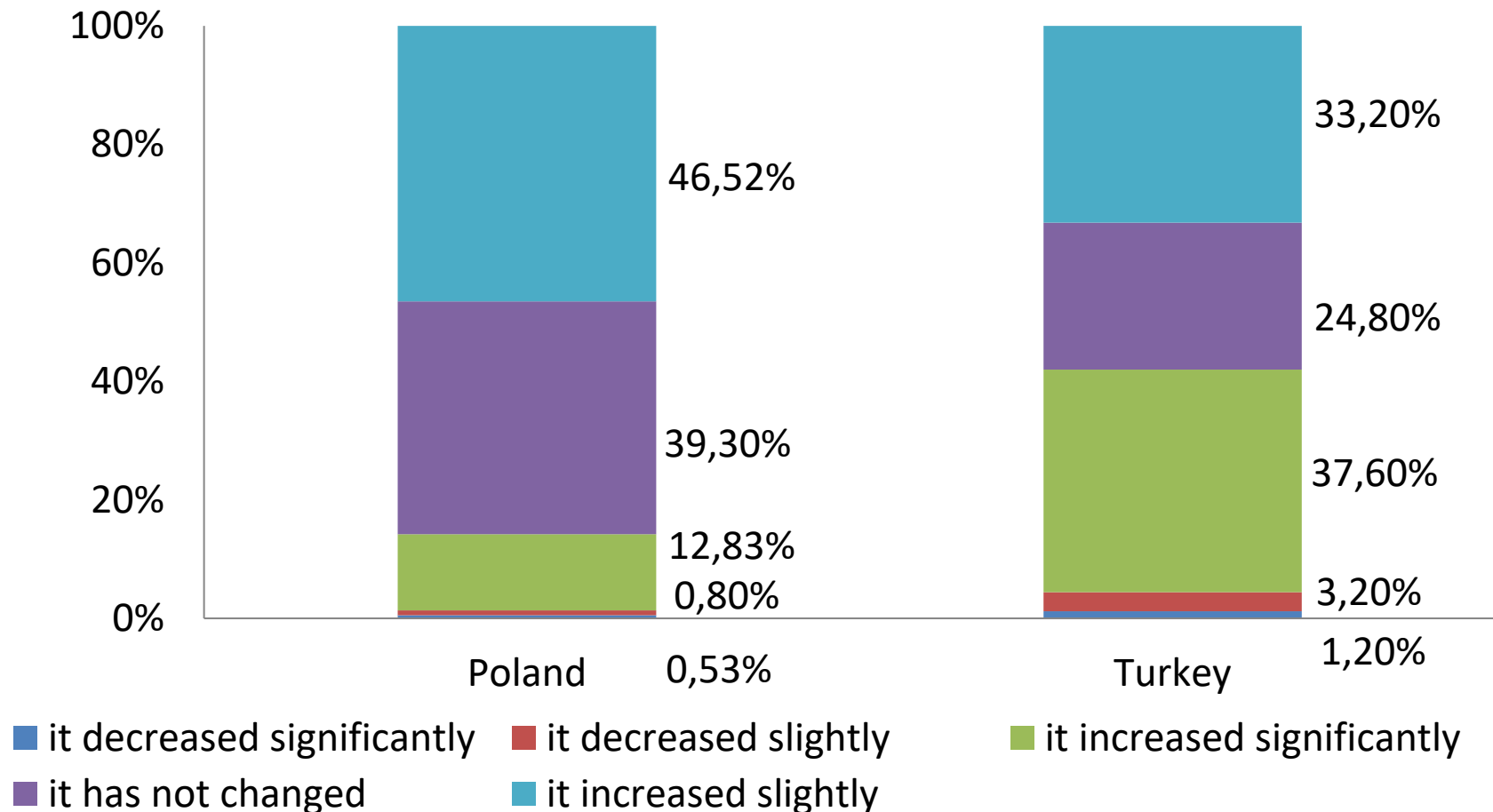
# Mobile payment systems used in Poland and Turkey

Types of mobile payments	Poland	Turkey	Average
Apple Pay	11.50%	10.42%	10.96%
BLIK (Polish Payment Standard)	26.68%	-	-
CallPay	0.00%	1.79%	0.89%
Cashbill	0.16%	0.60%	0.38%
Dotpay/Przelewy24	<b>18.31%</b>	<b>0.89%</b>	9.60%
eCard	1.02%	3.27%	2.15%
Fitbit Pay	0.00%	0.60%	0.30%
Garmin Pay	0.00%	0.60%	0.30%
Google Pay	3.44%	9.23%	6.33%
MasterPass account	0.16%	6.25%	3.20%
moBilet	2.27%	1.19%	1.73%
mobiParking	0.55%	0.60%	0.57%
mPay	1.25%	1.19%	1.22%
VISA Checkout account	0.47%	5.65%	3.06%
Pango	0.00%	0.60%	0.30%
PayU	<b>17.76%</b>	<b>1.19%</b>	9.48%
PeoPay	2.74%	0.60%	1.67%
SkyCash	2.74%	0.89%	1.82%
PayPal	8.61%	6.25%	7.43%
Ecash	0.00%	0.60%	0.30%
I use them, but I do not remember the name	<b>0.70%</b>	<b>21.13%</b>	10.92%
I do not use mobile payments	<b>1.64%</b>	<b>26.49%</b>	14.07%

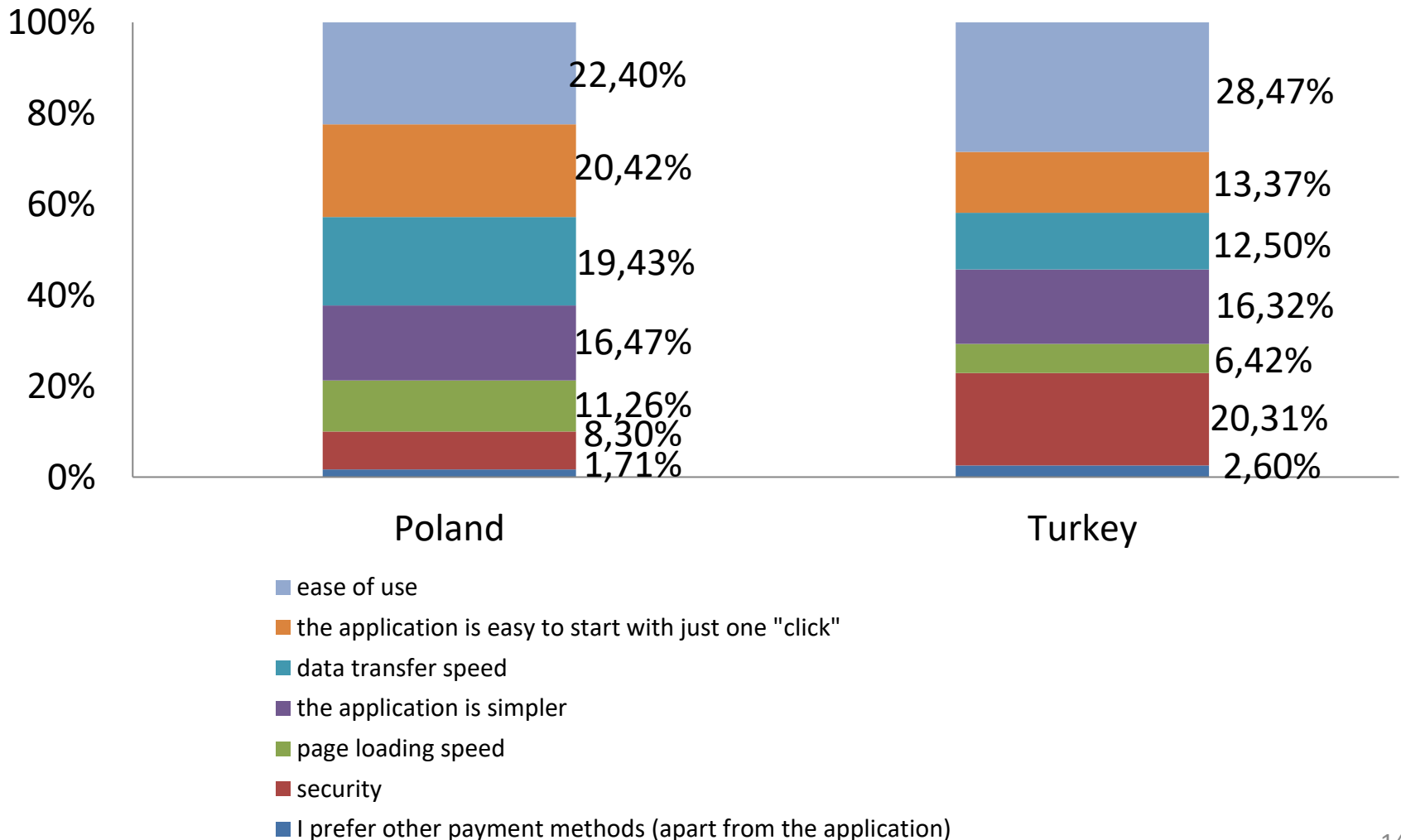
# Mobile payments used by the respondents

Mobile payments used by the respondents	Poland	Turkey	Average
Purchase of e-tickets (cinema, theatre, music, etc.)	<b>10.92%</b>	<b>6.80%</b>	9.79%
Purchase of travel tickets (public transport, train, coach, etc.)	11.55%	11.21%	11.46%
Purchase of digital content	2.23%	0.83%	1.85%
Car parking fees	12.32%	12.22%	12.29%
Online payments on the Internet	12.32%	12.22%	12.29%
P2P (person-to-person) transfers	<b>11.86%</b>	<b>6.71%</b>	10.45%
Payment of telecommunications, utility, etc. bills and invoices	7.64%	11.12%	8.60%
Purchases of drinks, sweets and sandwiches in vending machines	5.58%	3.40%	4.98%
Mobile phone top-ups (pre-paid services)	<b>3.04%</b>	<b>9.65%</b>	4.86%
e-Wallet for payments and settlements	0.91%	4.14%	1.80%
Gift card offered by chain stores to be used at specific points of sale	2.02%	2.30%	2.10%
Authorization of persons or services	2.90%	0.64%	2.28%
Access control	1.40%	0.83%	1.24%
ATM withdrawals	6.98%	10.57%	7.97%
Paying for purchases in shops and service points (POS)	8.34%	5.15%	7.46%
I do not use any	0.00%	2.21%	0.61%

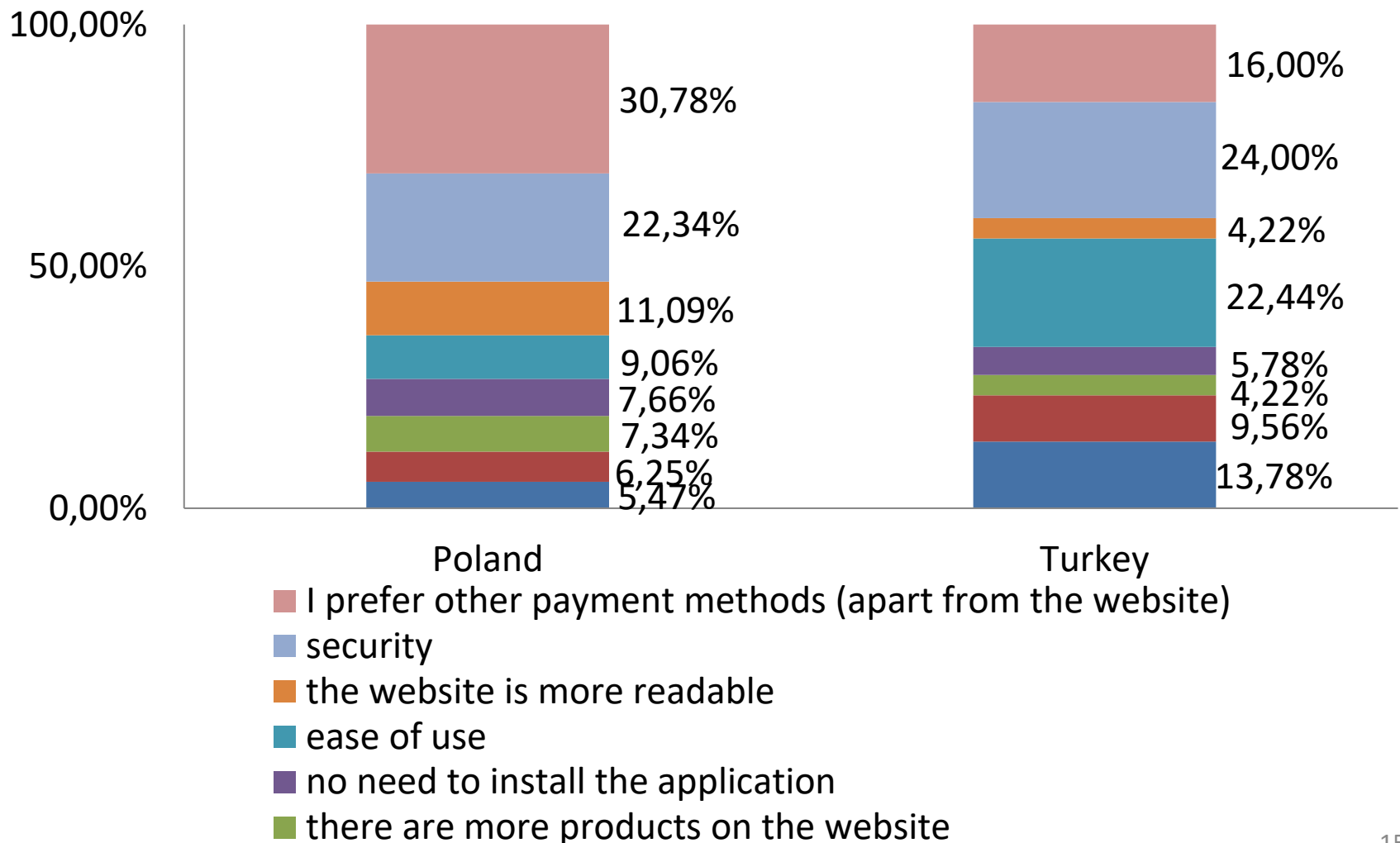
# The scale of changes in mobile payments since the beginning of the pandemic



# The advantages of choosing an m-banking application as a mobile payment tool



# The advantages of choosing a bank's website as a mobile payment tool



# The dynamics of changes in mobile payments in Turkey during the pandemic according to selected types of activity

Turkey	It decreased significantly	It decreased slightly	It has not changed	It decreased slightly	It increased significantly
Purchase of e-tickets (cinema, theatre, music, etc.)	<b>31.34%</b>	10.68%	4.99%	4.93%	2.86%
Purchase of travel tickets (public transport, train, coach, etc.)	<b>19.40%</b>	14.95%	4.32%	6.02%	4.52%
Purchase of digital content	4.85%	4.98%	5.74%	7.23%	8.11%
Car parking fees	8.96%	8.90%	10.14%	6.46%	1.84%
Online payments on the Internet	2.99%	1.78%	3.41%	5.59%	<b>13.36%</b>
P2P (person-to-person) transfers	3.36%	3.56%	6.73%	7.56%	7.47%
Payment of telecommunications, utility, etc. bills and invoices	1.49%	2.85%	4.57%	7.01%	10.97%
Purchases of drinks, sweets and sandwiches in vending machines	1.87%	3.56%	5.57%	7.23%	9.40%
Mobile phone top-ups (pre-paid services)	8.58%	9.61%	7.73%	5.48%	5.25%
e-Wallet for payments and settlements	1.12%	3.20%	6.73%	7.34%	8.29%
Gift card offered by chain stores to be used at specific points of sale	1.12%	3.20%	6.90%	8.43%	7.19%
Authorization of persons or services	2.24%	6.76%	9.06%	6.57%	5.16%
Access control	2.24%	4.63%	9.14%	7.67%	4.70%
ATM withdrawals	3.36%	2.85%	8.40%	7.12%	6.18%
Paying for purchases in shops and service points (POS)	7.09%	<b>18.51%</b>	6.57%	5.37%	4.70%
<b>Total</b>	100.00%	100.00%	100.00%	100.00%	100.00%

# Main Conclusions

- Despite the discrepancies in the random sample, in 60% of cases, no statistically significant discrepancy between the results for Poland and Turkey was found. In the remaining cases, these differences resulted from the earlier development of mobile technologies in Poland.
- This was also the reason why the COVID-19 pandemic exerted a greater impact on the acceleration of the development of mobile payments in Turkey and, together with other factors, on the acceleration of globalization processes. Even if it was a situation caused by extraordinary circumstances, it still led to a specific levelling of differences, i.e., bridging the gap between the analyzed countries in a relatively short time.
- It also came as no surprise that during the COVID-19 pandemic, the purchases of e-tickets and tickets for public transport, coaches, etc., as well as paying for purchases in shops and service points (POS), decreased in the analyzed countries.
- Additionally, a natural consequence, in this case, was the increase in mobile payments on the Internet, payment of bills and invoices (i.e., telecommunications, utilities, bills), and P2P transfers and downloading digital content (movies, music, computer games), all of which were associated with purchasing processes of products and services.

# Thank you for your attention!



Link to article: <https://www.mdpi.com/1911-8074/14/9/426>

**Time for Q & A**