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# CONTEMPORARY CHALLENGES AND RISKS OF RETAIL BANKING DEVELOPMENT IN UKRAINE

#### **Abstract**

Retail banking is an essential part of the financial services, accounting for a large part of all banking revenues and capital raising. This business line is designing the vital sphere to apply the adequate decision making approach for customer engagement, sustain profitability and increase competitive advantages. The modern trends in retail banking globally are based on digital innovations, bionic transformation and new regulatory issues. Ukrainian banks have also taken the first step to apply on-line platforms and cashless methods in banking. However, problems occur in the implementation of current global trends in the domestic retail market, which need to be solved.

The authors have identified the key objectives of market changes in retail banking operational processes, which have significant impact on the banking ecosystem creation of retail banking in Ukraine. The review part of the article studied the modern challenges and advantages of retail banking development in Ukraine with comparative analyses of current global and regional issues, based on digital technologies and innovations in financial industry. The results of the analyses investigate the state of retail banking, and prospects of revenue growth, explain the key performance indicators of retail banking services, present insights of the key drivers of the Ukrainian's banking efficiency gap. Based on operational risks and productivity analyses, the authors estimated the negative issues in Ukrainian retail banking. The results enable existing banks to determine the financial and operational risks, and increase the effectiveness of applying digital innovations in domestic retail banking sector. The recommendations for the enforcement of the market and regulatory changes of retail banking landscape in the case of Ukraine are suggested.

**Keywords** banks, retail banking, risks, business models, on-line

banking, digital services, Fintech banking

JEL Classification G21, O3

## INTRODUCTION

The banking sector plays an integral and core role in financial industry development, economic growth, business strategies progress and investment competitiveness. Currently, Ukrainian banking sector is facing transformation and systemic risks in all types of banking activities, which have the significant impact on the future economic environment and country's stabilization performance after financial crises. Banks are seeing to return pre-crises levels of profitability, but political, social, economic, regulatory, competitive and technological challenges are continuing to exert downward pressure on their business development and value creation for shareholders and stakeholders. With the initial regulatory methods to stabilize the economy and banking sector performance, market participants are looking for the core stage of transformation, which are going to include capital raising consolidation, increasing market penetration, finding new channels to satisfy customers' needs in financial services, improving risk management techniques and raising business productivity. The key area to apply this transformation is retail banking business, which

provides a vital economic function and has significant impact on consumers and small and medium enterprises within the country. This is both directly, through providing transactional banking, savings and lending products, and indirectly, through the impact consumers and small and medium enterprises themselves have on the real economy. Also, these services are an attractive business line for large, medium and small banks around the globe.

The modern global trends in retail banking development of applying digitalization and biometric techniques for clients' identification, decreasing the numbers of banking branches, setting up challenger business models and building a shared services eco-system, show us the significant gap between world-wide retail banking performance and the Ukrainian reality in conducting retail banking services for customers. Ukrainian banks have faced multiple challenges in respect of liquidity, profitability and capital adequacy; especially in relation to high operational risks and higher operational costs than peers in others economies. The lower level of their business productivity, quality of risk management and transaction services has a vital impact on the future development prospects. Despite the concerted effort to stabilize retail banking performance following the financial crisis, long cycle times, inconsistent channel experiences, and generic customer propositions remain pervasive.

As a result, Ukrainian banks need to recognize priority of innovations, improve step by step changing their business models, fuse digital service platforms in their activities and personalized human interaction to satisfy customers' expectations.

Experts of authorities, international financial organizations, famous analytics and scholars constantly emphasize that these factors are necessary for creation of future prospect in retail banking services based on the cost-cutting measures, enhance quality of transaction and time records, increase profitability and add capital value. However, there is no actual accord between the domestic scholars relating to the impact of modern challenges in Ukrainian retail banking as compared to the foreign practice and regulatory issues in this sphere.

## 1. LITERATURE REVIEW

The issues of retail banking formation as well as the analysis of its impact on the countries' economic development have been explored by many scholars, in analytical reports, market surveys, professional views and regulatory technical standards. The research of the theoretical and methodological aspects of retail banking development is conducted by both foreign and domestic scholars. Analysis of sources and publications shows that despite the future prospects of retail banking services performance globally and in Ukraine insufficient attention is paid to methodological aspects of this problem in scientific studies.

In particular, Herington (2009) outlined the system of measurement of e-service quality for retail banking based on analytical results of a convenience sample of 200 Australian respondents who regularly used online banking facilities. The author conducted the regression analysis to ascer-

tain factor structure and determine the impact of e-service quality dimensions on client satisfaction.

Kwapisz et al. (2010) investigated the new technological approach to customer identification and due diligence in retail banking based on behavioral biometric identification and accelerometer data collection.

Ganguli (2011) conducted research about cone sequences of generic technology-based service quality dimensions in banking. The author draws attention on the peculiarities of the essential reasons for the impact on customer satisfaction and loyalty.

Chordas (2014) prepared an empirical study of mobile banking perspectives that focused on the essential reasons to increase quality of new payment platforms for customers around the world. In addition, Pearson (2016) analyzed innovative models and disruptive technologies, which help

to accelerate the digitalization of banking and to spur changes to banking business models over the next three years.

Dupas et al. (2017) at Boston Consulting Group expected the influence of biometric transformation of retail banking services on the operating profit by regions after the financial crisis. They analyzed the basic interrelated elements of bionic transformation-reshaping the distribution for superior efficiency and service, personalizing customers value to support growth and adopting a journey mind set, which have a significant influence on the increasing sales and efficiency of the retail banking. In addition, the authors mentioned that increasing operating revenue to provide retail banking services motivated all banks to create more effective and efficient processes based on technological innovations.

An important issue pointed out by these scholars is the need to apply innovative add-value approaches for communication with consumers in retail banking. In general, their studies viewed the most important attributes that influence customer satisfaction with retail services, application digital models in foreign banks, improvement bionic transformation to develop mobile financial services.

In Ukraine, the theoretical and methodological aspects of retail banking development are explored by the well-known Ukrainian scientists and economists, such as: Kozmenko and Vasyl'yeva (2008), Serbina (2014), Demtchenko (2015), Manzhos (2016), Slav'yuk (2017), Savenko (2017).

The studies suggested above provide detailed analyses of the theoretical and practical aspects of retail banking in economic development. However, the key particularities and risks of Ukrainian retail banking with comparative analyses to the European issues and digital trends have not been sufficiently covered by the domestic scholars. Particularly, the future impact of these challenges on the customer expectations and banking business model adaptation in relation to the current reality needs to be studied. Thus, necessity to clarify the key challenges of retail banking services in Ukraine with respect to the changing face of worldwide banking issues based on the

effect of the technological factors, functional risks, greater intimidation and the future of branches, should help to identify the best way for Ukrainian banks as to the application of digital technologies, predicting operational risks, using cost-cutting measures and creating adequate regulatory environment.

The purpose of this study is to outline the key challenges and specific risks of developing retail banking services in Ukraine with comparative analyses of implementation of current global and regional changes in banking based on digital innovations in the financial industry, and to determine the perspectives of new technology introduction into commercial banks of Ukraine and non-traditional banking services application in order to optimize bank expenses and maximize customer engagements.

## 2. METHODS

The methodological basis of the study is a comparative analysis of the current challenges and high risk areas of growing retail banking services based on digital technologies and innovations in financial industry. The authors apply statistical analyses and logical interpretation to estimate analytical trends of the assessment of operational performance in Ukrainian retail banking sector.

The main indicators for assessing the trends and risks in the development of retail banking in Ukraine are determined by the level of branches clients' activity, the level of financial payments by customers through the various channels for selling banking products, the level of Ukrainian banks' readiness to introduce innovations in the development of retail services and improvement of their business models functioning.

## 3. RESULTS

Retail banking services provide a vital economic function and they have seen significant socioeconomic, technological and regulatory changes in recent years. These changes have already had large implications for the way the retail banking industry operates. Further changes are likely in the near future, with the potential for a more fundamental transformation of the industry in the long-term period (Financial Conduct Authority, 2017).

The key objectives of these changes include the following banking operational processes:

- improve digitalization, which can help reduce operational costs to serve customers, create modern service platforms and apply new models to manage operational risks;
- reduce share of cash transactions and increase electronic payments value;
- transform classic banking business models and profitable lines through set-up of Fintech banks;
- eliminate difficulties in branch processes by reducing unnecessary paper work, enhancing internet and mobile services and migrating core transactions to lower cost channels;
- devote banking strategies to activities that will surpass their customers' expectations;
- create a shared service infrastructure to capture scale effects, increase productivity and processes automation;
- actively support bionic transformation through reshaping distribution for superior efficiency and service quality, personalizing value to support growth, adopting service platforms to progress interacting with retail clients.

Identification of these worldwide trends in retail banking transformation has a significant impact on the banking adaptation, changing their market share principles and business models application globally. As a result, these factors should be recognized by central banks for implementation of modern regulatory approaches to predict specific operational risks of implementation processes and cost reduction, gamification offers of customers' experience, blockchain technology simplification, biometric technologies application and digital investment solutions adaptation. It is necessary to

improve these innovative trends of new banking ecosystem creation in the Ukrainian retail banking sector. In particular, these challenges are touching the Ukrainian retail banking market with traditional business models. Traditional business models include full service business lines with savings, current accounts, lending and mortgage. With regard to the financial consultants assessment, there are four various types of retail banking business models multi-channelling; multi-labelling, open architecture, co-branding and white labelling, which are popular in European retail banking market (Rabobank, 2004). The substantial differences between these business models applying depend on alternative distribution channels for customers engagement and spectrum of various services in payments, deposits and lending, investment management, capital raising. Successful implementation of these business models foresee high level of healthy competition in financial market. But competitiveness of Ukrainian financial market remains low with a limited financial services nomenclature and it may be considered to be attractive for potential foreign investors (Slav'yuk et al., 2017). That means arising additional systemic and capital risks, which banks might face in the future. Recognizing the role and priority of innovative activity, transforming the competitive forms from the sphere of prices to scientific and technical areas, need in forming investment component of innovations create the necessity of initializing innovative investment specialization into credit institutions Thus, with regard to the European financial integration and retail banking strategy focuses, the modern digital activities (Kozmenko & Vasyl'yeva, 2008), innovations and their applying in banking activity are going to come in Ukrainian retail banking sector. Taking these facts into account, Table 1 complies the essential advantages of digital innovation implementation for banks and customers in retail banking on the one hand, and the specific risk areas for banks and regulators on the other.

The high level of risk of the active introduction by domestic banks of modern technologies in providing retail banking services is accompanied by a sufficient level of resource readiness of banks to adopt digital innovations and actively integrate the modern European approaches into national

Table 1. Advantages of the digital innovation implementation in retail banking

Advantages	
for banks	for customers
Cost-cutting for operational processes and client on-boarding	Saving time to carry out transactions
Time saving for data collection and Know Your Customer assessment	Offering to on-line transactions in different currencies in comfortable time
Business models transforming	Simplicity of using banking services Reducing share of cash transactions and increasing electronic payments value
Engaging clients in partnerships Engaging Fintech companies in partnership	Possibilities to get complex of various banking services at low price on short time Low level of bureaucracy and simple documentation
Developing the spectrum of services and alternative channels network	High-level of satisfaction with the quality of banking services Possibilities for using mobile devices and biometric signatures to provide financial transactions
Increasing effectiveness and productivity of the business	Optimal pricing policy to apply banking services

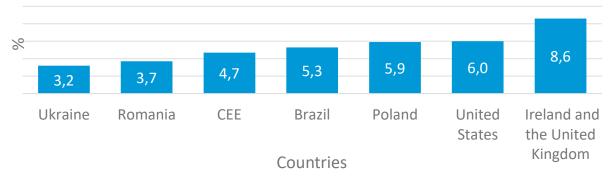
banking practice. Based on the statistical data collection, the share of resources from households in banks' funding bases has increased. So, as of late April 2017, retail deposits accounted 40% of bank liabilities. Customer deposits are growing, as was the case after the 2008 crisis, and liquidity risks are manageable (National Bank of Ukraine, 2017).

Nowadays, retail deposits constitute the significant part of banks' funding, and their weight has to remain high. This fact submits that the funding structure of Ukrainian banks is similar to those of Central and Eastern European banks. On the other hand, banks have faced high level of credit risks in retail banking. After the crisis, despite the drop in consumer credit, the most profitable and popular retail banking services for customers is lending using credit cards and personal loans channels. Retail lending has been recovering since the beginning of 2017. Currently, the majority of retail loans are consumer loans for different longand short-term goals. Analysis shows, that 41% of total retail credits volume customers include personal loans, 19 % - credit cards, and 31% of credit volumes customers need to serve mortgage credits. In general, 70% of retail credits have shortterm direction on the customer needs satisfaction. Personal loans are the most popular retail credit services in Ukrainian hrvvnia, which include 44% of total volume of retail credits in the national currency. Instead, long-term mortgage credits for retail clients are more preferably in foreign currency and conclude 51% of total volume of retail credits in foreign currency. Half of the banks' current retail loan portfolios are foreign currency loans issued before FX lending was banned in 2009 (National Bank of Ukraine, 2017). Thus, the key reasons for these tendencies are socioeconomic conditions of economic recovery, and challenges relate to the consumer financial needs and expectations in lending.

The assessment of operational performance the Ukrainian retail banking sector needs to clarify the quality of efficiency and key drivers to cover significant gap in innovations application. The Ukraine's retail banking sector in January 2016 has included 117 bank entities with 11,873 branches and 210,000 employees involved (National Bank of Ukraine, 2016).

Furthermore, only 53% of individuals have had a bank account and, as a result, more that 89% of total retail payments and transfers volume have been made in cash. To serve 1.3 billion retail customer's cash transactions banks have had 76 441 ATMs and terminals and also had improved services for 3.200 active retail customers per branch. At the same time, Ukraine has 559 bank branches, which includes operating offices, operating cash desks, credit-cash and postal offices to improve banking operations for one million customers (McKinsey & Company, 2016). For instance, that is comparable to Poland retail banking sector, which has 587 branches and substantially above Turkey banking, having 207 branches, and Brazilian retail business, which operates through 145 branches. The results of comparative analyses of the indicator of retail clients' activity per branch are shown in Figure 1.

The data shows that a Ukrainian bank branch on average services about a half as many clients as a bank branch in Poland, the United States, and nearly a third of customers in Ireland and the United



Note: CEE includes Hungary, Czech Republic, Slovakia and Croatia.

Figure 1. Active retail clients per branches during 2015–2016 financial years, %

Kingdom. Thus, Ukrainian banks should focus their attention on increasing operational productivity and applying new methods for rationalization of branch networks and support of customers intermediation. Analytical estimation of the operational cost level of the retail business line shows that Ukrainian banks remain relatively inefficient, with the ratio of operating expenses to average assets at 4.4% in 2014 as compared to 1.8% in Poland and 3% in Turkey. The high level of operational costs is primarily attributable to large number of branches and ATMs in relation to the number of customers: and inefficient cost-management in smaller banks. The retail banking sector productivity levels are approximately 16% of those in the Unites States, 36.2 % in Turkey and 39% of the Polish banking staff productivity (McKinsey & Company, 2016).

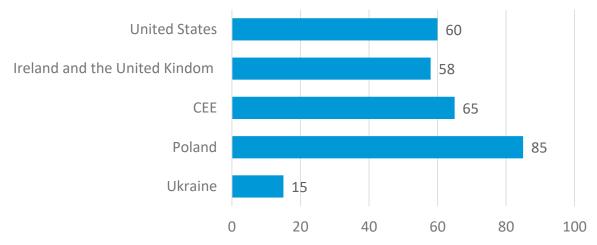
As a result, the key drivers of the low operational efficiency in retail financial transactions are large share of cash transactions and inefficient operational processes with low intermediation quality in Ukrainian banks. At the same time, improving service quality for individual customers has been the primary goal of service industries for all retail banks in these countries.

Given the importance of identification of Ukrainian banks' possibility to apply digital technologies in serving consumers, to predict operational risks and to cover productivity gaps, we can comprise the negative issues in retail banking activity in Ukraine. So, the main of them are the following:

 Ukrainian banks struggle with heavily regulated and paper-based processes, which need to be automated and centralized by using modern digital customer on-boarding and Know-your-customer due diligence assessment tools:

- Ukrainian bank branches appear saturated with core cash transactions and an underdeveloped bill payment infrastructure, which need to rapidly migrate cash transactions to ATMs and modern POS payments digital platforms;
- spectrum of services and products penetration in the retail segment is low and needs to be diversified and as a result the majority of Ukrainian banks' branches are unprofitable with low value-added services and wasting back office tasks.

Unfortunately, these operational trends in retail banking industry correlate with high level of operational risks in routine branch organizational processes and time wasting between steps of primary customer identification and signing a contract for opening a current account and carrying out financial transactions. There is a necessity in applying modern digital technologies in service distribution, customers identification, and operational banking processes. In addition, modern digital platforms for customer risk assessment is very efficient in managing of financial and operational risks, which banks might face in forming a relationships network - channels of redistribution financial flows. So, appropriate measures to develop retail banking in Ukraine should be taken immediately by using digitalization financial services and supporting customers intermediation. Banks must focus their attention on increasing of digital adoption, fully leverage on-line technology to enhance engagement with



Note: CEE includes Hungary, Czech Republic, Slovakia and Croatia.

Figure 2. Indicator of active retail clients of Internet and mobile banking services, % in June 2015

customers, implement a bionic model in branches, create digital type of network model based on monitoring the client expectations, priorities and behaviors of different retail market segments.

To efficiently service customers, operational systems must be equipped with the adequate digital and analytical tools. Client relationship management systems and dashboards supported by advanced analytical models can improve the quality and quantity of customer identifications and interactions (The Boston Consulting Group, 2017). Furthermore, the comparative analyses of various channels for customer interaction based on International experience show that digitizing innovations in financial payments would not only increase bank operational efficiency and productivity, quality delivery of services, but also reduce late payments to utility companies. The results of comparative analyses of the indicator of retail clients activity of Internet and mobile banking services are shown in Figure 2.

Indicator of active retail clients of Internet and mobile banking services in Figure 3 is calculated as the amount of active Internet and mobile banking customers during last three months in 2015 divided by total amount of active customers of retail banking services in 2015.

Figure 3 shows that only 15% of retail customers in Ukraine improve digital channels on services through Internet and mobile banking. This is significant contrast to Poland, Central and

Eastern European countries, Ireland, the United Kingdom and the USA. Such cash operations in Ukraine account for 69% of payments, compared to just 17% in Poland.

Meanwhile, digital banking is more preferred by foreign customers, who have used digital channels for account opening and transaction in above 90% cases of total payments during 2015-2016. Experts submitted that more than half of all customers surveyed in China, Colombia, Italy, Spain, the United Arab Emirates, and the United States of America said they prefer using the combination of physical and virtual interactions, particularly in hybrid banking relations. Only customers in banks of the Netherlands overwhelmingly embrace all-digital banking without any cash transactions. However, the Top Ukrainian banks with high-developing retail banking business lines have also been most successful in migrating cash transactions to ATMs and activating customers in digital channels. For instance, the most successful of them are PrivatBank, PUMB, Ukrsots Bank, Alfa Bank, OTP Bank, etc. These banks have adaptive business platforms for Internet banking that include possibility to get credit on-line, possibility to SWIFT transactions using the bank website, mobile banking devices (IOS, Android, Windows phone), and availability of the adapted web site for customer visits using a mobile phone. These banks apply online-banking in action, and their technology platforms are well-developed for communications with customers. Ukrainian banks with retail orientation are focusing on the

customer retention, value personalization and services differentiation. Owing to this, many banks pursue different strategies that will increase their customer satisfaction through services enhanced quality. Currently, the only Universal Bank is changing business strategy to up-to-date provision of wide range of retail services for individuals using digital on-line technologies (MonoBank, official website, 2017).

Meanwhile, the access to Ukrainian banking system for individuals is well-developed but operational performance for retail banking transactions is looking toward the increased quality and profitability in the future. These trends highlight that online and mobile decision-making for bill payments and financial transfers have prior prospect for domestic retail banking market.

International experience shows raising the bar on customer engagement in mobile retail banking (Deloitte Center for Financial Services, 2014). With regard to this trend, the main drivers to enhancing consumer interaction with retail banks based on Fintech are the following:

- capture low-hanging fruit by making clients more aware of the mobile capabilities already available for them and convincing the majority of them to use complex products and services;
- leverage of mobile devices' current capabilities;
- proactively prepare for the future of mobile technologies, taking advantages of the transformation in communications, sensing, and community building being facilitated by this ubiquitous technology.

As a result, retail banks have significant opportunities to improve customer service and to increase

business profitability. Application of bionic transformation is the best way to implement banks' distribution network, value proposition, and end-toend processes in customer service they have the potential to significantly increase their operating efficiency – increase by 30% in net profit by 2020 (The Boston Consulting Group, 2017). In addition, the Fintech banking is still in the early stages with lots of start-ups pursuing niche propositions in highly-developed countries (KPMG, 2016). That means getting the great advantages for Ukrainian banks to adopt, implement, support and develop new financial initiatives in the banking industry within time. Prospectively, Ukrainian retail banking is undergoing a major operational shift. The cost of servicing customers at bank branches undermines profitability at a time when customers increasingly prefer connecting online and engaging via self-service. This has led to the creation of new engagement and distribution models that help banks reap profit services through event-driven marketing initiatives.

Channel optimization is also critical for creating differentiated digital customer experiences. Retail focused banks should provide a seamless user experience for customers to conduct their financial transactions across multiple devices and platforms by using both native apps and mobile sites with a common look and feel offer ease of use. By using digital innovations, Ukrainian retail banks can get the various benefits at the strategic and operational levels, such as: prominence of strategic planning and equity endowment, openness to customers engagement and relationships; qualification of the bank management; implementation of new bank marketing strategies; quality of management information; installation of modern technologies, designing banking products and services; sales channels optimization; competitive operational cost-structure; modernization of risk assessment models.

## CONCLUSION

The research has led to conclusion that the Ukrainian retail banking sector has faced significant operational and financial risks of applying digitalization and biometric techniques to serve customers, reducing share of cash transactions and increasing electronic payments value through providing on-line and mobile banking, redesigning business models and creating innovative services ecosystem for individuals. To cover the significant gap between worldwide retail banking performance and the Ukrainian

reality in conducting retail services for customers the banks and authority should work hard together in building and supporting innovative, sizeable, highly accessible, flexible, manageable and profitable banking infrastructure with new technological solutions.

Focusing on that, the attractive and relevant measures, which National Bank of Ukraine and commercial banks should implement to support retail banking development in Ukraine, are the following:

- implement regulatory methods to remote barriers to digitalization in line with the best international practice;
- enable digital customer identification and electronic access to multiple ID and analytical databases;
- improve comprehensive models for customers risk assessment for providing enhanced on-line Know Your Customer identification;
- create transparency about the cost and cash transactions;
- encourage adoption of modern payment technologies and migrate transactions to electronic payments, particularly through mobile banking in real time;
- activate development of companies which provide IT outsourcing services for banks and can help cut their operational costs;
- implement digital technologies to reduce bank infrastructure demands;
- optimize the branch network and interaction channels between banks and consumers.

As a result, retail banking would be able to provide the flexibility of the economy in the transformation period and a source of income for added-value. Therefore, successful development of retail banking services based on Fintech innovations and transparency can become an engine for growing profitability, safety and stability of the Ukrainian banking sector.

# REFERENCES

- 1. Chordas, L. (2014). *Making it mobile. Best's Review.* Retrieved from http://www.ambest.com/bestreview/201402.html
- 2. Demtchenko, A. M. (2015). Економічна сутність рітейлу в банківському секторі України та можливості його вдосконалення [Ekonomichna sutnist riteilu v bankivskomu sektori ekonomiky Ukrainy ta mozhlyvosti yogo vdoskonalennia]. Regionalna Ekonomika, 3, 101-108.
- 3. Dupas, M., Grebe, M., De T'serclaes, J-W., Vasy, B., & Walsh, I. (2017). *Global*
- Financial Club (2016).
   Победители в номинации

- "Интернет банкинг" [Pobiediteli v nominatsii "Internet banking"]
  Retrieved from http://banksrating.com.ua/top-50-2016/pobediteli-v-nominatsii-internet-banking/
- 5. Financial Conduct Authority
  (2017). Strategic Review of Retail
  Banking Business models: purpose
  and scope. Retrieved from https://
  www.fca.org.uk/publication/
  multi-firm-reviews/strategicreview-retail-banking-businessmodels-scope.pdf
- Ganguli, S., & Roy, S. K. (2011).
   Generic technology-based service quality dimensions in banking:
   Impact on customer satisfaction and loyalty. European Journal of

- Marketing, 29(2), 168-189. Retrieved from http://www.emeraldinsight.com/doi/abs/10.1108/02652321111107648?journalCode=ijbm
- Herington, C., & Weaven, S.
   (2009). E-Retailing by banks: E-Service Quality and its Importance to Customer satisfaction. European Journal of Marketing, 43(9), 1220-1231. Retrieved from http://www.emeraldinsight.com/doi/pdfplus/10.1108/03090560910976456
- 8. Kozmenko, S. & Vasyl'yeva, T. (2008). Specialized innovative investment banks in Ukraine. *Banks and Bank Systems*, 3(1), 48-56. Retrieved from http://uabs.

- edu.ua/images/stories/docs/K\_M/ BBS\_en\_2008\_1,%20Serhiy%20 Kozmenko.pdf
- 9. KPMG LLP (2016). A new landscape. Challenger banking annual results. Retrieved from https:// home.kpmg.com/content/dam/ kpmg/pdf/2016/05/challengerbanking-report-2016.PDF
- Kwapisz, J. R., Weiss, G. M., & Moore S. A. (2010). Cell phonebased biometric identification.
   IEEE Fourth International Conference on Biometrics: Theory, Applications and Systems. USA, Washington, DC. Retrieved from http://www.cis.fordham.edu/wisdm/includes/files/btas10.pdf
- 11. Manzhos, S. (2016). The situation of bank lending in Ukraine: current problems and prospects of recovery. *Economics and Management*, 8(3), 89-97. Retrieved from http://jem.pb.edu.pl/data/magazine/article/519/en/manzhos.pdf
- 12. McKinsey & Company (2016).
  Raising Ukraine's productivity:
  banking sector as an engine for
  growth. Retrieved from https://
  www.mckinsey.com/industries/
  financial-services/our-insights/raising-ukraines-productivity-bankingsector-as-an-engine-for-growth
- 13. Monobank (2017). Mono bank (Universal bank) the first mobile

- bank in Ukraine without branches. Retrieved from https://www. monobank.com.ua/about?lang=uk
- 14. National Bank of Ukraine (2017). Financial stability report, 3. Retrieved from https://bank.gov.ua/doccatalog/document;jsessionid=FDDB0109D65689A595A91ED37BDDBA50?id=51942355
- Pearson, M. (2016). Innovation in retail banking 2016. The emergence of new banking business models. Retrieved from https:// www.efma.com/study/detail/21891
- 16. Rabobank Group. Economic research Department (2004). Retail banking strategies in Europe. The strategic vision of Rabobank Group. Retrieved from https://economics. rabobank.com/Documents/2004/ Augustus/RetailBankingStrategiesinEurope\_20040801.pdf
- 17. Savenko, S. (2017). За ними майбутне [Za nymy maibutnie]. Retrieved from https://news.finance.ua/ua/news/-/416199/za-nymy-majbutnye
- 18. Serbyna, O. (2014). Інтернет--банкінг: українська практика та світовий досвід [Internet banking: ukrainska praktyka ta svitovyi dosvid]. *Molodyi Vchenyi*, 4(07), 122-125. Retrieved from http://molodyvcheny.in.ua/files/ journal/2014/4/34.pdf

- 19. Slav'yuk, R., Shkvarchuk, L. & Kondrat, I. (2017). Financial market imbalance: reasons and peculiarities of occurrence in Ukraine. *Investment Management and Financial Innovations*, 14(1), 227-235. Retrieved from https://businessperspectives.org/media/zoo/applications/publishing/templates/article/assets/js/pdfjs/web/viewer.php?file=/pdfproxy.php?item\_id:8720
- Srinivas, V., Friedman S., &
   Eckenrode, J. (2014). Mobile
   financial services. Raising the bar
   on customer engagement. New
   York: Deloitte University Press.
   Retrieved from https://www2.
   deloitte.com/insights/us/en/industry/banking-securities/mobile-financial-services.html
- The Boston Consulting Group (n.d.). Retail Banking 2017: Accelerating Bionic Transformation. Retrieved from http://image-src. bcg.com/Images/BCG-Accelerating-Bionic-Transformation-July-2017\_tcm9-164949.pdf
- 22. Zeman, Z., Gacsi, R., Lukacs, J. & Hajos, L. (2013). Management control system in banks. *Bank Controlling*, 6, 14-17. Retrieved from https://www.nbs.sk/\_img/ Documents/\_PUBLIK\_NBS\_FSR/Biatec/Rok2013/06-2013/04\_biatec13-6\_zeman.pdf