

DOI: 10.28934/jwee22.12.pp79-96

JEL: G2, J16

ORIGINAL SCIENTIFIC PAPER

# Is there a Gender Gap in Financial Inclusion Worldwide?



---

Marija Antonijević<sup>1</sup>

Isidora Ljumović<sup>2</sup>

Đina Ivanović<sup>3</sup>

Institute of Economic Sciences, Department for Business Economics,  
Belgrade, Serbia

---

## ABSTRACT

*This paper aims to examine the differences between men and women in 7 segments related to financial inclusion: 1) owning an account with a financial institution; 2) savings at a financial institution; 3) borrowing from a financial institution; 4) owning a credit card, 5) using a mobile phone or the Internet to access an account; 6) using the Internet to pay bills or to buy something online; 7) making or receiving digital payments. The research is based on the Global Findex Database 2017. The sample comprises 144 countries worldwide. The authors applied the nonparametric Wilcoxon Signed-Ranks test using a 95% confidence interval. The Wilcoxon Signed-Ranks test showed statistically significant differences between men and women in all segments related to financial inclusion. Regarding this, policymakers of individual countries, especially Saudi Arabia, Kenya, Turkey, Hong Kong, Italy, Spain, Trinidad and Tobago, and Bahrain, should develop financial inclusion strategies by focusing on measures to increase and improve women's financial inclusion, especially in the segments related to*

---

<sup>1</sup> E-mail: marija.antonijevic@ien.bg.ac.rs

<sup>2</sup> Corresponding author, e-mail: isidora.ljumovic@ien.bg.ac.rs

<sup>3</sup> E-mail: djina.ivanovic@ien.bg.ac.rs

*making or receiving digital payments and owning an account with a financial institution.*

**KEY WORDS:** *financial inclusion, digital financial inclusion, digital payments, gender gap, Global Findex database*

## **Introduction**

Financial inclusion has become an essential issue for policymakers, the scientific community, and society (Cabeza-García, Del Brio, & Oscanoa-Victorio, 2019). The significance of financial inclusion is reflected in its contribution to poverty reduction and decreasing income inequality in developing countries (Omar & Inaba, 2020). Also, it contributes to economic growth (Cuéllar, 2021, 117) and economic development (Demirgüç-Kunt, Klapper & Singer, 2017). Financial inclusion could be improved using digital financial services (DFS) (Kumar, Sharma & Vyas, 2019), which include numerous financial services accessed and executed through digital channels. In recent years, improvements in information and communication technology (ICT) have made it possible to conduct financial transactions via digital channels. Financial institutions, most notably banks, alter their operations in response to market conditions and trends, attempting to provide the best digital solution to existing and new clients. Banks use digital channels to improve and provide more effective and more efficient communication with clients. Consequently, applying this approach enables banks to achieve greater satisfaction and loyalty from their clients (Domazet & Neogradi, 2019). Digitalization has changed individuals' approach and execution of financial transactions (Moşteanu et al., 2020; Liu & Cuevas, 2021), considering the growing trend of Internet users and the increasing use of mobile devices worldwide in daily activities. Technical prerequisites necessary to use digital services are accessibility and availability of the Internet and mobile devices such as smartphones, tablets, laptops, etc. The growing number of Internet and mobile users indicates an increasing interest in digital technology. As a result, individuals prefer undertaking their financial transactions through digital channels rather than visiting bank branches (Ali et al., 2021; Pavithra & Geetha, 2021).

Despite the general improvement in financial inclusion worldwide, the financial inclusion gender gap has persisted unchanged since 2011 (Trivelli et al., 2018). The financial inclusion gender gap is even more significant in regions characterised by a low level of financial inclusion for both genders

(Jhabvala & Harvey, 2016). The significance of women's financial inclusion is reflected in improving women's economic empowerment and gender equality (Peterlechner, 2021). Affordable and effective financial tools related to saving and borrowing money, making and receiving payments, and managing risk contribute especially to low-income women to improve their empowerment and reduce poverty (Holloway, Niazi & Rouse, 2017). The gender gap in access and use of financial services can be closed by DFS.

Insufficient availability of financial resources (Botrić & Broz, 2017), differences in technical conditions (Rowntree & Shanahan, 2020) and the level of digital skills (Kuroda et al., 2019), disparities in the level of financial literacy (Hasler & Lusardi, 2017), as well as variations in perceptions related to digital technologies (Goh & Sun, 2014) can be the possible reasons for gender differences in using financial services, especially DFS.

Observed globally and based on financial inclusion data obtained from the Global Findex Database 2011, 2014, and 2017, men are ahead of women in most observed indicators. As the most frequent reason why respondents did not have an account, both genders stated a lack of money (Demirgüç-Kunt et al., 2018). In 2017, about a billion women did not have a bank account. More precisely, about 56% of those who did not have an account with a financial institution were women. This conclusion is backed up by research that showed a strong negative relationship between females and financial inclusion (Deléchat et al., 2018). Moreover, it is crucial to determine whether these differences between females and males are statistically significant.

Considering all the above mentioned, the research aims to examine whether there are statistically significant differences between men and women in financial inclusion in the following segments: having a formal financial account; accessing an account via telephone or the Internet more frequently; owning credit cards; saving at and borrowing from a financial institution; using the Internet to pay bills or buy something online and making or receiving digital payments worldwide. Therefore, we used the Global Findex Database to analyse and examine gender differences in all the mentioned segments.

Considering all the above mentioned, the research aims to examine whether there are statistically significant differences between men and women in financial inclusion in the following segments: having a formal

financial account; accessing an account via telephone or the Internet more frequently; owning credit cards; saving at and borrowing from a financial institution; using the Internet to pay bills or buy something online and making or receiving digital payments worldwide. Therefore, we used the Global Findex Database to analyse and examine gender differences in all the mentioned segments.

This paper is structured as follows. The first section includes a literature review and the development of hypotheses, followed by an explanation of the methodology used. The third part includes empirical results and a short discussion. Finally, the last part of the paper draws conclusions and deals with the issue of the gender gap from the aspect of public policymakers.

## **Literature Review**

Women are less financially included than men, even though they play an important role in the household in terms of generating and managing income (Organisation for Economic Co-operation and Development-OECD, 2018). It is considered that females living in developing countries face some discrimination (Achakpa & Radović-Marković, 2018). According to the World Bank study, women in 18 African and Asian countries must require their husbands' approval to work outside the home (World Bank Group, 2018), limiting their ability to participate in the labour market and so earn money. This is confirmed by Asaduzzaman, Kabir, and Radović-Marković (2017) who pointed out that in Bangladesh men dominated in making household decisions. Also, the authors noted that females had no or had lower participation in family income and were more exposed to poverty. Employment represents the major contributor to the gender gap in financial inclusion, according to the research undertaken in Central and Eastern European countries (CEECs), where labour market marginalisation is linked to financial exclusion (Botrić & Broz, 2017). It is considered that women face exclusion from the formal financial sector more likely in countries where participation of women in the labour market is lower, state-owned banks dominate in the banking sector, and laws and norms discriminate against women (Morsy, 2020).

To access most financial services, individuals must have a financial institution account. However, in Chad, Guinea-Bissau, and Niger, women

cannot open a bank account in the same way as men because they need to provide permission or additional documentation (World Bank Group, 2018).

Saving behaviour differs by gender, considering that formal saving is more common among men in the G20 countries. In addition, there is an association between men's and women's financial literacy and their formal saving practices, showing that those with a better level of financial literacy are more inclined to save at a financial institution (Hasler & Lusardi, 2017). Men and women also differ in saving habits, with women preferring informal savings since they may easily access their funds in an emergency (Chamboko, Heitmann & Van Der Westhuizen, 2018).

Men have better borrowing conditions than women, such as lower interest rates and longer maturities. Also, they borrow more money compared to women (Harten & Buri, 2014). Mascia and Rossi (2017) confirmed the existence of different borrowing conditions for women and men entrepreneurs related to interest rates, fees, and commissions across 11 European countries. In Ecuador, having income-generating employment increases the probability of women borrowing by 14.2% (Deere & Catanzarite, 2018). However, as women face specific barriers to participating in the labour market, their borrowing possibilities are limited. Generally, women prefer to borrow from informal sources because of difficult loan conditions (Harten & Buri, 2014).

Results of the study conducted in Turkey showed that men tend to spend more using credit cards. In addition, the authors pointed out that men have more credit cards than women. However, there is no significant gender difference in owning a credit card (Çankaya, Ucal & O'Neil, 2011). In India, males are more likely to tend to own and use credit cards, which can result from women's financial dependency (Khare, Khare & Singh, 2012). Among USA college students, credit card commitment is higher for men, and they have more positive attitudes towards credit cards than women (Limbu, Huhmann & Xu, 2012).

The scientific community has recognised the importance of gender differences in adopting new technologies (Faqih & Jaradat, 2015). A survey conducted in 28 countries worldwide revealed a fintech gender gap in almost every observed country (Chen et al., 2021), referring to the existence of impediments to accessing and executing financial transactions via digital channels. Studies involving gender analysis showed that different personal characteristics and social roles characterise men and women. Consequently, they have different perceptions and process information differently (Goh &

Sun, 2014). Education contributes to the increasing level of digital skills (European Institute for Gender Equality, n.d.). In many countries, girls face barriers to education, resulting in higher levels of women's illiteracy, and consequently, lack of digital skills and lack of trust when using digital resources (Kuroda et al., 2019). Men have an advantage over women in the digital skills in the EU (European Institute for Gender Equality, n.d.). Also, Bradić-Martinović and Banović (2018) pointed out that men have a higher level of digital skills in Serbia based on a standardised survey. Men are more likely than women to use digital banking services (Lee et al., 2021), with younger males adopting technology earlier than younger females (Chamboko, Heitmann & Van Der Westhuizen, 2018). The crucial part of the fintech gender gap can be explained by gender differences in the willingness to use new financial technology (Chen et al., 2021). Even if there is a greater offer and improved or more innovative options, digitally active women are more concerned about their privacy than males (Chen et al., 2021). According to a study conducted in Tajikistan, the level of use of financial technology varies significantly between men and women due to a disparity in understanding and use of financial technologies as well as depending on their place of residence, i.e., type of community (urban or rural) (Makhkamova & Saidmurodov, 2019). Gender imbalance in India's growing digital environment, on the other hand, is the result of women's exclusion from fundamental technology skills, societal conventions, as well as due to financial restrictions (Bala & Singhal, 2018). Laukkanen (2016) pointed out that gender significantly predicts adoption and rejection decisions related to m-banking, one of the most important digital banking services. According to a national panel survey of internet users in Spain, intention to use the new payment system was slightly higher for men (79.5%) than women (76.8%) (Liébana-Cabanillas, Sánchez-Fernández & Muñoz-Leiva, 2014). Also, men were more likely to use mobile payments, but they were also less affected by the risks that could potentially be realised (Kalinić et al., 2019). In contrast, studies reveal that gender does not have a significant impact on adopting digital banking services (Ameme, 2015).

It is considered that women use the digital infrastructure less than men. A study conducted on 15 low- and middle-income countries (LMICs) indicated some limitations for women in accessing smartphones and the Internet (Rowntree & Shanahan, 2020). Given that women represent the majority of the poor globally (Women's World Banking, 2015), it is reasonable to argue that women cannot afford a mobile phone primarily because of this. Males' income is frequently larger than women's (Ortiz-

Ospina & Roser, 2018); hence men are less price-sensitive than women when acquiring devices, whereby women prefer lesser quality and lesser connectivity devices (Kuroda et al., 2019).

In the case of online shopping, Hasan (2010) found that female students expressed a lower behavioral intention to buy online than male students. Also, some authors pointed out women perceived higher risk than men when shopping online (Akhlaiq & Ahmed, 2016). Awan and Ho (2018) found when women recognised risk, their intention to buy online decreased more compared to men. Also, these authors noted that gender influences consumers' attitudes toward payment methods considering that women pay more attention to cash on delivery and express lower confidence related to online payment methods than men.

In accordance with all the above, we have formulated the following hypotheses:

***H<sub>1</sub>: There is a significant difference between men and women in owning a financial institution account globally***

***H<sub>2</sub>: There is a significant difference between men and women in saving money at a financial institution globally***

***H<sub>3</sub>: There is a significant difference between men and women in borrowing from a financial institution globally***

***H<sub>4</sub>: There is a significant difference between men and women in owning credit card globally***

***H<sub>5</sub>: There is a significant difference between men and women in using a mobile phone or the Internet to access an account globally***

***H<sub>6</sub>: There is a significant difference between men and women in using the Internet to pay bills or to buy something online globally***

***H<sub>7</sub>: There is a significant difference between men and women in making or receiving digital payments globally***

## **Methodology**

We used the Global Findex database 2017, including 144 countries worldwide. The survey related to this dataset was conducted during 2017, but data collection dates differ among countries. As we tested for differences among different segments, we used the definitions of terms

presented in Table 1. Before testing the hypotheses, we tested data normality using Kolmogorov-Smirnov and Shapiro-Wilk tests. Both tests showed that data distribution in our sample is not normally distributed. In addition, we tested the symmetry of the distribution of the differences among defined pairs. Finally, as all conditions were fulfilled, we applied a nonparametric Wilcoxon Signed-Ranks test to confirm our hypotheses, using the statistical package SPSS 25 and a 95% confidence interval.

*Table 1: Definitions of terms used in this research*

<b>Term</b>	<b>Definition of term</b>
Owning a financial institution account	” The percentage of respondents who report having an account (by themselves or together with someone else) at a bank or another type of financial institution.”
Saving at a financial institution	” The percentage of respondents who report saving or setting aside any money at a bank or another type of financial institution in the past 12 months*.”
Borrowing from a financial institution	” The percentage of respondents who report borrowing any money from a bank or another type of financial institution in the past 12 months*.”
Owning a credit card	” The percentage of respondents who report having a credit card.”
Using a mobile phone or the Internet to access an account	” The percentage of respondents who report personally receiving money from their business, from selling goods, or from providing services (including part-time work) in the past 12 months*.”
Using the Internet to pay bills or to buy something online	” The percentage of respondents who report using the Internet to pay bills or buy something online in the past 12 months*.”
Making or receiving digital payments	” The percentage of respondents who report using mobile money, a debit or credit card, or a mobile phone to make a payment from an account, or report using the Internet to pay bills or to buy something online, in the past 12 months. It also includes respondents who report paying bills, sending or receiving remittances, receiving payments for agricultural products, receiving government transfers, receiving wages, or receiving a public sector pension directly from or into a financial institution account or through a mobile money account in the past 12 months*.”

*Source: Demirgüç-Kunt, Klapper, Singer, Ansar & Hess (2018)*

\* In the past 12 months from the day of the Global Findex survey

Table 2 shows descriptive statistics of paired samples related to the males and females. Males, on average, outperform females in all matched pairs. Men more likely than women had a financial institution account (61% vs 55%), saved (26% vs 22%), borrowed (13.5% vs 11%), and owned a credit card (21% vs 17%). Analysing the segments of digital financial inclusion, we can conclude that men more likely than women used a mobile phone or the Internet to access an account (28% vs 23%); used the Internet to pay bills or to buy something online (23.44% vs 20%); and made or received digital payments (57% vs 50%) in the past 12 months from the day of the survey. Presented data on the sample of 144 countries indicate that men are more financially included than women.

*Table 2: Descriptive statistics (in percentage)*

<b>Variables related to the financial inclusion</b>	<b>Mean</b>		<b>Median</b>		<b>Std. Deviation</b>	
	<b>Men</b>	<b>Women</b>	<b>Men</b>	<b>Women</b>	<b>Men</b>	<b>Women</b>
Owning a financial institution account	61.30	54.95	59.20	52.24	28.01	30.85
Saving at a financial institution	25.55	21.69	17.64	13.47	19.92	19.65
Borrowing from a financial institution	13.50	10.88	16.82	13.76	7.48	6.83
Owning a credit card	20.72	17.43	12.31	9.64	21.27	20.72
<b>Variables related to the digital financial inclusion</b>						
Using a mobile phone or the Internet to access an account	27.95	23.19	23.12	15.58	22.17	21.47
Using the Internet to pay bills or to buy something online	23.44	19.83	13.15	7.90	23.74	22.93
Making or receiving digital payments	57.15	50.28	50.70	44.09	27.00	29.81
<b>N=144</b>						

*Source: Authors' calculation based on the Global Findex database 2017*

Turkey has the greatest disparity between men and women in terms of having a financial institution account (men lead by 29 percentage points) and having a credit card (men lead by 18 percentage points). The highest difference in saving at a financial institution is recorded in Trinidad and

Tobago (men lead by 18 p.p.), while the highest difference in borrowing from a financial institution is recorded in Bahrain (men lead by 12 p.p.). Bangladesh represents the country with the biggest difference in using a mobile phone or the Internet to access an account (men lead by 22 p.p.). Men also dominate in using the Internet to pay bills or to buy something online as well as in making or receiving digital payments. The biggest difference in both segments is recorded in Saudi Arabia, i.e., 22 p.p. and 32 p.p., respectively.

## **Results**

A Wilcoxon Signed-Ranks test confirms significant differences among all analysed parameters related to financial inclusion (Table 3). There is a significant difference between males and females in owning financial institution account, i.e., men lead (Mdn=59.2%) compared to women (Mdn=52.2%). A Wilcoxon signed-rank test indicated this difference as statistically significant ( $Z = -8.514$ ,  $p < 0.05$ ). Parallel to this, men (Mdn=17.6%) to a greater extent than women (Mdn=13.5%) saved at financial institution ( $Z = -8.079$ ,  $p < 0.05$ ), and borrowed from financial institution (Mdn=16.8% for men, opposite to Mdn=13.8% for women); ( $Z = -8.320$ ,  $p < 0.05$ ). A Wilcoxon Signed-ranks test indicated that men own credit card more often (Mdn = 12.3%) than female (Mdn = 9.6%),  $Z = -8.320$ ,  $p < 0.05$ ). In the segment of digital financial inclusion, there are statistically significant differences between male and female in using a mobile phone or the Internet to access an account (Mdn=13.2% for men contrary to Mdn=7.9% for women); ( $Z = -9.038$ ,  $p < 0.05$ ), using the Internet to pay bills or to buy something online (Mdn=23.3% for men vs Mdn=15.6% for women); ( $Z = -9.173$ ,  $p < 0.05$ ) as well as in making or receiving digital payments (Mdn=50.7% for men opposite to Mdn=44.1% for women); ( $Z = -8.705$ ,  $p < 0.05$ ).

Table 3: Wilcoxon Signed-Ranks test results

Pair No.	Z	Asymp. Sig. (2-tailed)	Results
1	-8.514 <sup>a</sup>	0.000	Accepted
2	-8.079 <sup>a</sup>	0.000	Accepted
3	-8.320 <sup>a</sup>	0.000	Accepted
4	-8.164 <sup>a</sup>	0.000	Accepted
5	-9.038 <sup>a</sup>	0.000	Accepted
6	-9.173 <sup>a</sup>	0.000	Accepted
7	-8.705 <sup>a</sup>	0.000	Accepted

Source: Authors' calculation based on the Global Findex database 2017

a. Based on positive ranks

Note: **Pair 1** - Owning a financial institution account, male - Owning a financial institution account, female; **Pair 2** - Saving at a financial institution, male - Saving at a financial institution, female; **Pair 3** - Borrowing from a financial institution, male - Borrowing from a financial institution, female; **Pair 4** - Owning a credit card, male - Owning a credit card, female; **Pair 5** - Using a mobile phone or the Internet to access an account, male Using a mobile phone or the Internet to access an account, female; **Pair 6** - Using the Internet to pay bills or to buy something online, male - Using the Internet to pay bills or to buy something online, female; **Pair 7** - Making or receiving digital payments, male - Making or receiving digital payments, female.

The possible reasons for these results could be differences in the following segments: access to financial resources, level of financial literacy, technical conditions and required digital skills, and attitudes towards digital technologies.

Results of the gender gap in owning a financial institution account are consistent with findings by Demirgüç-Kunt, Klapper & Singer (2013). These authors claim that women are less likely to own an account because of the legal restrictions on their right to work and hold property and inherit. A statistically significant difference between women and men in saving at a financial institution is confirmed by Hasler & Lusardi (2017). Their findings indicate that men prefer to save at a financial institution, i.e., men more than women prefer a formal method of saving. In the case of borrowing from financial institution results are in line with the previous findings by Harten & Buri (2014), who stated that women prefer an informal method of borrowing (family members, friends etc.). In addition, some studies revealed that there are different borrowing conditions among genders (Harten & Buri, 2014; Mascia & Rossi, 2017) which consequently contributed to women's reduced access to a bank loan. Results related to credit card ownership are confirmed by Gan, Maysami & Koh (2008) who revealed that credit card usage is influenced by gender, but contrary to the findings by Çankaya, Ucal & O'Neil (2011), who pointed out that there is no significant gender

difference. The existence of disparities between men and women when it comes to utilising a mobile phone or the Internet to access an account is consistent with data that suggest men have an advantage over women when it comes to owning a smartphone and accessing the Internet, especially in LMICs (Rowntree & Shanahan, 2020). In the case of using the Internet to pay bills or buy something online, results are confirmed by Awan and Ho (2018), who found that gender influences attitudes toward payment methods. According to these authors, women, compared to men, pay more attention to cash on delivery, and they also express lower confidence when using online payment methods. Results related to making or receiving digital payments coincide with the previous studies which found that men are more inclined to use digital banking services (Abu-Assi, Al-Dmour & Al-Zu'bi, 2014; Lee et al., 2021), but contrary to the findings of Bamoriya & Singh (2012) and Ameme (2015) who claimed that gender does not have a significant influence on adopting digital banking services.

In this regard, the gender gap in financial inclusion can be closed by establishing appropriate financial inclusion strategies that include gender differences related to financial and socio-cultural aspects (Alliance for Financial Inclusion, 2017). Policy initiatives need to provide a gender-sensitive approach (Kulkarni & Ghosh, 2021), while policymakers need to take the measures to enhance women's financial inclusion, i.e., to reform regulatory frameworks; provide a collection of gender disaggregated data on the financial sector; promote financial education and financial literacy; examine women-specific needs and develop suitable financial products and services; relax financial rules and procedures; make support programmes for women's entrepreneurship; to promote women's leadership and strengthen their organisations (Finnegan, 2015).

## **Conclusion**

Financial inclusion has become an essential issue for all economies, especially emerging ones. The significance of financial inclusion is reflected in the fact that it reduces income inequality and poverty in emerging countries (Omar & Inaba, 2020). Also, it contributes to economic growth (Cuéllar, 2021) and economic development (Demirgüç-Kunt, Klapper & Singer, 2017). However, despite the progress in financial inclusion, there is still a financial inclusion gender gap. (Trivelli et al., 2018). The data from the latest Global Findex Database from 2017 show that, on average, men

more often than women have a formal financial account, access an account via telephone or the Internet more frequently, own credit cards, save at and borrow from a financial institution, use the Internet to pay bills or to buy something online, and make or receive digital payments. This paper aimed to examine whether there are statistically significant differences between men and women in observed segments related to financial inclusion. We used the Global Findex Database 2017 to analyse and examine gender differences in all the mentioned segments.

Using a sample of 144 countries worldwide, we concluded that there are statistically significant differences between men and women in all the following segments related to financial inclusion: 1) owning a financial institution account; 2) saving at a financial institution; 3) borrowing from a financial institution; 4) owning a credit card; 5) using a mobile phone or the Internet to access an account; 6) using the Internet to pay bills or to buy something online; 7) making or receiving digital payments. On average, men dominate in all the mentioned segments. The most significant differences between men and women are in the segments related to making or receiving digital payments (men lead 6.87 percentage points over women) and owning an account with a financial institution (men lead 6.35 percentage points over women). The possible reasons for these differences could be a different distribution of financial resources by gender, different levels of education, digital skills and financial literacy, different technical conditions (having mobile devices and Internet access), as well as differences in attitudes towards digital technologies (lack of trust, compatibility, feeling anxiety, etc.).

Considering the results which indicate that men are more financially included than women, policymakers of individual countries, especially Saudi Arabia, Kenya, Turkey, Hong Kong, Italy, Spain, Trinidad and Tobago, and Bahrain, should take appropriate measures to encourage women's financial inclusion and thus reduce the gender gap. Also, it is crucial to provide a gender-sensitive approach (Kulkarni & Ghosh, 2021) when developing financial inclusion strategies.

Further research should focus on examining and determining factors and the extent of their influence on the gender gap in financial inclusion. Also, the analysis should consider the impact of economic development and cultural differences among countries.

## Acknowledgements

This paper is supported by the Ministry of Education, Science and Technological Development of the Republic of Serbia.

## References

- [1] **Abu-Assi, Haneen A., Hani H. Al-Dmour, and Zu'bi Al-Zu'bi.** 2014. "Determinants of Internet banking adoption in Jordan." *International Journal of Business and Management*, 9(12):169–196.
- [2] **Achakpa, Priscilla, and Mirjana Radović-Marković.** 2018. "Employment women through entrepreneurship development and education in developing countries." *Journal of Women's Entrepreneurship and Education*, (1/2): 17–30.
- [3] **Akhlaq, Ather, and Ejaz Ahmed.** 2016. "Gender differences among online shopping factors in Pakistan." *Organisations and Markets in Emerging Economies*, 7(1): 74–86.
- [4] **Ali, Majid, Hafiz Abdur Rashid, Muhammad Hasnain Ali, Muhammad Usman, and Aamir Sohail.** 2021. "Assessment of Customers E-loyalty in digital banking During Covid-19: An application of 8C model." *Assessment*, 12(1): 1054–1062.
- [5] **Alliance for Financial Inclusion – AFI.** 2017. Integrating gender and women's financial inclusion into national strategies a guideline note developed by members of the financial inclusion strategy (FIS) peer learning group. Guideline Note No. 27.
- [6] **Ameme, Bright Kwame.** 2015. "The impact of customer demographic variables on the adoption and use of Internet banking in developing economies." *Journal of Internet Banking and Commerce*, 20(2): 1204–5357.
- [7] **Asaduzzaman, Md, R. N. Ali Kabir, and Mirjana Radović-Marković.** 2015. "Gender inequality in Bangladesh." *Journal of Women's Entrepreneurship and Education*, (3-4): 54–64.
- [8] **Awan, Mahmood, and Han Chiang Ho.** 2018. "The Effect of Gender Differences on Online Shopping Payment Methods: An Abstract." In: *Back to the Future: Using Marketing Basics to Provide Customer Value*, ed. Nina Krey and Patricia Rossi, 137–138. New York: Springer, Cham.
- [9] **Bala, Shashi, and Puja Singhal.** 2018. "Gender digital divide in India: a case of inter-regional analysis of Uttar Pradesh." *Journal of Information, Communication and Ethics in Society*, 16(2): 173–192.
- [10] **Bamoriya, Prerna Sharma, and Preeti Singh.** 2012. "Mobile banking in India: Barriers in adoption and service preferences." *Journal of Management*, 5(1): 1–7.

- 
- [11] **Botrić, Valerija, and Broz, Tanja.** 2017. "Gender differences in financial inclusion: Central and SouthEastern Europe." *South-Eastern Europe Journal of Economics*, 15(2): 209–227.
- [12] **Bradić-Martinović, Aleksandra, and Jelena Banović.** 2018. "Assessment of Digital Skills in Serbia with Focus on Gender Gap." *Journal of Women's Entrepreneurship and Education*, (1-2): 54–67.
- [13] **Cabeza-García, Laura, Esther B. Del Brio, and Mery Luz Oscanoa-Victorio.** 2019. "Female financial inclusion and its impacts on inclusive economic development." *Women's Studies International Forum*, 77: 102300.
- [14] **Çankaya, Serkan, Meltem Ucal, and Mary O'Neil.** 2011. "Effects of gender on credit card usage among university students in Turkey." *African Journal of Business Management*, 5(22): 9023–9030.
- [15] **Chamboko, Richard, Soren Heitmann, and Morne Van Der Westhuizen.** 2018. Women and digital financial services in Sub-Saharan Africa: Understanding the challenges and harnessing the opportunities. Field Note 10, 1–14. The World Bank.
- [16] **Chen, Sharon, Sebastian Doerr, Jon Frost, Leonardo Gambacorta and Hyun Song Shin.** 2021. "The fintech gender gap." BIS Working Papers No 931. The Monetary and Economic Department of the Bank for International Settlements.
- [17] **Cuéllar, Lilianne, and Isabel Pavón.** 2021. "Financial inclusion as a pillar of sustainable growth: international experience." *Ekonomski horizonti*, 23(2): 107–121.
- [18] **Deere, Carmen Diana, and Zachary B. Catanzarite.** 2018. "Who borrows to accumulate assets? Class, gender and indebtedness in Ecuador's credit market." *CEPAL Review*, 2017(122): 107–126.
- [19] **Deléchat, Corinne, Monique Newiak Rui Xu, Fan Yang, and Goksu Aslan.** 2018. "What is Driving Women's Financial Inclusion Across Countries?." IMF Working Paper No. 18/38.
- [20] **Demirgüç-Kunt, Asli, Leora Klapper, and Dorothe Singer.** 2013. "Financial inclusion and legal discrimination against women: Evidence from developing countries." Policy Research Working Paper No. 6416. World Bank, Washington, DC.
- [21] **Demirgüç-Kunt, Asli, Leora Klapper, and Dorothe Singer.** 2017. "Financial inclusion and inclusive growth: A review of recent empirical evidence. World Bank Policy Research Working Paper 8040. World Bank, Washington, DC.
- [22] **Demirgüç-Kunt, Asli, Leora Klapper, Dorothe Singer, Saniya Ansar, and Jake Hess.** 2018. "The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution." World Bank: Washington, DC.

- [23] **Domazet, Ivana, and Sladana Neogradi.** 2019. "Digital Marketing and Service Industry: Digital Marketing in the Banking Industry." In *Managing Diversity, Innovation, and Infrastructure in Digital Business*, ed. Nilanjan Ray, 20–40. Hershey: IGI Global.
- [24] **European Institute for Gender Equality.** 2021. Gender Equality Index 2020: Digitalisation and the future of work. [www.eige.europa.eu](http://www.eige.europa.eu) (accessed August 20, 2021)
- [25] **Faqih, Khaled M.S., and Mohammed-Issa Riad Mousa Jaradat.** 2015. "Assessing the moderating effect of gender differences and individualism-collectivism at individual-level on the adoption of mobile commerce technology: TAM3 perspective." *Journal of Retailing and Consumer Services*, 22: 37–52.
- [26] **Finnegan, Gerry.** 2015. "Strategies for women's financial inclusion in the commonwealth." Women's Financial Inclusion Discussion Paper. Commonwealth Secretariat.
- [27] **Gan, Lydia L., Ramin C. Maysami, and Hian Chye Koh.** 2008. "Singapore credit cardholders: ownership, usage patterns, and perceptions." *Journal of Services Marketing*, 22(4): 267–279.
- [28] **Freeman, Richard B.** 1993. "How Much Has Deunionization Contributed to the Rise in Male Earnings Equality?" In *Uneven Tide: Rising Income Inequality in America*, ed. Sheldon Danzinger and Peter Gottschalk, 133–63. New York: Russell Sage Foundation.
- [29] **Peterlechner, Lisa.** 2021. "Women's Financial Inclusion Toolkit: Paving the way for women's economic empowerment." Deutsche Gesellschaft für Internationale Zusammenarbeit.
- [30] **Goh, Tiong-Thye, and Susan Sun.** 2014. "Exploring gender differences in Islamic mobile banking acceptance." *Electronic Commerce Research*, 14(4): 435–458.
- [31] **Harten, Sven, and Sinja Buri.** 2014. "Who Are the Microfinance Clients? A case study on customer segmentation and product development." Field notes #3. The Partnership For Financial Inclusion.
- [32] **Hasan, Bassam.** 2010. "Exploring gender differences in online shopping attitude." *Computers in Human Behavior*, 26(4): 597–601.
- [33] **Hasler, Andrea, and Annamaria Lusardi.** 2017. "The gender gap in financial literacy: A global perspective." Global Financial Literacy Excellence Center, The George Washington University School of Business.
- [34] **Holloway, Kyle, Zahra Niazi, and Rebecca Rouse.** 2017. "Women's Economic Empowerment through Financial Inclusion: A Review of Existing Evidence and Remaining Knowledge Gaps." Innovations for Poverty Action.
- [35] **Jhabvala, Renana, and Jenna Harvey.** 2016. "Financial and digital inclusion from the perspective of women in the informal economy." UN

- Secretary-General's High-Level Panel on Women's Economic Empowerment.
- [36] **Kalinić, Zoran, Francisco J. Liébana-Cabanillas, Francisco Muñoz-Leiva, and Veljko Marinković.** 2019. "The moderating impact of gender on the acceptance of peer-to-peer mobile payment systems." *International Journal of Bank Marketing*, 38(1): 138–158.
- [37] **Khare, Arpita, Anshuman Khare, and Shveta Singh.** 2012. "Factors affecting credit card use in India." *Asia Pacific Journal of Marketing and Logistics*, 24(2): 236–256.
- [38] **Kulkarni, Lalitagauri, and Anandita Ghosh.** 2021. "Gender disparity in the digitalisation of financial services: challenges and promises for women's financial inclusion in India." *Gender, Technology and Development*, 1–18.
- [39] **Kumar, Neeraj, Sakshi Sharma, and Muktak Vyas.** 2019. "Impact of digital banking on financial inclusion: An investigation on youngsters in Rupnagar city, Punjab." *International Journal of Management, IT and Engineering*, 9(5): 365–374.
- [40] **Kuroda, Reiko, Mariana Lopez, Janelle Sasaki, and Michelle Settecase.** 2019. "The digital gender gap." W20 Japan, EY-GSMA.
- [41] **Laukkanen, Tommi.** 2016. "Consumer adoption versus rejection decisions in seemingly similar service innovations: The case of the Internet and mobile banking." *Journal of Business Research*, 69(7): 2432–2439.
- [42] **Lee, Jean N., Jonathan Morduch, Saravana Ravindran, and Abu S. Shonchoy.** 2021. "Narrowing the Gender Gap in Mobile Banking." Working Papers 2108, Florida International University, Department of Economics.
- [43] **Liébana-Cabanillas, Francisco José, Juan Sánchez-Fernández, and Francisco Muñoz-Leiva.** 2014. "Role of gender on acceptance of mobile payment." *Industrial Management & Data Systems*, 114(2): 220–240.
- [44] **Limbu, Yam, Bruce Huhmann, and Bing Xu.** 2012. "Are college students at greater risk of credit card abuse? Age, gender, materialism and parental influence on consumer response to credit cards." *Journal of Financial Services Marketing*, 17(2): 148–162.
- [45] **Liu, Estelle Xue, and Alfredo Cuevas.** 2021. "Stay Competitive in the Digital Age: The Future of Banks." International Monetary Fund.
- [46] **Makhkamova, Gulbakhor M, and Khabibullo Saidmurodov.** 2019. "Financial technologies as a factor of financial inclusion of women." *Advances in Business-related Scientific Research Journal*, 10(2): 45–56.
- [47] **Mascia, Danilo V, and Stefania P.S. Rossi.** 2017. "Is there a gender effect on the cost of bank financing?." *Journal of Financial Stability*, 31: 136–153.
- [48] **Morsy, Hanan.** 2020. "Access to finance–Mind the gender gap." *The Quarterly Review of Economics and Finance*, 78: 12–21.

- [49] **Moşteanu, Narcisa, Roxana Moşteanu, Alessio Faccia, Luigi Pio Leonardo Cavaliere, and Saurav Bhatia.** 2020. "Digital technologies' implementation within financial and banking system during socio distancing restrictions—back to the future." *International Journal of Advanced Research in Engineering and Technology*, 11(6): 207–315.
- [50] **Omar, Md Abdullah & Kazuo Inaba.** 2020. "Does financial inclusion reduce poverty and income inequality in developing countries? A panel data analysis." *Journal of Economic Structures*, 9(1): 1–25.
- [51] **Organisation for Economic Co-operation and Development (OECD).** 2018. Bridging the digital gender divide: include, upskill, innovate. OECD.
- [52] **Ortiz-Ospina, Esteban, and Max Roser.** 2018. Economic inequality by gender. Our World in Data. [www.ourworldindata.org](http://www.ourworldindata.org) (accessed July 2, 2021).
- [53] **Pavithra, C. B., and K Geetha.** 2021. "Factors affecting customers' perception towards digital banking services." *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, 12(11): 1608–1614.
- [54] **Rowntree, Oliver, and Matthew Shanahan.** 2020. "The Mobile Gender Gap Report 2020." London: GSMA.
- [55] **Trivelli, Carolina, Carolina Villanueva, Marcela Marincioni, Jaqueline Pels, Florencia Caro Sachetti, Carolina Robino, Helen Walbey, Luz Martinez, and Mariela Magnelli.** 2018. "Financial inclusión for women: a way forward." W20 and T20.
- [56] **Women's World Banking.** 2015. Gender Performance Indicators 2.0: How well are we serving women?. Women's World Banking.
- [57] **World Bank Group.** 2018. Women, Business and the Law 2018. Washington, DC: World Bank.

*Article history:* Received: October 24<sup>th</sup>, 2021

Accepted: April 28<sup>th</sup>, 2022