Journal of Economic Development, Environment and People

(online) = ISSN 2285 – 3642

ISSN-L=2285-3642

Volume 9, Issue 4

2019

http://jedep.spiruharet.ro

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 9, Issue 4, 2019

URL: http://jedep.spiruharet.ro
e-mail: office_jedep@spiruharet.ro

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(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

URL: http://jedep.spiruharet.ro
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(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
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FOREWORD

What is needed to create a more sustainable world for us and for future generations? This is a question araised more often than ten years ago, just because of the concern about humankind's future is blurry, environmental issues become an urgency due to the visible consequences: floods, bushfires without precedent like recent Australian tragedy. The population and governments can no longer ignore these signs and immediate actions are required.

The United Nations Sustainable Goals (SDGs) lay out how to eradicate poverty, advance environmental sustainability and provide decent housing, clean water and health care and education to those disadvantaged ones. All UN member states committed to take appropriate measures to make SDGs achievable as soon as possible. However, all beautiful ideals need finance to become a reality. UN estimates about $6 trillion a year to properly address all 17 SDGs, but this amount far exceeds the traditional sources that can be attracted. Therefore, global finance people think that the entire global capitalist system should get involved and contribute. At the core of this idea is the understanding that when businesses apply their expertise to solve problems, create profit and progress can go together for a better society, business and environment. Companies must consider their long-term financial sustainability in light of these global challenges and maintain a healthy environment and workforce. As an example, in SUA the Environmental Business Initiative, the funds to be deployed are $445 billion between 2007 to 2030 to support the transition to a low-carbon sustainable economy. The general public is asking businesses to take sustainability always into consideration in all their decisions. In one study, 81 percent of Millenials said companies must have a major role in driving SDGs[1]. Also, growing evidence shows a correlation between sustainability practices and better financial performance, higher productivity and lower risks[2]. It seems if businesses can deliver profitability, shareholder return than they could support the SDs most relevant to their businesses. Simple as that.

[1] https://www.goldstandard.org/sites/default/files/documents/sdg_report_optimized.pdf

[2] https://www.spglobal.com/en/research-insights/articles/the-esg-advantage-exploring-links-to-corporate-financial-performance

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

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Private funding represents more than enough money to address the SDGs. Globally, pension funds alone control more than $36 trillion in investable assets. Insurance companies represent another $18.8 trillion, wealth managers nearly $70 trillion, and banks more than $85 trillion.[3]

"As people become more aware and more concerned about the speed and scale required to address the crisis, they are proactively pursuing innovative ways to apply the capital needed to achieve the U.N.'s goals," says Alicia Seiger, managing director of the Stanford University Sustainable Finance Initiative.

"Combining money from development banks, nonprofits, global banks, private equity firms and others, gets things going that would have been impossible otherwise" comment Anne Finucane, Vice Chairman, Bank of America.

So, one would say that global finance should act as support entities for the business initiatives addressing one or more of the seventeen sustainable goals, asking each of their customers: What would you like to do for sustainability? At the World Economic Forum was created a working group of global finance leaders aiming at identifying the best practices and set standards for sustainable management, enabling all private companies to measure progress towards preserving the environment and acting in favor of sustainable ways of doing business. It is an issue of changing the mindset of all: people and businesses, governments and global finance regarding the importance of sustainability issues.

Editor-in-chief,

Prof. Manuela Epure, PhD

[3] https://www.blendedfinance.earth/better-finance-better-world\

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 9, Issue 4, 2019

URL: http://jedep.spiruharet.ro
e-mail: office_jedep@spiruharet.ro

Engagement of older persons in cultural activities: importance and barriers

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Abstract. *The aim of this article is to present the importance of cultural activities for older person, as well as of the barriers related to engagement in such activities. Cultural activities involvement is recognized as a way to promote the social participation of older persons and thus it contributes to a better social inclusion of these persons. The first part of the paper points the importance of cultural activities among older Romanians, while the last part of the article presents the factors that limit a more engagement in such activities for people of age 65 years and over.*

Keywords: older persons, cultural activities, social inclusion

JEL Codes: J14, J17

How to cite: Ghenta, M., & Bobarnat, E. (2019). Engagement of older persons in cultural activities: importance and barriers. *Journal of Economic Development, Environment and People, 8*(4), 6-12. doi:http://dx.doi.org/10.26458/jedep.v8i4.648

1. Introduction

Several studies emphasize that maintaining a high level of social participation at older ages is likely to have a positive influence on quality of life, emotional well-being and health [1], [2], [3]. In the studies conducted by WHO [4] it is admitted that social participation refers to engagement in recreational, socializing, cultural, educational and spiritual activities, and encouraging and motivating the participation of older people in cultural and social activities could contribute to reducing isolation among them.

The article analyses the phenomenon of cultural participation of the older persons in Romania. Cultural participation is a particular component of social inclusion. In the broad sense, culture is "opposite of nature" and it is created by society [5]. In the present research, the cultural participation is considered in

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(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 9, Issue 4, 2019

URL: http://jedep.spiruharet.ro
e-mail: office_jedep@spiruharet.ro

terms of involvement of older persons in activities like attending dance, theatre, opera performances, visits of historical sites, reading books or watching/listening of TV/radio programmes, etc. In the process of producing and disseminating the culture, the elderly can play the role of: creator, audience or transmitter of the culture [6], depending on how much they are integrated and valued by others.

2. The importance of involvement in cultural activities

The importance of involvement in cultural activities among older persons is related to their capacities to participate to the social, economic and cultural life of the community with good results in terms of social inclusion [4]. Social exclusion, viewed as a process, represents the reduction of participation of individuals/groups in different areas of life [7] and their separation from the core of ideas, attitudes and behaviors considered normal by society [8].

In 2017, in Romania, 20.6% of the population of 65 and over are at risk of social exclusion as a result of severe material deprivation [9]. But social exclusion is a much multidimensional phenomenon [10]; its aspects can be grouped into several domains, namely: material deprivation, lack of access to fundamental rights, lack of social participation and lack of normative integration. Material deprivation refers to the financial capacity to procure material goods to meet basic needs. Also, it refers to the "problematic" debts - categories of expenses destined to the basic needs (housing, maintenance, food, etc.) when most of the revenues are directed to cover them. Lack of access to fundamental rights refers to the situation in which individuals/groups face difficulties accessing health services, housing, education, social security etc., including waiting lists, financial impediments, physical infrastructure, etc. Lack of social integration refers to the reduced participation in formal and informal social networks, including leisure activities, insufficient social support and social isolation. Contacts with family members, friends and acquaintances, the existence of a person with whom the individual can discuss personal issues, membership in clubs and organizations, voluntary work and helping others improve this type of participation. Lack of normative integration means low compliance with society’s norms and values, such as poor work ethic, abuse of the social assistance system, delinquent behaviour, and lack of community involvement. [7], [8].

Besides the benefits already mentioned, the involvement of the elderly in cultural activities also determines the dismantling of cultural stereotypes and the changing of the image of the elderly, thus improving their symbolic inclusion. The beneficial effects reflect on the identity inclusion also, by enriching elderly people with new identity dimensions, such as intergenerational transmitters of values and culture, influencers on media. [6], [11]

2.1. Objectives

The following research questions were addressed in this article:

- What is the importance of involvement in cultural activities in old age, among older Romanians?
- Which factors hinder the social participation through cultural activities of older persons living in rural and urban areas?

In order to answer to these questions we analyse data from the Special Eurobarometer 399 [12]. The database and the questionnaire are publicly available in the GESIS archive. The survey was coordinated by the European Commission and conducted by TNS on April 27-11 May, 2013. A probabilistic sample was used and a face-to-face questionnaire was applied.

2.2. Involvement in cultural activities

The overall cultural practice index points to a rather low engagement of people aged 65 years and over, 59.7% of Romanians of this age being involved in cultural activities in 2013. Considering the view of [13] according to whom older people are excluded from cultural activities if they don't access these activities on a relatively frequent basis, we can state that older Romanians are social excluded. Most of the people aged 65 years and over from the rural area declared a low engagement in cultural activities (65.2%) compared to approximately a half of the Romanians of the same age from the urban area (54.4%). There is a direct link between the age of the respondent and the level of involvement in cultural activities, the respondents aged between 75-84 years old being less engaged in cultural activities: 73.8% of them declared a low involvement. As people grow older, they may experience a limitation of their capacity to perform activities due to physical and cognitive limitations and this could hinder their ability to involve in different kind of social activities.

Gender doesn't make a significant difference between respondents in terms of engagement in cultural activities. The ability to pay bills is also linked to some degree with participation in cultural activities as 51.8% of the older persons that experienced most of the times difficulties in paying the bills declared a low involvement in cultural activities, compared to 58.4% of those who have never experienced difficulties in paying the bills that declared a similar involvement. It is acknowledged that older persons are, all over the world, more exposed to the risk of poverty compared to the rest of the population, and in their case, poverty can target either a lack of income/insufficient material resources for a dignified life, or inadequate access to social, medical services, housing, transportation [11].

The most frequented attended cultural activities

Among the preferred cultural activities performed (at least one time) by older persons during the previous year before survey, were going to a historical site (23.8%) or to a museum/gallery (11.1%), followed by going to a concert (9.3%). By far, the most preferred activity was watching or listening a TV or a radio programme, as over a half of the respondents aged 65 years old and over done such an activity, at least one time, during the last 12 month before the survey (54.6%).

Going to a ballet/dance performance and cinema accounted no participation of respondents from rural areas. 44% of the respondents from rural areas prefer to see a TV or to listen to a radio programme at least one time in the year before the survey, compared to 64.9% of the respondents from urban areas. Over 10% from the older respondents in urban areas have engaged, at least one time during the year before the survey, in the following cultural activities: visiting a historical monument or site, followed by the visits to museums/galleries and going to concerts. There are limited possibilities for older persons in rural areas to participate in cultural activities and these reflect in a low involvement in any type of cultural activity. Another activity preferred both by older persons from rural and urban areas is reading books, as this is an activity that is not consuming important financial resources: 58.5%, respectively 43.1% of the respondents have read a book at least once during the previous year of the survey.

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 9, Issue 4, 2019

URL: http://jedep.spiruharet.ro
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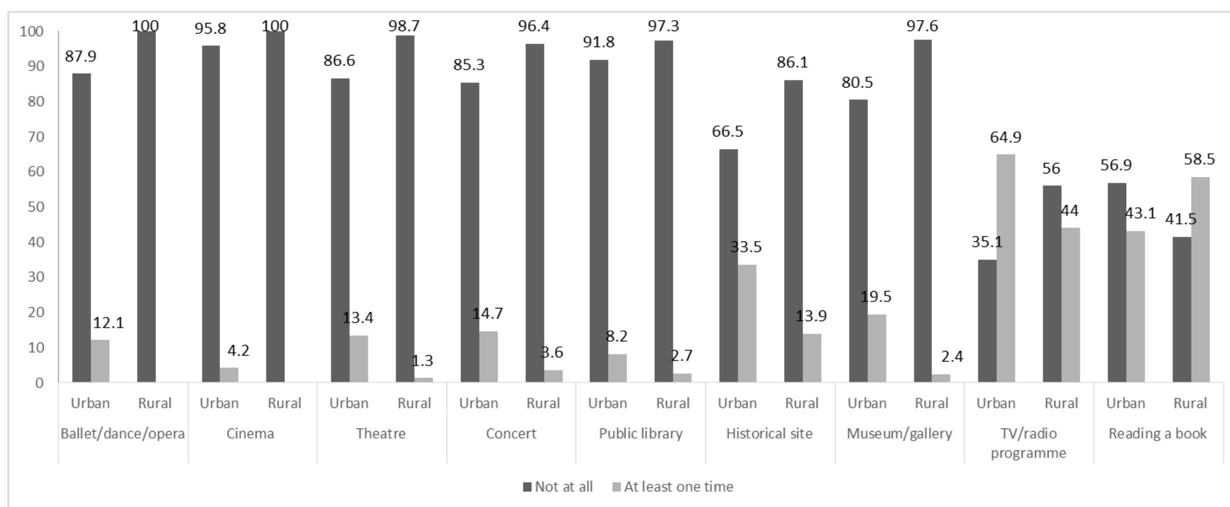

Fig. 1: Cultural activities engagement in the last 12 months, by area of residence and type of activity (65 year and over)
Source: European Commission, Brussels (2016): Eurobarometer 79.2 (2013). TNS opinion, Brussels [producer]. GESIS Data Archive, Cologne. ZA5688 Data file Version 6.0.0, doi:10.4232/1.12577.

A higher age is linked to a lower involvement in cultural activities, as people aged 85 years and over are usually seeing TV programs or listen to radio shows or reading a book: 44.4% of the people of this age declared that they have read a book at least 5 times in the year before the survey and the same percentage had a similar cultural activity.

The ability to pay bills is also linked to the frequency with which the older people involve in cultural activities, as respondents who had difficulty in paying bills most of the times were less likely to engage in all sort of cultural activities, with the exception of reading books, visiting historical sites, watching/listening to TV/radio programs. 26.9%, 41.2%, respectively 37.8% of those mentioned before involved at least once during the last year, in cultural activities.

Gender makes a difference, as women are more likely to visit museums or galleries: 13.3% of women aged 65 years and over involved more than five times during the year before the survey in such activities. On the other hand, men are more involved in activities like reading books (43% of them). Living in a bigger household affects the involvement in cultural activities with regard to historical sites visits, 20.6% of the older persons living in more than one person households engaged in such cultural activities at least one time during the year before the survey.

2.3. Barriers that limit the involvement in cultural activities

The main barrier that limited the engagement of older persons in cultural activities was the lack of interest, followed by the limited choice or poor quality. It has to be mentioned that in case of ballet/dance/opera performances or in case of attending theatre programmes, the limited possibility to cover the costs is another reason mentioned by older respondents.

As other international [13], [7] and national [11] studies emphasize, older people are more vulnerable to exclusion from social life, as well as from civic and cultural activities. In some cases the exclusion is due

not only to the limited financial resources, but as well due to education, previous life path or just because the older person remained alone and is not connected to a social support network.

	Ballet/dance/ opera	Cinema	Theatre	Concert	Public library	Historical site	Museum/ Gallery	TV/radio programme
Lack of interest	34.4	38.2	33.6	33,2	37.8	28.5	33.3	27.2
Lack of time	8.4	11.5	10.8	11.8	15.9	20.2	16.4	36.4
Too expensive	18.9	13	18.8	15.5	4.4	14.2	14.2	3.6
Lack of information	1.9	2.7	2.3	2.4	1.8	3.3	2.4	8.7
Limited choice/poor quality	30.2	29.6	29.5	30.6	28.4	27.7	27.3	14.3
Other	6.2	5	5	6.4	11,7	6,1	6.4	9.9

Table 1: Barriers to cultural activities engagement in the last 12 months, by type of activity (65 years and over)
Source: European Commission, Brussels (2016): Eurobarometer 79.2 (2013). TNS opinion, Brussels [producer]. GESIS Data Archive, Cologne. ZA5688 Data file Version 6.0.0, doi:10.4232/1.12577.

The lack of interest is in a higher extent the main reason for a lower participation of older persons from rural area to different kind of concerts, compared with those from urban area (37.8% of respondents aged 65 years old and over, compared with 28.8% in case of older persons from urban area). Another important reason that hinder the attending of concerts is the limited offer or poor quality (45.8%). Going to a public library is less preferred by older persons from rural areas (40.9% in case of respondents located in rural areas, comparative with 34.8% in case of persons from urban areas). Similarly, reading a book is more an option for older persons in urban areas – 23.5% compared with 42.5% in case of those from rural areas. In case of all type of cultural activities, the lack of enough financial resources to cover the participation is far more an important barrier for older women compared with men of the same age.

The ability of paying the bills doesn't make a significant difference between respondents in terms of reasons for not getting engaged in cultural activities. Both for those who experience most of the times difficulties in paying the bills as well as those who almost never have such difficulties, the main reasons for a low involvement in cultural activities remain the lack of interest and the costs associated with the activity. The lack of information is an important barrier for those old respondents who experience most of the times difficulties in paying the bill, only when it comes for watching/listening TV/radio programs. The affordability of cultural activities favors an increased participation of older persons, the cost of such activities being recognized as a barrier in the engagement in certain cultural activities [4]. The household composition influence the perceived barriers to cultural activities. Single old person households indicated the lack of interest as the major barrier in case of the majority of cultural activities, with the exception of theater and concerts attending.

Respondents 65 years and over use the Internet with the purpose of discovering, exploring, researching, conducting acquisitions, participating in cultural and social activities. At the national level, most seniors use the Internet for reading and information purposes.

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 9, Issue 4, 2019

URL: http://jedep.spiruharet.ro
e-mail: office_jedep@spiruharet.ro

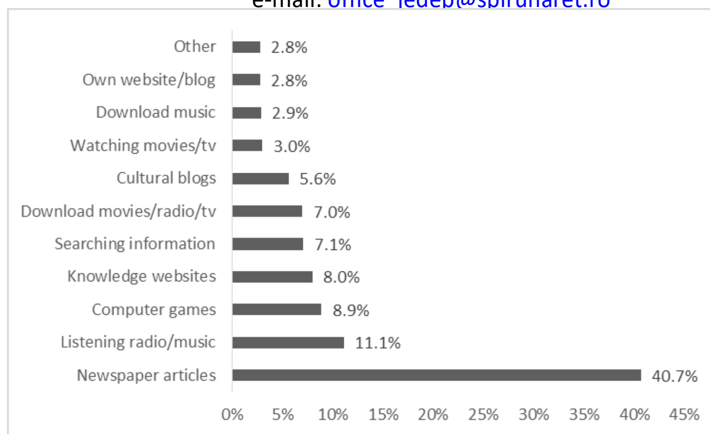

Fig. 2: Internet usage (65 years and over)
Source: European Commission, Brussels (2016): Eurobarometer 79.2 (2013). TNS opinion, Brussels [producer]. GESIS Data Archive, Cologne. ZA5688 Data file Version 6.0.0, doi:10.4232/1.12577.

3. Conclusions

Social participation in old ages has a positive influence on quality of life of older people. The studies concerning the involvement of older persons in cultural activities shows a rather low engagement of people aged 65 years and over, 59.7% of Romanians of this age being involved in cultural activities. Most of the people aged 65 years and over from the rural area declared a low engagement in cultural activities. As people get older, they tend to involve less and less in cultural activities due to limitation in performing daily activities.

The most preferred cultural activities performed (at least one time) by older persons during the previous year before survey, were watching or listening a TV or a radio programme, going to a historical site or to a museum/gallery followed by going to a concert. There are limited possibilities for older persons in rural areas to participate in cultural activities. The frequency with which the older people involve in cultural activities is related to the ability to pay bills.

The main barrier that limited the engagement of older persons in cultural activities was the lack of interest, followed by the limited choice or poor quality. The lack of information limits the watching/listening TV/radio programs for those with financial difficulties.

4. Acknowledgements

This work was published under the Nucleu Programme, supported by the Ministry of Research and Innovation (MCI), project number PN 19130401. (Această lucrare a fost realizată prin Programul-nucleu, derulat cu sprijinul MCI, proiect nr. PN 19130401).

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(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue4, 2019

URL: http://jedep.spiruharet.ro
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Critical Success Factors in IT Project Management. Case study on IT Banking Front-end IT System Project in Serbia

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Abstract.*The success of project management in organizations depends on the context, that is, on type of organization, type of projects they implement, the environment and the conditions for the realization of projects. What matters to the textual issues of project success is due to a number of factors - type of project, importance for organization, resources, and the like. Insufficient number of organizations successfully managed to implement project manager procedures, while others met with a large number of problems, the resistance of employees first of all, ignorance, lack of resources, bad time management and other issues.*

Organizations must have an incremental approach to the development and implementation of their project management methodologies, especially when it comes to implementing information technology project, that involve a great deal of human-work, innovation and usually cost a lot, development takes a long time, they are based on the knowledge of new technologies, and their success depends on the people who develop them, and those who will use those IT products and services.

This is a great challenge for management in terms of use of information technology, budget and planning, involvement of the project team and establishment of support from the environment.

Many IT projects are not implemented successfully because of poor application of project management procedures, lack of stakeholder support, absence of project sponsor etc.

Keywords: projects, project management, information technology, critical success factors, Front-end system implementation project

JEL Codes: M15, M21, I20, O22

How to cite: Ilic, M., Rankovic, M., Stojčić, M., & Kastratovic, E. (2019). Critical Success Factors in IT Project Management. Case study on IT Banking Front-end IT System Project in Serbia. *Journal of Economic Development, Environment and People, 8*(4), 13-23. doi:http://dx.doi.org/10.26458/jedep.v8i4.637

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(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

URL: http://jedep.spiruharet.ro
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Introduction

According to the IPMA methodology, projects are divided into: military-defense projects, business projects and projects of organizational changes, communications system projects, special-event projects, then industrial plant projects, software projects and information systems introduction projects. Projects can also be international, developmental, media, product and service development projects, as well as research-and-development projects.

The project management concept encompasses negotiations management, project management goal setting, the project management organization defining, project scope management, time management, cost management, material resources management, human resources management, communications management, conflict management, quality management, change management, and risk management.

Risk management in IT projects involves the analysis of a large set of different data that is obtained based on the analysis of unsafe events of an IT project, then the likelihood of events, impact on business entity as well as the cause or effect of specific risk. [7]

Nowadays companies struggle with a very high competition, resources that are expensive and insufficient and also with employee demoralization due to the effects of economic crises, expensive technologies and other factors. [11] Information technology project are involved in a great deal of human-work and innovation and cost a lot, lasts for a long time. The development and implementation of these projects are conditioned by the knowledge involved in their realization, that is, knowledge of technologies, the degree of innovation of the organization that will use the IT products / services. If the business entities use the practice of open innovation by producing a leverage effect, entities will focus their intellectual effort on creating new high technologies.[2] Also, for business entities that will use the IT products / services as part of IT projects development, is important to implement knowledge management. [3]

The paper presents project management in information technology industry, key issues and critical success factors of those projects. For this research article, implementation of two different IT projects in banking industry in Serbia during 2018 were observed according to Pinto criteria of success and new Model of Critical Success Factors in IT Project Management (Ranković – Ilić) which was developed for this special purpose.

1. Project Management and Critical Factors for Project Success

1.1. Project management and projects

Jovanović defines a project as "a complex unrepeatable business endeavour undertaken in the future so as to achieve goals in the predicted time and with predicted costs". [6]

The International Project Institute defined the standards and the principles for organizations and individuals, by which managers and organizations are provided with a help in their achievement of organizational goals. This global standard provides detailed understanding of program management and promotes efficient communication and coordination amongst different groups of project management. It emphasizes a full scope of program management and clarifies the supporting processes that bring the delivery of a program to organizations to an end. Organizations use the global standard as a tool for the assessment of the factors connecting projects within the framework of a single program and the allocation of resources among them. [12]

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue4, 2019

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In the Republic of Serbia, a few educational institutions and one guild association conduct a formal and non-formal education of students and citizens in the field of project and program management. The Project Management Association of Serbia (YUPMA) has an important influence in the development of this discipline and in the provision of professional help to professionals and organizations. [15]

Project management implies the planning, control and management of different activities, and making business decisions. Jovanović considers that the next definition of project management (in a large number of other definitions) is optimal: "Project management represents a scientifically based and practically confirmed concept by which, with the help of appropriate methods of organization, planning and control, the rational harmonization of all needed resources and the coordination of conducting the needed activities are performed in order for a certain project to implement in the most efficient manner." [6]

The project management goal is the establishment of clear levels or authorities and decision-making, including the planning, influence and implementation of the project policies and activities. It includes the people, the policies and the processes that provide a framework within which project managers make decisions and undertake actions so as to optimize the outcomes in connection with their fields of responsibilities. This is achieved by defining and identifying the roles and responsibilities of all those involved in a project, including their interaction and the level of coordination with internal and external dependencies. [13]

1.2. Critical Factors for Project Success

There are ten critical success factors identified by Pinto and Slevin in their formulating the instruments of the Project Implementation Profile (PIP), namely: (1) the project mission/goal, (2) top management support, (3) project plans and timetables, (4) consultation with the client, (5) work, (6) technical tasks, (7) the client's acceptance, (8) monitoring and feedback, (9) communication, and (10) problem solving. [9]

A project mission, as the first factor, relates to the basic purpose of a project. The success of the project is expressed in the importance of the clear defining of goals, as well as the final benefits derived from the project. The project management initial phase frequently consists of a feasibility decision. The project mission relates to the state in which project goals are clear and understood, not only on the team, but also in the other departments of the organization. The project manager must deal with goal clarification, as well as with achieving a broader faith in the correspondence of the goals with the general organizational goals. [10]

Top management support, as the second factor, has long been considered to be very important in differentiating the final success and failure. Project managers and their teams depend on top management with respect to the authority, receiving guidelines and support. Apart from that, if a project is being developed for the purpose of the internal audience (inside the company), the degree of the management support in a project will lead towards substantial variations in the degree of the acceptance or rejection of that project or product. Top management support may include the aspects such as the allocation of the needed resources (funds, employees, time, etc.) as the assurance that the project manager will have the support of the top management in the case of a crisis.

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

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The third factor – **project plans and timetables** – refers to the importance of the development of a detailed plan of the phases needed in the implementation process. It is important to bear in mind, however, the fact that the activities in connection with a project planning and its timetable differ. Planning, which is the first and more general step in the development of a project implementation strategy, consists of the determination of the scope, the creation of the WBS, as well as the allocation of resources and the assignment of activities. Making a timetable implies the determination of deadlines and turning points for every important element of a project in general. Project plans and its timeline as a factor are concerned with the degree to which timelines, turning points, the effort and equipment are determined. There must be a satisfactory measuring system which assesses the realistic performance as opposed to budgetary disbursements and timelines.

Consultation with the client is the fourth factor. The "**client**" is anyone who will ultimately use the product of the project, either as a client outside the company or as a department inside the organization. The need for consultations with the client has increasingly been considered as important in an attempt to create the system implementation. Certainly, the level to which clients are personally involved in the implementation process is directly connected with variations in their support to the project. It is important that clients should be identified for the project and that whether, or not, their needs have been met should be correctly determined, i.e. their satisfaction should be ensured. [16]

The fifth factor, **human resources**, implies recruiting, selecting, and training the members of the team who will be working on a project. The important, although often overlooked, aspect of the implementation process also concerns the nature of the human resources included in the project. In many situations, team members are selected without gaining a full insight into the skills needed for making an active contribution to a more successful implementation. The question of human resources in a project concerns the development of the implementation team that has the ability and dedication to their roles. [10]

Technical tasks, as the sixth factor, relate to the necessity of having not only the required number of employees for the implementation team, but also of ensuring that they have the technical skills and the technical-technological support need for them to perform their respective tasks. It is important that the persons leading the project should understand the technology included in the project. Besides, adequate technology must be in place so that it could support the system. Without the necessary technology and technical skills, projects quickly disintegrate into a series of wrong interpretations and technical mistakes.

The seventh factor, **the client's approval**, relates to the final phase in the project development process, when the general efficiency of the project is determined. Together with consultation with the client in the earlier phases of the system implementation process, it is crucially important to determine whether the client for whom the project commenced in the first place will also accept that project. Too frequently, it happens that project managers make a mistake by believing that the client (either internal or external for the organization) will accept the system obtained if they perform the other phases of the implementation process well. Actually, the client's approval is the phase in the lifecycle of the project which must be managed in the same manner as it is done with any other phase. [10]

The eighth factor, **supervision and feedback**, relates to the project control process which, at the end of each phase of the project implementation, the key employees receive feedback on how the project is progressing in comparison with the initial predictions. Enabling adequate supervision mechanisms and

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue4, 2019

URL: http://jedep.spiruharet.ro
e-mail: office_jedep@spiruharet.ro

feedback enables the project manager to predict problems, oversee corrective measures, and ensure that not one single deficiency has been overlooked.

Communication, as the ninth factor, is not only essentially important to the project team themselves, but it is also vital to the stakeholders' management between the team and the rest of the organization, as well as clients. Communication also relates to the feedback mechanisms and the necessity of the exchange of information with both clients and the rest of the organization when the project possibilities and goal, changes in procedures, reports on the status, etc. are concerned.

Problem solving is the tenth, and the last, factor of this model. Problematic fields are present in almost every development of a project. The measure of a successful project is not problem avoidance, but it is rather making right steps once a problem has occurred. Irrespective of how carefully implementation is planned, it is impossible to predict every problematic field or a problem that might occur. As a result of that, the project manager must include the mechanisms for problem recognition and their solving once they appear. Such mechanisms not only facilitate reacting to the occurrence of a problem, but they also make the prediction and possible prevention of potential problematic fields in the implementation process easier. [7]

2. Projects in the Field of Information Technologies

The criteria for the success of IT projects are often unclear and deprived of strict guidelines on success in a project. In 1992 and in 2003, two researchers, W. DeLone and E. McLean, analyzed several previous studies on IT projects so as to identify the key success indicators. [4] Their findings indicate that IT projects should at least be valued in accordance with six criteria: [10]

- **the quality of the system:** A project supply system must be able to ensure clients that the implemented system will be operating as it should. All systems must meet certain criteria, so, for example, they should be simple to use and ensure quality information.

- **the quality of information:** The information generated by the system must be the information based on the data obtained from the user(s) and of a sufficient quality so as to be effective. In other words, the generated information should not require additional information and data sorting. The system users must see the quality information it produces.

- **the use:** Once implemented, the IT system must be used. It is obvious that every IT system is as important as it is good in problem solving, as well as the mechanism for making decisions and the network mechanism. The use criterion assesses the real usage of the system by determining the degree to which the same is used by buyers.

- **user satisfaction**: Once the system is completed, the team must determine user satisfaction. One of the best questions in assessing IT projects is whether the success has to do with the determination of user satisfaction with the system. Yet, due to that fact, the client is ultimately the judge and he is the one to decide whether the project is efficient or not. It is necessary to reach a certain degree of client satisfaction

with the system itself and its outputs, i.e. the results and effects of its operation. Also, during the transfer of IT projects to buyers, it is customary for them to experience initial confusion regarding the characteristics of the final product, or to understand them in wrong way. There are buyers who will deliberately refrain from accepting the project unconditionally since they are afraid that, after they have approved of it, they will lose the ability to require changes or corrections due to obvious errors. Finally, depending on how close a communication the project team was maintaining with the client during the development of the project, the final product may, but does not have to, be what the buyer actually wants. [10]

• **the individual influence:** All systems should be simple to use and ensure quality information; but, apart from meeting these needs, there is a special criterion for the determination of the usefulness of the system ordered by the client. Is decision-making faster and more precise? Does the system offer more information? Is such information more accessible or more easily assimilated? In brief, is the system useful to the users in the manner important to them?

• **the organizational influence:** Finally, the system supplier must be able to determine whether there are positive impacts throughout clients' organizations, i.e. if, for example, there is a collective or synergetic effect on the corporation of clients, or not; if the system in place has a good impact, or if there are financial or operational metrics indicating the efficiency or quality of the system, or not?

3. Implementation of IT Projectsin Serbian Banks (Analysis of Successfully Implemented IT System Project)

Banks are the most important constituents of the financial structure of a country and even more they represent nations financial backbone and valuable measure of economic perspective of one nation. [1]

The banking system of the Republic of Serbia consists of the central bank (National Bank of Serbia) and commercial banks. Commercial banks conduct their business independently, in order to make profit on the principles of solvency, profitability and providing liquidity.

In recent years, there has been a marked competition in banking market in Republic of Serbia and a constant search for banks for business models that can provide them with long-term business success. Innovation is being implemented in all segments of banking, and the development of models and strategies is a priority at all levels of management in today's banks. [14] Banks often implement IT projects in order to be costumer oriented.

IT projects in banking can be divided into projects of implementation of **Front-end systems**, that is, IT systems aimed at end users of banking services and projects of implementation of **Back-end systems,** that is, those projects related to banking IT infrastructure, which includes different processing systems banking data, risk analysis, regulatory requirements. Valuation of a project according to the six criteria defined by Pinto [10] should be viewed through the prism of specificity of IT projects in banking. These criteria have

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue4, 2019

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several other dimensions through which they "shed light" on internal and external stakeholders, and these dimensions are trust, security and time. The project of implementation as part of the **Front-end system** was implemented using Agile project methodology. Empiric research were conducted based on one author`s participation, two authors' observation, case study analysis, as well as description, induction and deduction.

For this research article, implementation of one IT projects in banking industry in Serbia during 2018-2019 were observed (without specifying customer identification information) according to Pinto criteria of success and new Model of Critical Success Factors in IT Project Management (Ranković – Ilić) which was developed for this special purpose. Ranković-Ilić model defines combined list of the criteria for Success which includes basic category:

1. Project successfulness valuation criteria;
2. Quality prism;
3. Trust and the system quality;
4. Security and the system quality;
5. Time and the system quality.

Project successfulness valuation criteria involves the quality of the system, the quality of information, the use, user satisfaction, the individual influence, the organizational influence.

Quality prism involves trust, security and time.

Trust and the system quality involves criteria such as trust and the quality of information, trust and the use, trust and user satisfaction, trust and the individual influence, trust and the organizational influence.

Security and the system quality group of criteria involves security and the quality of information, security and the use, security and user satisfaction, security and the individual influence as well as security and the organizational influence.

At the end, **Time and the system quality** group of criteria involves time and the quality of information, time and the use, time and user satisfaction, time and the individual influence, time and the organizational influence.

The analyzed IT project, the Front-end system implementation project was implemented with an Agile project management methodology to provide the bank's end-users with the best possible user experience in working with the bank's Front-end applications.The final beneficiaries were involved in the qualitative evaluation of each of the iterations and based on their feedback, the course of further realization of the project was directed.

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

URL: http://jedep.spiruharet.ro
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The qualitative assessment of the project implementation was performed according to the performance criteria, and through the prism of specific quality criteria defined in the model such as trust, security and time. Trust was analyzed through the criterion of trust and quality of the System, Trust and quality of information, trust and use, Trust and satisfaction of users, trust and individual influence, trust and organizational influence.

In terms of **quality as a result of implementation** (the criterion of trust and the quality of the System) in the case of the first project, it looks at the extent to which the system can meet the needs of end users, and therefore, at the end of each iteration, end users are surveyed about the level of quality and trust gained during testing. of each iteration. The results obtained from the survey have always been better than the previous ones.

In terms of trust and quality of information, as it is an IT system that processes and presents sensitive financial information, it is important that it is of high quality and that the end user believes in it. In this case, the end users were also interviewed at the end of each iteration about the level of quality and confidence in the information presented to them during the testing of each iteration. Also, each member of the control group had a key to validate the information, which ensured that the control group members were satisfied with the quality of information as well as their confidence in the quality of the system and the output information.

In terms of **trust and use** as a criterion, the combination of the two criteria led to the rapid and extensive use of the bank's application systems, while the beneficiaries cited trusts as the most important criterion for choosing a particular system.

With regard to **trust and customer satisfaction**, it started with the thesis that customer satisfaction is viewed through the prism of trust, that is, the banking IT system will meet the needs of end users in a perhaps predictable but certainly reliable way. The second thesis is that if the system meets the needs of clients, then it is successfully implemented. Also, in this part, end users were surveyed, and the results of the survey showed in each iteration an increasing level of confidence in the ability of the banking IT system to meet their needs.

In terms of **Trust and Individual Impact**, the measurement of this impact has been viewed through the impact on the beneficiary on the one hand, as well as the impact on individuals within the organization. Through the mass of the phenomenon, looking at the impact on customers, the results of the implementation of the first IT project are more visible, and if everything is viewed through the prism of trust, every individual opinion is important because it has an impact on other users and the results of the bank's business operations. When analyzing the impact on individuals within the bank (employees), then their trust in the IT system is important in order to create a customer-focused organization.

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue4, 2019

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In terms of **trust and organizational influence**, the IT system has created a climate of trust in the bank and the best lawyers of this implemented application are banks employed.

Security as a group of criteria was analyzed through: security and quality of the System; Information Security and Quality, Security and Use, Security and Customer Satisfaction, Security and Individual Impact, and Security and Organizational Impact.

In terms of **system security and quality**, the following were used as standards for the implementation of the System: Payment Card Industry Data Security Standard (PCI DSS), [8] and ISO 27001 standard[5], and the banking IT system in question was fully implemented in accordance with the requirements of these standards.

In terms of **security and quality of information**, the success of meeting this criterion was measured by the results of tests of specialized companies that tested the possibilities of influencing the quality of information.

In terms of **security and use**, end users have tested different authentication capabilities at each iteration, as well as its impact on future system utilization capabilities.

In terms of **Customer Safety and Satisfaction**, the bank has provided security for the System to be implemented.

In terms of **security and individual impact**, the impact on the end user of the project implementation results as well as on the bank employees has been observed. The results of the implementation of security measures in this system are important from the aspect of security of sensitive end-user financial data. Also, in terms of impact on employees, this is a mandatory way of working at a bank.

Security and organizational influence are important for positioning the bank in the awareness of clients and creating trust in the bank.

Time as a group of criteria was measured through Time and quality of the System; Time and quality of information, Time and use; Time and customer satisfaction; Time and individual influence and time and organizational influence.

When it comes to the **time and quality of the System**, the time of the system implementation, the response time of the System and the time of implementation of the System changes were observed.

In terms of **Time and quality of information**, end users tested the speed of the System at the end of each iteration and showed satisfaction with it.

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

URL: http://jedep.spiruharet.ro
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For the **Time and Use** criteria, end-users and users in the iterative tests tracked the time of realization of the initial approach, change of data, realization of transactions and reporting as different functional units and evaluated each one positively.

Time and user satisfaction brought a clear link between time and user satisfaction, which created a positive result in terms of better optimization of each subsequent iteration.

Time and individual impact were viewed from the end-user perspective as well as time and organizational impact. Implementation as a quality criterion was completed on time and is a condition for the applicability of the project in post-production exploitation.

4. Conclusion

The paper analyzes banking IT Project viewed from the angle of success by the criteria defined by Pinto - for successful implementation of IT projects - and through the prism of qualitative criteria identified by the authors as extremely important for the implementation of projects in the banking industry (Ranković - Ilić model). The project was successfully implemented on the basis of qualitative analysis of results and defined performance criteria (special quality criteria).

The method of case study analysis, observation, observation with participation, as well as the method of descriptive, induction and deduction, led to empirical research and conclusions outlined in this scientific article.

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(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

URL: http://jedep.spiruharet.ro
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Regular Banking System versus Shadow Banking System. A Comparative Assessment of Evidence from Romania

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Abstract. *This study is determined by several factors that include: (1) increasing interest in the shadow banking system as a result of the consequences of the global financial crisis; (2) the links between the traditional banking system and the shadow banking system with regard to the impact on financial stability; (3) low interest rates on bank deposits in recent years that might drive the development of the shadow banking system and (4) the lack of extensive literature on similar studies regarding Romania. The period analyzed is 2008-2018, beginning with the year when the effects of the global financial crisis were felt in Romania and the macroeconomic conditions deteriorated. The results reveal that the shadow banking in Romania is small compared to the regular banking system that dominates the Romanian financial system. The European Union financial sector greatly impacts both the banking sector and the shadow banking system. The entities and the activities composing the shadow banking system are not complex and the links between the two financial sectors raise greater risks to shadow banking entities than to regular banks.*

Keywords: regular banking system, shadow banking system, Romanian financial system, global financial crisis

JEL Codes: *G21, G23*

How to cite: Baicu, C. (2019). Regular Banking System versus Shadow Banking System. A Comparative Assessment of Evidence from Romania. *Journal of Economic Development, Environment and People, 8*(4), 24-41. doi:http://dx.doi.org/10.26458/jedep.v8i4.650

1. Introduction

The triggering of the financial crisis in 2007 has determined an intensive debate on the shadow banking system. The debate covers a large range of subjects including: the definition of the shadow banking system; the shadow banking determinants; the shadow banking system's entities and activities; the advantages and risks associated with the shadow banking system; connections between the shadow banking system and the regular banking system; the designation of the shadow banking system's regulatory

framework. In addition, numerous studies are dedicated to assessment of shadow banking in different countries or group of countries.

It is widely considered that the term "shadow banking" was coined by Paul McCulley in 2007 (McCulley, 2007). Since then, defining the concept of shadow banking has encouraged discussions among economists around the world. A widely accepted definition of shadow banking is the broad definition established by the Financial Stability Board (FSB): "credit intermediation involving entities and activities outside the regular banking system" (FSB, 2011, p.1). Therefore, currently, in order to better understand and capture the shadow banking system, the specialty literature in the field monitors both the entities and the activities of the shadow banking system. See, for example, ESRB (2018) that performs both "entity – based monitoring" and "activity-based monitoring" related to the European Union (EU) shadow banking.

The rise of shadow banking was documented by Gorton and Metrick (2010). They point out the importance of regulatory and legal changes that gave advantages to money-market mutual funds, securitization and repurchase agreements – crucial institutions of the shadow banking system.

The benefits of the shadow banking system are recognized. For example, European Commission (2012) and Ghosh, Gonzalez del Mazo and Ötker-Robe (2012) mention that the shadow banking system is an alternative source both to bank deposits and bank funding. The shadow banking system provides risk diversification and responds to specific funding needs in a more efficient way.

The shadow banking assessment in the euro area is performed by Bakk-Simon et al. (2012) that investigate the size and structure of this financial sector and also the connections between the shadow banking in euro area and the regulated banking system. By referring to EU countries, the work of Barbu, Boitan and Cioaca (2016) investigates the relationship between shadow banking and some macroeconomic determinants. The recent study of Apostoaie and Bilan (2019) contributes to enhancing knowledge on shadow banking in Central and Eastern Europe (CEE). The authors conclude that economic growth strongly influences the expansion of the shadow banking sector there. Ghosh, Gonzalez del Mazo and Ötker-Robe (2012) documented shadow banking in some emerging markets and developing economies in East Asia and in Central and Eastern Europe, noting that the shadow banking sector, in these countries, is "relatively simple". Regarding the particular case of Bulgaria, Stavrova (2017) performs the comparative analysis of the "conventional" and the shadow banking sectors in the post-crisis period.

To my knowledge, there are few works focusing on the shadow banking in Romania. For example, Ghita - Mitrescu and Duhnea (2015) investigate the role of the shadow banking system in Romania, pointing its benefits and risks. From the financial stability perspective, Amza (2012) overviews shadow banking in Romania, focusing on non-bank financial institutions (NBFIs). The case study of Kubinschi (2015) refers to macroprudential tools for both NBFIs and investment funds in Romania. More recently, the market of NBFIs in Romania is assessed by Ionescu and Ţigănilă (2018). Instead, the Romanian banking

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

URL: http://jedep.spiruharet.ro
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system has received more attention. Zaman (2013), Zaman and Georgescu (2015) or Baicu and State (2012) are among these studies.

The parallel between the shadow banking system and the traditional banking system is drawn by Noeth and Sengupta (2011). By explaining the mechanics of both systems, the authors reveal the similarities and differences of these financial sectors. Both the traditional banking system and the shadow banking system perform credit intermediation. What differs is the process to achieve maturity transformation that is "much more complicated" in shadow banking. Unlike the traditional banking system, that performs credit intermediation under "a single roof", the shadow banking system implies a chain of specialized entities. Pozsar et al. (2010) also documents the relation between shadow banks and traditional banks. They underline that shadow banks "conduct maturity, credit, and liquidity transformation without explicit access to central bank liquidity or public sector credit guarantees".

Due to their possible impact on financial stability, after the triggering of the global financial crisis, the interconnections between the traditional banking system and the shadow banking system has become an important topic of research. Abad et al. (2017), Bakk-Simon et al. (2012), Jeffers and Baicu (2013), FSB (2011) are among the works approaching this subject. The risks related to the interconnection between regular banks and shadow banking entities are provided by BCBS (2017).

The necessity to improve the financial regulatory framework has been one of the most important lessons of the global financial crisis. From the regulatory framework perspective, it is worth noting the relevant role played by the FSB in addressing the challenges that the global financial crisis revealed. To this end, in the first stage, strengthening the regulatory framework of traditional banking has been realized by adopting Basel III. Regarding the shadow banking system, the regulation efforts focus, mainly, on: (i)regulation of shadow banking entities and activities; (ii) regulation of interaction between regular banks and shadow banking entities; and (iii) macroprudential regulation (FSB 2011).

Against this background, the present paper contributes to the literature on comparative assessment of the regular banking system and the shadow banking system, by shining a new light on the Romanian experience. In order to achieve this goal, the paper asks several questions. What are the size and, implicitly, the importance of the regular banking system and the shadow banking system in Romania? How the regular banking system and the shadow banking system in Romania are regulated and supervised? What are the benefits and risks of both financial sectors? What are the activities they perform and who are their clients? What are the connections between the regular banking system and the shadow banking system in Romania? The analyses cover the period 2008-2018.

Starting from these considerations, the remaining of this paper is organized as follows:

- section 2 analyses the regular banking system in terms of size, structure, developments;

- section 3 is dedicated to the shadow banking system assessment in terms of size, structure, developments; a comparative approaches towards the regular banking system are also performed;
- section 4 focuses on interaction between the two financial sectors;
- section 5 includes remarks and conclusions.

2. Regular banking system - size, structure, developments

The regular banking system in Romania has the crucial role within the financial system, as the credit institutions dominate the Romanian financial system. In 2008, the credit institutions held 82.76 percent of the total net financial assets (NBR, *Financial Stability Report* 2009). Subsequently, the share of the credit institutions, in the total financial system assets, decreased from approximately 78 percent at end-2014, to 76.3 percent in December 2016 and 75.5 percent in 2018 Q3 (NBR, *Financial Stability Report* issues 2015, May 2017 and December 2018). Nevertheless, it is worth noting the declining trend of the banking sector's share within the financial system and the rise of other financial sectors, such as the private pension funds, which were introduced in Romania in 2007, and the investment funds.

The Romanian banking system is regulated and supervised by the central bank of Romania called the National Bank of Romania (NBR). Since the beginning of the modernization process of the banking system in 1990, the banking regulation has been improved in several stages. To this respect, one can mention the regulatory framework adjustments required by the privatization of state-owned banks or the accession to the EU. After 2008, the NBR has strengthened the banking regulatory framework according to the European and international post-crisis trends.

During the reviewed period, the Romanian banking system consolidated. Following the fusions and mergers processes, the number of the credit institutions decreased from 43 in 2008 to 34 in 2018 (table 1).

The banking system is overwhelmingly owned by foreign capital, mainly from the EU countries, which hold the dominant market share. However, during 2008-2018, the share of banks with majority foreign capital in total assets contracted. Regarding the structure of foreign capital, it is worth mentioning the decrease, starting with 2010, of the importance of banks with Greek capital. This was the result of the consequences of the global financial crisis and the sovereign debt crisis on Greek banks. Banks with Austrian majority capital remained on the top positions.

At end-2008, the foreign capital invested in the Romanian banking system came mainly from: Greece (22.4 percent of total capital), Austria (18.4 percent) and The Netherlands (9.2 percent) (NBR, *Annual Report* 2008). In December 2017, the share of credit institutions with foreign capital was about 78 percent of the total bank assets (gross). The most significant share was held by banks with Austrian capital – with 25 percent of aggregate assets, followed by banks with French capital (13 percent), banks with Dutch capital (13 percent), banks with Italian capital – 10 percent and banks with Greek capital – 9 percent (NBR, *Annual Report* 2017).

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

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Table 1. Selected aggregate indicators for credit institutions in Romania

Date	Number of credit institutions		Assets of foreign-owned institutions *(% in total assets)*	Capital Adequacy Ratio (≥ 8%) *(%)*	Non-performing Loans Ratio *(%)*	Non-performing Loans Ratio (EBA definition) *(%)*
	Total *(No.)*	Foreign banks' branches *(No.)*				
Dec. 2018	34	7	75.00	20.71	-	4.96
Dec. 2017	35	7	77.00	19.97	-	6.41
Dec. 2016	37	8	91.30	19.68	-	9.62
Dec. 2015	36	7	90.40	19.16	-	13.51
Dec. 2014	40	9	89.90	17.59	-	20.71
Dec. 2013	40	9	90.00	15.46	21.87	-
Dec. 2012	40	8	89.80	14.94	18.24	-
Dec. 2011	41	8	83.00	14.87	14.33	-
Dec. 2010	42	9	85.10	15.02	11.85	-
Dec. 2009	42	10	85.30	14.67	7.89	-
Dec. 2008	43	10	88.20	13.76	-	-

Source: NBR, Interactive database, https://www.bnr.ro/Interactive-database-1107.aspx

The unsustainable credit growth in the pre-crisis period - stimulated by some relaxed regulatory requirements and fed by the rise of the external liabilities - caused several problems after the crisis triggered. These manifested in credit contraction and portfolio quality deterioration. Non-performing loans (NPL) ratio climbed from 7.89 percent in 2009 to 21.87 percent in 2013. Subsequently, following the measures to clean-up the balance sheets, the NPL ratio declined to 4.96 percent in 2018. Solvency indicators registered adequate levels during the entire period. The capital adequacy ratio reached the comfortable level of 20.71 percent in 2018, which suggests that banking sector proved good resilience (table 1).

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

URL: http://jedep.spiruharet.ro
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The balance sheet structure, of the credit institutions operating in Romania (Chart 1), highlights a number of aspects regarding the business model developed by the local banks. These include:

1) the loans to households were 28 percent of the total assets in 2018, respectively: loans in lei (the *leu* is the national currency of Romania) were 20 percent and loans in foreign currency were 8 percent. By comparison, the same indicator stood at 29 percent in 2008, of which loans in lei were 12 percent and loans in foreign currency were 17 percent. We note the increase of the share of loans in lei in 2018 compared to 2008;
2) the loans granted to non-financial corporations in 2018 represented 23 percent of the total assets (the component in lei was 14 percent and the component in foreign currency was 9 percent). In 2008, loans granted to non-financial corporations in lei registered 12 percent and loans in foreign currency granted to the same type of clientele, 16 percent. In the case of non-financial corporations, the same trend of decreasing the share of loans in foreign currency is noted in the analyzed period (from 16 percent in 2008 to 9 percent in 2018);
3) the claims on the government sector saw a significant increase, from 5 percent in 2008 to 22 percent in 2018;
4) conversely, the claims on the central bank (NBR) decreased in the respective period from 22 percent of the aggregate assets in 2008 to 8 percent in 2018;
5) throughout the period analyzed, the external assets maintained their low weight in the aggregate balance sheet of the credit institutions, representing 5 percent in 2008, respectively 7 percent in 2018;
6) the deposits attracted from households held the predominant weight in 2018, 41 percent, while the deposits attracted from the non-financial corporations owned the weight of 23 percent, which reinforces the traditional character of the business model promoted by the local banks. As for the structure, the deposits attracted in lei from both households and from the non-financial corporations exceeded, in terms of weight, the deposits attracted in foreign currency. Compared to 2008, the deposits attracted from households totaled only 24 percent of the total liabilities (15 percent were in lei and 9 percent in foreign currency). The deposits from the non-financial corporations accounted for 18 percent of the liabilities, of which the component in lei represented 12 percent and the component in foreign currency 6 percent;
7) an important characteristic of the credit institutions' liabilities during the analyzed period was the tendency to decrease the share of external liabilities following the post-crisis changes in the business model of parent banks. Against this background, parent banks decreased the funding granted to their subsidiaries in Romania. Therefore, the external liabilities had a significant decrease, from 31 percent in 2008 to 9 percent in 2018.

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

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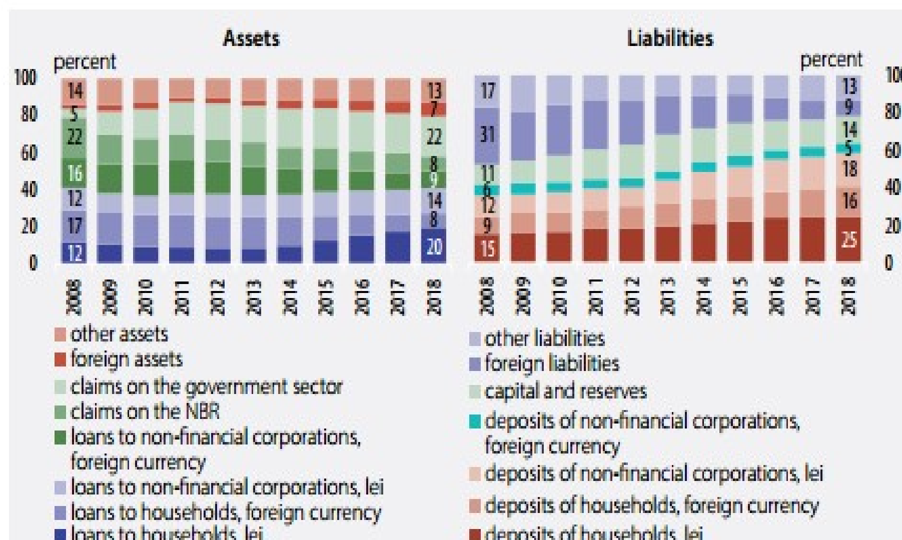

Chart 1. Balance sheet structure of credit institutions operating in Romania – 2008-2018

Source: NBR, *Annual Report* 2018, p. 106.

The changes in the banking business model promoted after 2008 were determined by the vulnerabilities of the pre-crisis business model. These vulnerabilities included a great reliance on wholesale external liabilities from parent banks and high share of loans denominated in foreign currency, which were risky for unhedge borrowers. Consequently, in order to address these vulnerabilities, banks increased the share of deposits from households and non-financial corporations and decreased the share of external liabilities. The share of loans denominated in national currency also increased. All these changes were accompanied by strengthening of the regulatory framework.

3. Shadow banking in Romania – size, structure, developments

Shadow banking in Romania "does not involve long, complex or opaque chains of intermediation" (Amza, 2012). From this perspective, shadow banking in Romania is similar to shadow banking in some emerging and developing countries in East Asia and in Central and Eastern Europe but opposed to how shadow banking often occur in advanced countries, as revealed in Ghosh, Gonzalez del Mazo, and Ötker-Robe (2012).

As the NBR highlights, according to the broader concept of the shadow banking system established by the FSB, the main entities that made up the shadow banking system in Romania are NBFIs, investment funds and money market funds. From financial stability perspective, money market funds are not "particularly relevant" (NBR, *Financial Stability Report* 2015).

The shadow banking activities are repo and securities lending (Amza, 2012). It is worth noting that securitization – an important activity of shadow banking that had a significant role in the global financial crisis – is not used in Romania. The banks developed the traditional "originate-to-hold" model and not the "originate-to-distribute" model. Nevertheless, the regulatory framework on securitization was established in 2006 through the Law no. 31 of March 1, 2006.

The size of the shadow banking system in Romania, in term of assets, is small compared to the regular banking system. NBFIs and investment funds accounted for 13 percent of total financial assets of the Romanian financial system in 2008 (Georgescu, 2017), for about 14 percent at end-2014 (NBR, *Financial Stability Report* 2015) and for about 13 percent at 2018 Q3 (NBR, *Financial Stability Report* December 2018).

This characteristic of the Romanian financial system could also be noticed in other CEE countries. Apostoaie and Bilan (2019) highlight that the traditional banking system dominates the financial system in all CEE countries excluded Hungary, where shadow banking institutions held 54.4 percent of the financial system in 2017. In all other CEE countries, shadow banking institutions held between approximately 6 percent and approximately 21 percent of the national financial system's total assets.

Even if during this period, the shadow banking system in Romania remained small and little changed in terms of weight in total financial assets, after 2008, some changes occurred within the structure of the shadow banking system. More precisely, NBFIs diminished their share, while investment funds grew in the Romanian financial sector.

3.1. Investment funds

In 2008, the investment funds in Romania held only 1.8 percent of the total financial assets (Georgescu, 2017). Subsequently, investment funds expanded, accounting for 7.9 percent of total financial assets at end-2014, 7.7 percent at end-2016 and 6.8 percent, as for 2018 Q3 (NBR data, *Financial Stability Report*, issues 2015, May 2017 and December 2018).

Investment funds are supervised by the Financial Supervisory Authority, the national authority established to regulate and supervise the non-banking market (the capital market, the insurance sector and the private pension system).

But, unlike bank deposits, which benefit from the Bank Deposit Guarantee Fund, investments in investment funds are not guaranteed. According to the *Law no. 311/2015 on Deposit Guarantee Schemes and the Bank Deposit Guarantee Fund* - article 61, paragraph (3) -, the maximum level of coverage per guaranteed depositor is the leu equivalent of 100,000 euros. However, currently, against the increase of inflation and the very low profitability of bank deposits, investment funds could be an alternative for investments. Under these circumstances and against the raise of financial education compared to 1990 -

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

URL: http://jedep.spiruharet.ro
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when the Romanian financial system has started the modernization process - at least the lesser conservative part of the population headed towards investment funds.

Depending on their risk profile, investors could chose among equity funds, bonds funds, mixed funds, and other funds. Over the considered period, investment funds developed rapidly.

3.2. Non-bank financial institutions sector

In 2008, NBFIs were the most important component of the shadow banking system in Romania. NBFIs held 11.18 percent of the total net assets of the Romanian financial system (versus, as above mentioned, the 82.76 share of credit institutions and the 1.8 percent share of investment funds). After 2008, the share of NBFIs in the financial system diminished. Consequently, the share of NBFIs in the total financial system assets accounted for 5.9 percent at the end of both 2014 and 2016 and 6.1 percent in 2018 Q3 (NBR data, *Financial Stability Report* issues 2009, 2015, May 2017 and December 2018). This development was similar to the banking system's evolution, that registered contraction of its weight in the financial system, but different to the investment funds, which developed. It is to be noted that, unlike 2008, when NBFIs were the first component of the shadow banking system, in 2018 Q3, NBFIs ranked second, with only 6.1 percent in total financial assets. Investment funds, on the other hand, held 6.8 percent, which ranked first, even though the difference between them is small.

The specialty literature reveals that regulatory arbitrage is an important reason for shadow banking development. The low or nonexistent prudential requirements for the shadow banking sector determined the traditional banking sector to transfer, to this financial segment, part of its credit activity in order to escape the strict requirements that affected its profitability.

Over time, the Romanian banking system has followed the trend of using the shadow banking system, more precisely NBFIs, to escape some regulatory requirements. Consequently, the lending activity of NBFIs was regulated in 2006. The OG no. 28/2006 (Guvernul României, 2006) establishes the conditions that the NBFIs have to fulfill in order to carry out lending activities. These conditions include the minimum level of capital and the regulations that the NBFIs managers have to fulfill. An important section of this document specifies the criteria of NBFIs registration in the Special registry. The law establishes that the NBFIs entered in the Special register are supervised by the NBR.

The Law no. 93 of April 8, 2009 on non-bank financial institutions establishes the activities that NBFIs have the right to carry out. The granting of consumer loans, mortgages, discounting, factoring and financial leasing, as well as the issuance of guarantees are among the activities allowed to NBFIs, according to the article 14 of the aforementioned law. The same regulation clearly stipulates that NBFIs are not entitled to attract deposits from the public (article 15). This highly differentiates them from the banking sector that traditionally finances a large part of its activity by attracting public deposits.

The strengthening of the regulatory framework of the NBFIs was achieved in 2017 as a result of the increasing importance of this financial segment in the lending activity and for ensuring financial stability. To this end, the NBR Regulation no. 1/2017 was issued.

In order to address vulnerabilities related to excessive household indebtedness through both banks and non-bank financial institutions, the NBR improved the macroprudential tools in the field, by revising the conditions for the granting of loans. In 2018, the NBR adopted the Regulation no. 6/2018 amending and supplementing the Regulation of the NBR no. 17/2012 regarding some loan conditions. The new regulation stipulates a maximum level of debt-service-to-income (DSTI) ratio; specifically, the value of the monthly payment obligations arising from loans can not exceed 40 percent from the debtor's monthly net income. This regulation also applies to non-bank financial institutions, the Romanian legal entities registered in the General register.

IMF (2018) stresses that DSTI limit, as a macroprudential tool, has been implemented in several countries, including Poland, The United Kingdom, Cyprus, Portugal, Slovakia, and Slovenia.

Similar to banking system, the NBFIs sector is linked to the EU financial system through foreign capital and external liabilities. At end-2008, the weight of domestic capital in total share capital of NBFIs accounted for 41.74 percent (NBR, *Annual Report* 2008). The table below reveals the shares of foreign capital by country of origin held by the NBFIs registered with the Special register at end-2008. In this context of great impact of the EU financial system on the NBFIs in Romania it is to be noted that the share of external debt of NBFIs in total of their debt exceeded 80 percent (NBR, *Financial Stability Report* 2009). Also, it is worth mentioning that the concentration of foreign capital was high. The Netherlands, France and Italy provided approximately 70.0 percent of the total foreign capital.

The share of domestic capital in total capital of NBFIs listed with the Special register accounted for 64.6 percent at end-2018. Five European countries held 68.5 percent of total foreign capital: United Kingdom - 19.6 percent, Germany - 15.8 percent, Cyprus -11.3 percent, Sweden - 11 percent, France - 10.8 percent and The Netherlands - 9.2 percent (NBR, *Annual Report* 2018).

Compared to 2008, the distribution of share capital by country of origin manifested some changes. The share of United Kingdom in total foreign capital of NBFIs registered with the Special register grew considerably.

The main clients of NBFIs are non-financial corporations. Loans granted to non-financial corporations accounted for 75 percent of total loans at end-2008 and for 77 percent at end-2018 Q3. The main important activity that they perform is financial leasing, which accounted for 80 percent in total loans at end-2008. Companies preferred to borrow from NBFIs in EUR-denominated loans (78.3 percent of total loans granted as at September 2018), while households predominately borrowed in Romanian national

currency (*lei*) denominated loans (89 percent of total loans) (NBR, *Financial Stability Report* 2009 and December 2018).

Table 2. Non-bank financial institutions' share capital by country of origin (end-2008)

Country of origin	Participations of foreign capital (%)	
	in total foreign capital	in total capital
The Netherlands	47.31	27.56
France	12.87	7.50
Italy	8.90	5.18
Sweeden	7.57	4.41
Cyprus	6.43	3.74
Austria	5.01	2.92
Belgium	4.11	2.39
Greece	3.74	2.18
USA	3.14	1.83
Germany	0.37	0.22
Hungary	0.36	0.21
The United Kingdom	0.10	0.06
Switzerland	0.06	0.04
Ireland	0.03	0.02

Source: NBR, *Annual Report* 2008, p. 76.

As noted by Deloitte Romania (2014), financial leasing offers several advantages to small and medium enterprises and newly established companies that are not eligible to get loans from commercial banks (lack of credit history, lack of collateral). Moreover, companies that access financial leasing get the benefit of fiscal deductions. This explain why corporate clients are the main clients of the financial leasing market and not retail clients.

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

URL: http://jedep.spiruharet.ro
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In the context of these advantages and benefiting from this specialization, over 2008-2018, NBFIs played an important role on the financial leasing market in Romania.

In addition to targeting corporation clients, NBFIs in Romania also target retail clients, especially individuals that are not eligible for bank credit. The requirements for credit providing are minimum and the procedures are very rapid. Therefore, the credits value is relatively low and the costs are high. For example, according to the official site of Provident, one of the most known NBFI in Romania (https://www.provident.ro/credite-rapide/credit-la-domiciliu, accessed September 5, 2019), to obtain a standard loan from Provident, a person has to meet the following conditions: to have Romanian citizenship and minimum 18 years; the address of residence to be in Romania; to have a very low minimum monthly income - 300 lei / month (namely an amount lower than EUR 100) - ; and a valid phone number. The loan rate is weekly or monthly. In order to increase the attractiveness of its loans, the company offers the clients the possibility of managing the loans at home, which allows them to receive the money at home in maximum 48 hours and to pay the installments at their own home, without having a bank account. The fast non-bank loan provided by Provident has small values, between 500 and 15,000 lei, does not require guarantees, and the weekly or monthly rates are fixed.

Similar to bank institutions, NBFIs in Romania expanded their activity in the pre-crisis period, but starting with 2008 Q4 these institutions were negatively impacted by the global financial crisis, which caused the contracting of the activity and the increase of non-performing loans. The share of NBFI loans in total non-government loans dropped from 18 percent at end-2008 to 11 percent in June 2011 (NBR, *Financial Stability Report* 2011). Nevertheless, since 2014, the NBFI lending has resumed the upward trend; the NBFI loan stock increased by 27 percent - December 2014 through September 2017 (NBR, *Financial Stability Report* December 2017).

Because of the improvements to the NBFIs business model and regulatory framework, the loan portfolio quality improved. Consequently, similar to banking sector, the NBFIs' non-performing loan ratio registered a downward trend: 23.1 percent - 2014 H1; 8.6 percent - end-2016; 6.5 percent - Sept. 2017; 3.9 percent - Sept. 2018 (NBR data, *Financial Stability Report* issues 2014, June 2018, December 2018).

The comparative assessment of regular banks and NBFIs in Romania allows pointing out the similarities and differences between them. First of all, both financial sectors realize credit intermediation, but, while funds source of regular banks come, mainly, through deposits attracted from population and non-financial corporations, loans from financial institutions played the most important role for NBFIs. NBFIs are not allowed to take deposits from the public. Moreover, the bank deposits are guaranteed. Regarding the weight of each sector in total financial assets, the banking system dominated the financial system. The weight of NBFIs was much smaller. Nevertheless, after 2008, both sectors registered assets reduction in total financial assets. The NBR strictly regulates and supervises the banking system. Starting with 2006, the NBFIs registered in the Special register are also supervised by the NBR. Since then, the regulatory

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

URL: http://jedep.spiruharet.ro
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framework of NBFIs has strengthened. The EU financial system has a great impact on both the banking system and NBFIs. However, the conditions for access to the personal loans granted by NBFIs are less strict than those to the loans granted by banks. Generally, the NBFIs personal credit involve very lax requirements (quick access, without many conditions, without guarantees) and small values, but also high costs. The main clients of NBFIs were non-financial corporations and financial leasing was their most important activity, underling their increased specialization. By contrary, banks paid more attention to households than to non-financial corporations.

4. Interconnectedness between the regular banking system in Romania and the shadow banking system

Since the triggering of the global financial crisis, the interconnectedness between the regular banking system and the shadow banking system represents a matter of concern from the financial stability perspective. In the context of these links, the risks arising in the shadow banking system could propagate to the regular banking system. Therefore, interaction between regular banks and shadow banking entities are documented and monitored.

The FSB (2011) points out the ways regular banks could interact with shadow banking entities. One way is when regular banks are part of the shadow banking system chain. Regular banks could provide support to the shadow baking system (for example, funds) or invest in products issued by the shadow baking system. On the other hand, regular banks could be funded by the shadow baking system entities. Regular banks may also indirectly be exposed to shadow banking entities “through their common exposures to assets” (Abad et al., 2017). Reputational risk should be taken into consideration too.

The links between the regular banking system and the shadow banking system in Romania are fed by several channels, more visible when regular banks and shadow entities are part of a financial or banking group. These connections could raise contagion and reputational risks. Moreover, due to strong links between the financial system in Romania and the EU financial system, the interconnectedness between the regular banking system and the shadow banking system in Romania should be monitored by also taking into account this cross-border dimension.

Loans extended by credit institutions' in Romania to NBFIs registered modest values over the reviewed period. At end-2008, credit institutions exposure to NBFIs through financing loans accounted for only 2.5 percent of their total non-government loans (NBR, *Financial Stability Report* 2009). At end-2010, NBFIs loans from credit institutions in Romania registered about 1.1 percent of total non-government loans granted by credit institutions (NBR, *Financial Stability Report* 2011). According to the NBR *Financial Stability Report* 2014, the exposure of banks towards NBFIs sector totalized approximately 1.0 percent of total assets. These figures suggest that banks' exposures to NBFIs do not raise significant risk to the banking sector.

On the contrary, NBFIs exposures to the banking sector are higher. NBFIs exposure to the banking sector (calculated as the share of exposures to credit institutions in the assets) accounted for 11.5 percent in 2012 and 10.2 percent in 2014 (NBR, *Financial Stability Report* 2015). These reveal that NBFIs are more exposed to the banking sector than the banking sector to NBFIs in case adverse developments occur. From this perspective, interaction between banks and NBFIs is more intense.

The funds raised by NBFIs from the banking sector are also an indicator. At end-2010, the share of loans taken by NBFIs from credit institutions in Romania accounted for about 10 percent of their total loans, while loans from international markets were prevalent (NBR, *Financial Stability Report* 2011). The NBR *Financial Stability Report* 2014 reveals that about 10 percent of the liabilities of NBFIs came from credit institutions (capital and loans). The level of these indicators shows that NBFIs sector is financed by credit institutions in Romania only to a small extent.

As underlined by Kubinschi (2015), investment funds in Romania could generate systemic risk both through direct contagion and indirect contagion (fire sales and reputational risk).

The interconnectedness between investment funds and the regular banking system – indicator calculated as exposure of investment funds to the local banks in total assets (exposure to local banks/total assets) - reveals that investment funds industry was significantly exposed towards the local banks in September 2018. The NBR data regarding the interconnectedness indicator for this period presented as follows:

- total investment funds – 29.6%
- equity funds – 22.6%
- bond funds – 37.0%
- mixed funds – 23.2%
- other funds – 40.9% (NBR, *Financial Stability Report* December 2018).

These data highlight that the bond funds and the other funds category are the most exposed funds to the local banks.

The interconnection between the banking sector and investment funds is also determined by the fact that banking groups owns investment management companies. However, as the NBR reveals in *Financial Stability Report* June 2019, the share of banks' exposure to these entities indicates a low contagion risk.

The data concerning both the interconnections between banking system and non-banking financial institutions sector and the interconnections between banking system and the investment funds sector suggest that links between the regular banking system and the shadow banking system in Romania raise greater risks to the shadow banking system compared to the regular banking system.

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

URL: http://jedep.spiruharet.ro
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5. Conclusions:

- the size of the shadow banking in Romania is relatively low, by tradition, the Romanian financial system being dominated by credit institutions;
- the banking sector is regulated and supervised by the central bank – the National Bank of Romania - that also regulates and supervises the NBFIs listed with the Special register; investment funds are regulated and supervised by the Financial Supervisory Authority, in charge with non-banking capital regulation and supervision;
- both the entities composing shadow banking in Romania and activities performed by this financial sector are simple, not sophisticated;
- the share of both credit institutions and NBFIs in total financial assets decreased, while investment funds developed;
- both the regular banking system and the shadow banking system are strongly linked with the EU financial system through their external liabilities or foreign capital held by large European groups;
- the banking lending and the NBFIs lending experienced the same trend both in the pre-crisis period and after; the rapid pre-crisis period growth was followed by contraction and quality portfolio deterioration; nevertheless, lending activity has resumed and non-performing loans improved;
- similar to other countries, the shadow banking in Romania is considered an alternative to the regular banking system, targeting clients that are not eligible for banking lending and offering alternative fund sources; besides, the regulatory arbitrage was also a driving factor;
- the exposure of the banking sector to the shadow banking system is low. Nevertheless, there are some potential vulnerabilities regarding the exposure of NBFIs and investment funds toward the banking system that should be monitored. Reputational risk might also be a matter of concern.

Due to the complexity of the approached topic and in the limit of available date, this paper does not cover all the aspects imposed by such a research. Therefore, among future research directions one can mention: comparison of banking sector profitability to NBFIs sector profitability; analyzing the dynamics of NPL ratio in both sectors; a better insight on investment funds, the most important component of the shadow banking system in 2018; a deeper analyze of the NBFIs regulatory framework aimed to identify improvement measures.

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(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

URL: http://jedep.spiruharet.ro
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How to lead with digital media effectively? A literature-based analysis of media in an E-leadership context

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Abstract. *In many companies and industries, the use of digital media is an essential prerequisite for leaders to communicate and collaborate with employees in spatially separated situations. From this point of view, leaders must use electronic media such as e-mail, telephone conferences and virtual platforms effectively for organizational purposes. Under this premise, this paper summarizes the arguments and counterarguments within the scientific discussion on the use of digital media in the context of E-leadership. The main purpose of the research is to uncover the different relevance of electronic media in the light of virtual team leadership. Therefore, this research represents a literature analysis of E-leadership media in virtual context. The review took place between April 2019 and June 2019. The paper provides first indications of the different relevance of electronic media for the leadership of virtual teams and identifies difficulties in the implementation and prioritization of electronic media. This analysis confirms and proves that, in addition to conceptual challenges in the area of E-leadership, the effective use of electronic media such as social media instruments can also be optimized by a better awareness of the use of media among leaders and employees.*

Keywords: E-Leadership, digital media, digitalization, literature review, prioritization, social media, virtual teams

JEL Codes: M54, M19

How to cite: Kraft, M. (2019). How to lead with digital media effectively? A literature-based analysis of media in an E-leadership context. *Journal of Economic Development, Environment and People, 8*(4), 42-53. doi:http://dx.doi.org/10.26458/jedep.v8i4.639

1. Introduction

The increasing digitalization in companies over the last decades has changed almost every aspect of daily business. The effects of this development have created new opportunities to create flexible, agile and responsive structures that ensure the sustainable existence of the company in a competitive environment. However, the increasing implementation of digital elements in companies means that employees and leaders have to deal with digital media to be able to adapt to the circumstances and shape this digital change (Braun et. al., 2019). To embed technological elements in structures, processes and employees, the topic of E-Leadership finds its relevance in a large number of scientific papers (Schoemaker et. al., 2018). In this context, E-Leadership uses new means of communication to overcome the obstacles of time and distance. An E-Leader leads by information and communication technologies without personal interaction (Cascio & Shurygailo, 2003). In addition to the challenge that today's leaders and employees have to face with digital

elements, a large number of current publications also emphasize the importance of virtual team elements for leadership behavior (McCann & Sweet, 2014; Aviolo et. al., 2001; Hoch & Kozlowski (2014).; Fan et. al. 2014; etc.). This argumentation is becoming increasingly important in leadership theory, since performance aspects relating to spatial separation are difficult to assess. In this context, assessments can become analyzed and understand through their use of digital system (Bossink, 2007). According to Manole (2014), in times of globalization, E-Leadership's technological opportunities can enable lower infrastructure costs through geographically dispersed teams while facilitating access to expertise for companies. In addition to the direct economic damage caused by the inefficient use of electronic media, this can also weaken the confidence of customers and employees (Vought, 2017).

Against this background, dealing with digital media is a challenging task, especially in virtual team situations. Leaders are needed who are able to effectively use technical instruments in order to anchor acceptance and performance in virtual teams (Zaccaro & Bader, 2003). Because these teams consist of people of different nationalities, values, languages and age groups, this context should be given increasing importance. Although preliminary empirical results are promising, there are still many ways to fully understand the emergence and challenges of E-Leadership in leadership research (Avolio & Kahai, 2003 ; Walumbwa et. al. 2004 ; DasGupta, 2011).

Given this evidence, the central question that motivates this paper is how important is E-leadership in leading virtual teams and which digital media are necessary to succeed in a digitalized environment? What is the attitude towards digital media by leaders? Which instruments would be used in terms of virtual leadership segments? To address these questions a literature-based review on instruments of the concept of E-Leadership in context of virtual team situations was conducted. This analysis does not yet exist. Only a relatively small part of the current articles like DasGupta (2011), Schmidt (2014) and Jiang et. al. (2016) focus on the use of digital media in a leadership context. However, these articles focused primarily on the impact of media usage on executives and employees. Additional work is highly warranted in terms of understanding the link between e-leadership and the effective use of digital media.

The results of the research are presented in the following logical sequence: After the relevance segment in the introduction, the basic theory and concept of e-Leadership in virtual teams is presented in a literature review. However, the main topic will be the extent to which E-leadership tools are already being used in virtual teams and what their priority is from a leadership perspective. Furthermore, in the context of digital media, the relevance of social media is analysed and challenges for leading virtual teams are discussed. In the final part, an overview of the limitations of this analysis will be presented. Further, as the digital age has not yet peaked, speculation regarding the future development of this topic will be briefly outlined.

2. Methodology

To answer the research question, a systematic literature analysis was conducted between April and June 2019 of scientific peer-review papers. In this context the EBSCO and Google Scholar databases were used to analyse this articles. The key words for finding articles and empirical works related to the research agenda are: "E-Leadership"; "Literature review of e-Leadership"; "digital-Leadership"; "virtual leadership" and In terms of digital media aspects: “digital media”; “electronic media” and “virtual media”. This analysis of peer-reviewed papers has meanwhile become of one commonly used method for assessing and exploring research gaps in leadership theory (Greenhalgh et. al. (2004).; DasGupta (2011); Sfantou et. al. (2017)).

Therefore, this systematic literature review has been adapted using the following procedure described by DasGupta (2011) to examine the primary research questions on the relationship between the use of digital media and e-leadership. In this context, peer reviewed papers that explicitly mentioned the keywords in the abstracts or headlines were examined in the first step. The second step was to discuss the different results on the basis of the relevant articles.

3. E-Leadership in organizations

To fully explain the changes and development in leadership role and organizational structure, definitions of leadership and e-leadership will be mentioned and explained. The term leadership has been defined in numerous sources. However, the definitions are not notably different. After Day et. al. (2014), leadership means inspiring and influencing people, and the authors also emphasize the difference between management and leadership. A manager role is defined as involving organizing and planning. Nevertheless, to be a good leader, it is necessary for leaders to acquire the skills that would prepare them for possible changes and reorganization. These reorganization skills are said to be especially important in the digitalized companies. On the other hand, DuBrin (2015) defines leadership as a kind of ability to inspire and provide confidence and support among people who are needed to achieve organizational goals and purpose. More importantly, he explains that the term leadership could be an element of every organizational level, not reserved exclusively for the higher positions.

The role of leadership has been going through a series of changes in the past few decades, much like the rest of the business environment. These changes constitute the result of globalization and increased interconnectedness, and are an element of a VUCA (volatility, uncertainty, complexity and ambiguity) world. The VUCA environment has caused leadership forms to transform, whereby new skills and styles of team leadership have been realized. In a business context, this means adaptation to changes, as well as providing motivation for creativity and new ideas. This new set of skills should enable leaders to ensure the position of the organization in the market (Mironescu, 2013).

In order to adapt to changes and volatility, many organizations need to be as flexible and innovative as possible, which means skills such as agility and adaptability are of the utmost importance (Smith & Cockburn, 2014). Moreover, it is not only necessary to be ready for change and structural innovation. Leaders' agility and adaptability should underpin their mindset, and they should be able to transfer that mindset to the rest of the organization's members. This changing mindset, however, is based on the technological development that enables workers to overcome time and space constraints and, therefore, also provides new means of communication and interaction in organizations. In the recently published work of Van Wart et al. (2019) it was also stated that digital competences are most important, especially in dealing with electronic media, so that teams can be able to work in a virtual context. In this context Paley (2017) explains the role of a modern leader not purely as a controller of a group, but also as a guide for implementing a team spirit and mutual vision, as well as a guide for creating a digital and connected environment. A leader plays a support role for both an individual and the team and works on creating cohesion between relationships among all members.

As a result of the VUCA environment and digital technology, a new model of leadership has appeared: e-leadership. Avolio et al. (2014, p. 106) re-examine the role of leadership and probably have the most frequently mentioned definition of e-leadership. They define the term as "a social influence process embedded in both proximal and distal contexts mediated AITs [advanced information technologies] that

produce a change in attitudes, feelings, thinking, behavior, and performance." On the other hand, Roman et al. (2018, p. 10) agree with that definition, but also suggest their own. This new definition could be explained as an expansion of the Avolio et al definition "adding that the elements in the definition" are based on ability to communicate clearly and appropriately, provide adequate social interaction, inspire and manage change, build and hold teams accountable, demonstrate technological know-how related to ICTs, and develop a sense of trust in virtual environments." The new definition is closer to the present paper's research question, as it includes the aspects of social interaction and communication along with the interest in virtual teams. When analyzing the term of E-Leadership, it could be said that it does not differentiate significantly from the term of traditional leadership, except that it needs to be conducted digitally, cooperating with virtual teams, and overcoming the barriers of time and distance (DasGupta, 2011).

4. Virtual teams in organizations

According to van Wart et. al. (2016), the increase in digital elements has led to a significant change in leadership and organization, facilitating the development of virtual teams. These teams were at first meant to be a cost-saving measure because of how they eliminate the need for business infrastructure and employees around the world, instead making employees available anywhere at any time. However, the studies in the literature show that virtual teams have developed into something much bigger than simply a cost saving instrument. In order to the rise of Internet tools, they have developed from being merely a temporary solution for overcoming the obstacles of time and distance to a standard style of cooperation and communication (Alsharo et. al. 2017).

Manole (2014) also adds that, through virtual teams, organizations and businesses get a chance to acquire the best potential on the market regardless of their current geographical location. Moreover, the team members reach a level of flexibility and knowledge sharing that would not be possible in a traditional, face-to-face organization. She further explains the pitfalls of virtual communication—that is, how it can contribute to multicultural misunderstandings, among other problems such as difficulties requiring special training for certain team members (Hambley et. al., 2007).

Klus & Müller (2018) describe virtual teams as groups with different backgrounds, diverse in age, knowledge and technology qualifications and, most importantly, without a regular face-to-face style of communication. Therefore, this environment is then as difficult to navigate, and requires new forms of communication and coordination. They also mention that different tools are used within virtual teams, many of which require specialized skills. These teams produce new challenges for leaders, meaning they must concentrate both on the needs of the team, generally, and of the individual who people the team.

In his review of the literature on E-Leadership, DasGupta (2011) explains how handling virtual teams is not merely a challenge of time and distance. According to DasGupta, virtual teams sometimes include members from other organizations, not necessarily only from their own departments. This combination of people from different backgrounds contributes to the complexity of leading such teams. In addition, they usually include multigenerational groups with different digital backgrounds and thus different adaptation requirements (Klus & Müller, 2018). He further states the typical leadership role has significantly changed due to the rise of virtual teams. These days the primary responsibilities for leaders in digital environments is building trust inside a virtual team, using the ICT (Information and Communication Technology), managing the points of conflict within the team and avoiding or finding a solution for potential conflicts.

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

URL: http://jedep.spiruharet.ro
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Vought (2017) mentions six main characteristics of virtual teams: geographical separation of team members, digitalized means of communication without personal (face-to-face) interaction, individual work with a mutual goal or a purpose, team alterations, common responsibility of all team members for the result and cross-organizational relationship building.

Finally, team collaboration inside a virtual environment can be a challenge. Coordination and motivation of team members becomes the central task for the team leader. The leaders need to establish a system in which a team member would be able to stand out and gain recognition or some kind of reward for his or her performance and accomplishments. Another challenge is how to assign responsibility within a team and for a team as a whole in a virtual environment (Roman et al, 2018).

5. E-Instruments for leading virtual teams

In business organizations, digital technology can be used in two ways – internally and externally (Thomson et. al., 2018). Through means of mass communication (such as social networks and similar media platforms), the information of external participants is performed. The main characteristic of digital media is that it provides transparency but can also be used as a platform for generating new ideas and suggestions through stakeholder feedback. That said, for leadership roles it is more important that tools like social media can be used also for internal communication, for example between team members and other organization representatives. There are numerous ways of communicating within an organization (from the classical examples like email, phone, videoconference to more advanced ones such as document and knowledge exchange programs). Moreover, various software platforms, websites and interfaces are now used as a part of an internal feedback system aimed at achieving better communication and performance (Roman, et al., 2018). Although face-to-face communication is still the most popular way of communicating in a business environment, studies have shown that more than 75% of communication at work (other than face-to face) is now being conducted through email or telephone, depending on the type of assignment. Moreover, the use of proper communication tools is connected to managerial effectiveness (Braun et. al., 2019).

Liu et al. (2018) provide an explanation of a few specific ICT tools being used on a regular basis in E-Leadership. They also stress the importance of social network awareness for effective leadership as an uninventable tool. Additionally, videoconferencing and document exchange platforms have been identified as tools with the largest amount of use in the past few years. Hertel et. al. (2017) claim that the use of communication tools depends on their richness and on the type of task at hand. This dependency is explained through "media richness theory," which states that simpler media is more appropriate for easier tasks, whereas more complex tasks require more advanced tools of communication. Furthermore, the intranet is also mentioned as a popular digital tool that allows for communication and leadership in digital environments. It is defined as an internal online network of an organization, which enables remote workers, or people working from home and places other than the organization's location to actively participate. The intranet has become an obligatory part of every large organization (Denton, 2006).

6. Priority matrix for the use of digital media

In a recent study from 2016, 126 managers of small and medium-sized enterprises were interviewed as part of a trend analysis with regard to digitalization projects (Mittelstand 4.0 Agentur Kommunikation, 2016). Surprisingly, there were deviations between the use of digital (communication) media and the assessment

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

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of their significance. In this context, a priority matrix for digital media was developed in which the results of the study are presented. When comparing the use and importance of digital media in everyday working life, a number of striking differences were found.

From this it can be seen that the media used have different relevance from the point of view of managers. The most important media for managers in small and medium-sized enterprises, according to their own statements, are e-mails (94%) and the intranet (71%). This is followed by chats and messenger services (53%) and in-house wiki (48%). Social media only ranks fifth on the importance scale (42%), followed by video conferencing (30%) and blogs/micro-blogs (24%). Consider the evaluation of frequency of media usage, it can be stated that the importance and frequency of use are congruent only for e-mail. Although in-house wiki and video conferencing seem to be extremely important to almost half of the respondents, they are rarely used in everyday working life. A similar picture emerges for blogs and micro-blogs: About a quarter of the respondents consider them important, but only 18 percent actually use them. This result suggests that leaders need support when using modern social (communication) media and that structured access should be established.

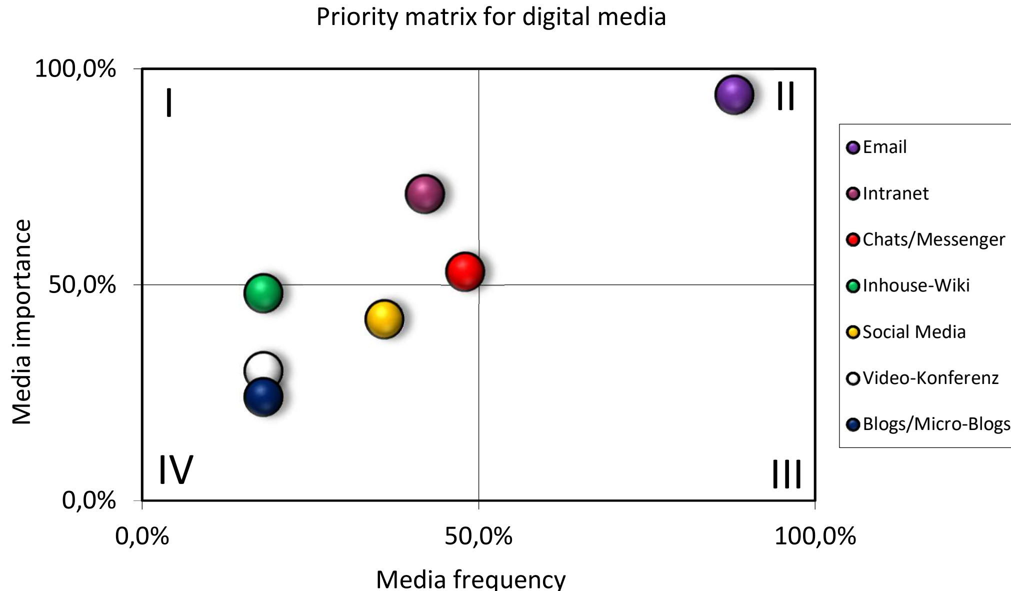

Fig. 1: Connection between media frequency and importance, own illustration

7. Social Networking

As already found out in the 2016 study, social media play an increasingly important role in the leadership context (Mittelstand 4.0 Agentur Kommunikation, 2016). According to Poell et. al. (2016), social media are frequently used by individuals and groups in both their private and business environments. The development of social networks arose simultaneously with the development of mobile devices. This combination led to increased mobile connectivity, which means that each individual is able to access their social networks and

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

URL: http://jedep.spiruharet.ro
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stay connected with the online community at any time and from anywhere. Given the level of interconnectedness and the speed of information exchange these advancements enable, social networks have been identified as one of the main instruments of E-leadership. They provide a business with higher productivity and employees with more flexibility (Kasemap, 2014).

Social networking can be used as a platform for the creation of virtual teams and provide them with a work environment. To this end, popular social networks such as Facebook or LinkedIn can be used, or the organization's internal network. The use of different social platforms provides the members of an organization a chance for formal and informal communication. In this way, it enables both easier transfer of information and streamlined relationship building. It also often serves as a platform for team-building, through the different available application that enable members from diverse geographical areas to participate and provide input. They have proven to be especially useful in global businesses' organizational arrangements. For example, employees working from distance or who spend a lot of time out of the organization often find it difficult to stay a part of the organizational culture. This is why E-leaders use social networks to share the values of the organization and keep them informed about on-going changes and development. For this reason, it should be ensured that the external members remain part of organizational culture. Certain findings in the literature state that businesses that have implemented social networks in their organizations have also encountered a switch in organizational culture – from information gathering to information participation (Weeks et. al. 2017).

Leadership uses social networks as a tool for acquiring and utilizing social capital. Effective leaders enable complete interconnectedness, information and solution sharing, and, most importantly, support the open communication of team members. Moreover, leaders use social networks to combine different skills, knowledge and individuals' experiences within a team to generate new and innovative solutions and ideas by giving them a space for instant discussion and feedback. Additionally, social networks help flatten the hierarchies within a team and thus constitute a reflection of a participative leadership model (Avolio et. al., 2014). To sum up, social networks serve as a platform for collaboration, contribution and community creation.

However, using social networks as a tool of leadership does not always yield positive results. While a constant availability of both leaders and team members may be beneficial in terms of quick feedback or guidance, it is usually connected with negative impact on team members. That is, being constantly available requires team members to multitask, which contributes to burnout, stress, and a decline in productivity. In such situations, leaders are usually incentivized to change their leadership style in order to revive organizational balance (Kasemap, 2014).

8. Challenges in leading virtual teams

As new and different communication technologies, virtual teams also present a challenge for today's leaders. They necessitate new skills and styles that meet the needs of the team members. At this point, the relevance of combining the elements of the organizational culture(such as mutual mindset and vision) are chiefly in focus (Maynard et. al. 2017).

The first element that affects the style of leadership in virtual teams is the degree of virtually. This stretches from a very low level of virtually to virtual organizations depending on the frequency of digital communication, physical distance and percentage of time in virtual and in face-to-face surrounding. In terms

of the frequency of usage, it has been explained that it is proportionally related to the synchronization of technology flow. When it comes to physical distance and the frequency of digital communication, it is said that though team members may be positioned in the same location that does not necessarily imply that the virtuality level is low. On the contrary, it has been suggested that in organizations in which team leaders provide conditions for adequate ICT-mediated communication, the level of virtuality is also high. Thus, the challenge for virtual teams' leaders is to provide a smooth and uninterrupted use of technology such as video-conference calls without long pauses during the conversation (Alsharo et. al. 2017).

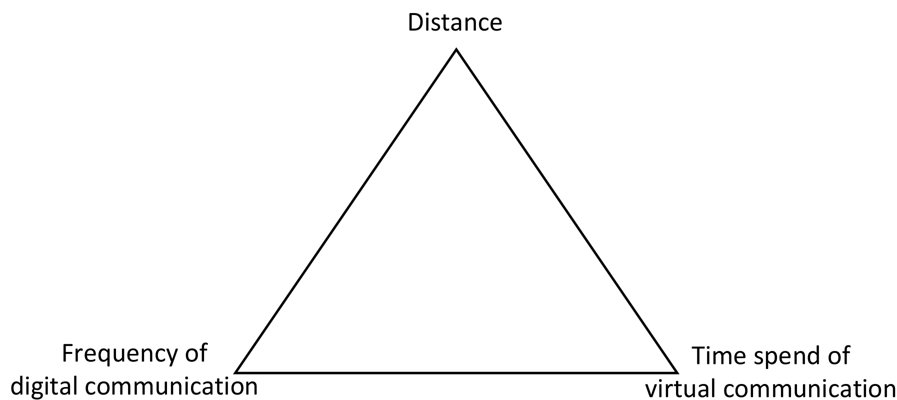

Fig. 2: Own representation based on Maynard, Gilson, Jones Young, & Vartiainen (2017, p. 325)

Further challenge for e-leaders is strengthening communication between the team members and working on trust building. Communication and trust building can be observed as a combined unit, as one is conditioned by the other. Similar to as in traditional teams, virtual teams also need to have a defined objective and norms, measurable goals and easy access to information. To enable easy communication inside the team, it is suggested to form smaller groups with not more than 12 people per group, which would be able to exchange information and feedback more frequently (Kasemap, 2014). That way it would also create a base for higher sense of trust. According to Ford et. al. (2017) trust is built among the members via mutual communication and collaboration. Building trust is likely the most challenging task facing E-leaders, because it requires an alignment of both cognitive and affective elements. Trust has been referred to in a positive connection with performance as well as with team members' overall satisfaction (Chen et. al. 2010). In a recently published study by Croes et. al. (2019), it was found that non-verbal communication is severely impaired, especially in virtual teams, which makes collaboration even more difficult.

Collective awareness is the point at which cultural elements affect e-leadership the most. This may be the most difficult challenge of all those mentioned, because it requires that all of the participants undergo a shift in mindset (Walumbwa et. al., 2007). In this context, Van Wart et. al. (2017) describes how e-leaders need to develop a culture in order to adapt more effectively to these technical changes. The leader's task in this case is to create a mutual vision on a team level, which helps prevent misunderstanding and enables effective communication. The need for cultural awareness appeared because of the lack of information, reaction or feedback, which are not transmitted in virtual contexts as they are in face-to-face interactions (Chen et. al. 2010). This causes team members to build a certain level of mistrust and hesitate before

interacting. There are various consequences of mistrust, such as misinterpretation, a slower exchange of information or even a feeling of isolation from the group. An e-leader needs to provide all the information available, as well as decide on a framework of rules, norms and behaviors that are to be practiced by all members of the group. The framework enables team members to grow accustomed to their own activities and reactions, avoid misunderstanding and accelerate the process. It also helps eliminate the sense of uncertainty common in virtual environments (Daassi et. al., 2010).

Nonetheless, to overcome all these challenges, leaders of virtual teams need to start by changing themselves. A leader is a key factor for shaping organizational culture and cooperation. Leaders serve as a 'relationship mediators' and use their skills to create a positive organizational dynamic. They need to always consider how to enhance their effectiveness, as the studies in the literature show that the effectiveness of a team is highly dependent upon the performance of leaders (Chen et. al. 2010).

9. Limitations & Further outlook

As digital elements have become more prevalent in companies in recent years, much research has been done to understand what impact they could have on corporate surface. Considering the importance and the degree of implementation of digitalized business models in the modern age, it is surprising that a significant majority of the findings in the literature are still based on the consequences by E-leadership instruments. In more recent literature, quite a few journal articles describe this topic and try to provide a framework connecting cultural elements regarding digital leadership instruments. Consequently, new topics and conceptual questions arise. Although the importance of creating a mutual vision and digital awareness is highlighted in most of the literature's findings, it does not include specific measures regarding leaders or employees.

In addition, the need to specify collaborative technologies in a virtual environment was addressed. In order to find out which is the most effective solution for the team and the leader, intensive collaboration is cited as a crucial factor. However, the results have shown that by offering a broader range of technologies to a team, the one known to the majority of the team members is most likely to be used. The conclusion from this statement is that the multiple features of the technology are equally important. Higher performance is expected as the knowledge of the specific technological features is expanded (Daassi et al. 2010). It is also important to clearly communicate the responsibilities and roles to each team member. It has been highlighted as an important factor for effective collaboration and certainly requires further attention. An empirical study that takes into account the exact roles and tasks would be useful. Finally, a case study of a company could be helpful to illustrate the practical experiences with the different e-media.

10. Acknowledgements

I thank the Kaposvar University for supporting me with provided statistical materials and Ms. Joana Jevic for assisting me in performing.

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(online) = ISSN 2285 – 3642
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Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

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(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

URL: http://jedep.spiruharet.ro
e-mail: office_jedep@spiruharet.ro

Liquidity Risk Management in Islamic Banking: Comparative Analysis with SUR Methodology for Turkey

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Abstract. *Participating banks, emerged as a complementary element in the Turkish financial system since mid-1980s, are continuously increasing their value added to the Turkish banking sector. Therefore, determining whether participation banks and conventional banks differ in liquidity structure and liquidity risk management makes it possible to assess future growth performance of these banks.*
The aim of this study is to determine factors effecting liquidity risk in Turkish Islamic banking sector. Method used for this purpose is the Seemingly Unrelated Regression (SUR). The result of study indicates that liquidity risk is significantly affected from credit base and funds collected and; increase in them will increase the liquidity risk. Based on our findings, it is possible to estimate factors effecting participation banks liquidity structure and will be a significant input for asset-liability management. This is noteworthy to have robust Islamic banking sector in Turkey and to manage risk they face accurately.

Keywords: Islamic Banking, Liquidity Risk, Risk Management, SUR, tawarruq

JEL Codes: G10, G21, G32

How to cite: Ilter Kucukcolak, N., Buyukakin, F., & Kucukcolak, R. (2019). Liquidity Risk Management in Islamic Banking: Comparative Analysis with SUR Methodology for Turkey. **Journal of Economic Development, Environment and People, 8**(4), 54-71. doi:http://dx.doi.org/10.26458/jedep.v8i4.644

1. Introduction

Although the concept of liquidity is expressed in different ways in economic literature, almost all of them correspond to the same meaning: the rate at which any asset can be converted into cash. However, Babuşçu (2005) considered to define this concept in two different ways as narrow and broad. Liquidity in the narrow sense is the ability to be paid in full and on time. In a broad sense, it is defined as following a more coherent and balanced fiscal policy pursuit with liabilities and maturity in order to liquidate assets in a faster, easier and shorter time.

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

URL: http://jedep.spiruharet.ro
e-mail: office_jedep@spiruharet.ro

The maturity mismatch resulting from the poor management of the existing liquid assets and most of the time as a result of the banking sector's efforts to finance long-term assets with short-term resources is the most important reason for the liquidity risk. Furthermore, the deterioration in the asset quality of the balance sheets, sudden and unexpected outflow of resources, the decline in profitability and crises are among the reasons that cause liquidity risk (Zengin and Yüksel, 2016; Babuşçu, 2018 and Aloğlu, 2005).

There is a close relationship between liquidity risk and profitability as the liquidity risk increases, return is also increasing. However, if the said risk is not managed well, a bank that aims to achieve high returns may be in default, may have difficulty in payment, and even the bank's liquidity shortage may lead the bank to bankruptcy (Aloğlu, 2005 ve Akan, 2008). As a matter of fact, the Turkish banking system has had to struggle with such problems in the 2000-2001 crisis.

Liquidity risk in the banking sector is like a glass ball. Because, the banks that serve as bridges on the basis of trust between financial surplus and fund need in financial markets are unlikely to recover again if they fall into liquidity shortage due to any reason. On the other hand, profitability is similar to a rubber ball in the banking sector. Thus, in the current period, a bank that makes losses in the next period may pass the next period with profit. Thus, the rubber can jump like a ball and have the opportunity to correct its own situation (Sayım & Er, 2009: 15).

Liquidity risk is evaluated in two aspects as funding market and bank liquidity risks (Akkus, 2017 and Aloglu, 2005):

- Market Liquidity Risk; The risk of inability to sell or close a position without affecting the market price due to insufficient market depth or deterioration of market conditions,

- Funding liquidity risk: The risk that banks cannot meet their debts and liabilities without any unexpected loss and default without affecting their daily activities or financial situation,

Banks should have adequate systems for measuring, monitoring and controlling liquidity risk (BIS, 2006). Importance of risk management in banking system has increased due to the fact that the more loans they start to place, the greater the risk they expose. Among these risks, liquidity risk arises when a given financial obligation could not be fulfilled by the banks, for a certain period of time. After global financial crisis, the liquidity risk is one of the issues that has taken the priority in the agenda of regulatory bodies and Basel Committee on Banking Supervision defines main principles of liquidity risk management in 2008.

Islamic banks are facing common risks with conventional financial institutions (Hussain and et al, 2015) however, compare to conventional banks, financial market instruments and liquidity thereof are limited for Islamic banks in Turkey. With limited activity and issue in sukuk market and yet no interbank markets; the interbank commodity Murabahah transactions are mainly executed with foreign banks (IMF, 2017).

The profitability of Islamic banks decreased more than conventional banks during the crisis, mainly because of weaker risk management practices and financial crisis spillovers to the real economy based on recent studies (Rashman, 2012; Hasan and Dridi, 2011). Islamic banks in advanced countries shows

efficient progress than those in other countries mostly because of their advanced regulatory framework and risk management practices (Tahir and Haron, 2010).

An acute liquidity crisis faced by a corporate institution might lead severe results e.g. Enron, largest bankruptcy in US corporate history which illustrates how quick a crisis of confidence can lead a halt in business and vital cash flows (Banks, 2014). Likewise, Demirbank, a mid-size bank, primary –dealer in government bonds heavily dependent on overnight funds which could no longer refinance itself on the market in October 2000, forced to sell its portfolio because the Central Bank stopped providing liquidity to troubled banks. Demirbank's liquidity shortage had a negative spill-over effect for the whole market which led to an upswing in interest rates and additional sale waves (Cihangir, 2005). The crisis ended with a financial aid package from IMF and in addition to Demirbank, banks which had liquidity crisis during that period were taken over by the Saving Deposit Insurance Fund (SDIC) (Brinke, 2013). Later on, Demirbank was sold to HSBC by by the SDIC.

Northern Rock, a UK financial institution and Lehman Brothers, a US investment bank are other eminent examples for liquidity mismanagement related bankruptcies for financial sector experienced in 2008 (Banks, 2014).Using excessive amount of short term external source that could easily be withdrawn and high concentration in risk and illiquid securities and structured products are main source of the liquidity collapse. In this regard, since the subprime financial crisis in 2008, special attention has given to liquidity management.

Idiosyncratic features of Islamic banks require a special attention in liquidity risk management. Liquidity risk affects bank profitability significantly and risk can be eliminated via active asset and liability management ratio (Saunders and Cornett, 2008).

Liquidity risk affects bank profitability significantly and; increasing cash reserves, expanding deposit base and decreasing the gap between funds collected and placed to total asset ratio are examples of the methods applied in decreasing liquidity risk (Arif and Anees 2012).

In order to estimate liquidity risk, bank managers need to forecast liquidity risk they would expose and instruments to manage their risk exposure. For this purpose, after providing a brief overview about the sector, we explore factors effecting major Islamic banks liquidity risk in Turkey, based on the 2005-2017 financial figures with seemingly unrelated regression (SUR) methodology. After literature review, we explained the methodology and model we use, the data set and result of the study.

2. Islamic Banking and Risk Management

Both conventional and Islamic (participation) banking services are in practice in Turkey. Although these two types of banking have different systems and operational principles, they are subject to the same legal regulations in Turkey. Apart from significant exceptions, the empirical literature suggests no major differences between Islamic and conventional banks in terms of efficiency, competition and risk features (Abedifar and et al, 2015).

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

URL: http://jedep.spiruharet.ro
e-mail: office_jedep@spiruharet.ro

The Islamic banking is based on participation of profit and loss and therefore these banks are also named as participation banks, in Turkey. Within the interest-free principle, goods and services are financed and payment is made directly to provider of the goods and services. Services provided by Islamic banks are very similar with conventional banks however the structure they collect funds and methods and models utilized in order to allocate them to investments differs (Yanpar, 2014; TKBB, 2017).

Islamic banking was emerged in mid-1980s in Turkey. Since then, it has been developing and with the establishment of two state-owned participation banks in 2015, share of the Islamic banking is expected to increase in the near future in Turkish financial sector. There are five banks operating in the Islamic banking sector in Turkey as of 2017 year-end. Two of them, Vakıf Katılım and Ziraat Katılım were established in 2015 by the participation of public sector. Based on Turkish Participation Banks Association figures, as of 2017 year-end, total asset of participation banks is TRY 160.136 Million while conventional banking has TRY 3.257.819 Million total assets; total funds allocated by participation banks is 106.733 Million TRY while it is TRY 2.145.479 Million for conventional banks and; equity is TRY 13.645 Million and TRY 359.091 Million, respectively. In the Table I, summary financial information is given for 3 participation and 3 depositary banks in the study.

Table I: Overview of the Banks in the Analysis

Overview parameters	**Kuveyt T.**	**T. Finans**	**Albaraka T.**	**TEB**	**ING**	**Şekerbank**
Date of establishment	1989	2005	1984	1927	1984	1953
Total asset (TRY, Million)	57.123	39.081	36.229	81.029	50.105	28.147
Total Credit and receivables (TRY, Mio.)	37.971	26.483	25.193	60.875	36.851	19.425
Total Funds Collected (TRY, Mio.)	39.857	22.030	25.310	52.004	25.799	18.248
Total Equity (TRY, Mio.)	4.591	4.061	2.482	8.665	5.495	2.616
Paid-in Capital (TRY, Mio.)	3.097	2.600	900	2.204	3.486	1.158
Net Profit /Loss (TRY, Mio.)	674	375	237	819	712	76
Branches	399	286	220	515	266	273
Personnel	5.749	3.767	3.899	9.469	5.039	3.602

(*) As of September 30, 2017 Source: Turkish Participation Banks Association and Turkish Banks Association

2.1. Risk Management

Risk concept is significantly important for financial markets since risks embody both opportunities and dangers. Most common type of risk encountered in conventional banking systems is credit risk. Market risk includes interest rate, foreign exchange and stock market position risks. Another one which is liquidity risk arises from the maturity mismatch between the resources collected and the credits used and, causes the bank's cash balance to deteriorate like credit risk (Büyükakın and et al, 2018).

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

URL: http://jedep.spiruharet.ro
e-mail: office_jedep@spiruharet.ro

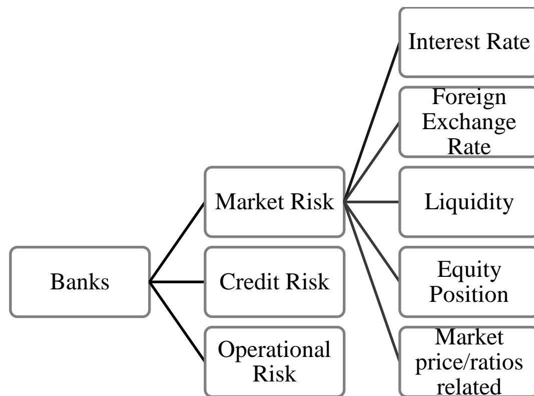

Figure I: Main Risks Exposed by Banks, Source: Akçay and Bolgün (2009)

For effective risk management for banks, risk governance structure concentrate on key risk responsibilities and banks' risk management framework is composed of high-level principles which are implemented through policies, limits, operational guidelines, methodologies and tools for risk measuring, monitoring and reporting (NIB, 2017:6).

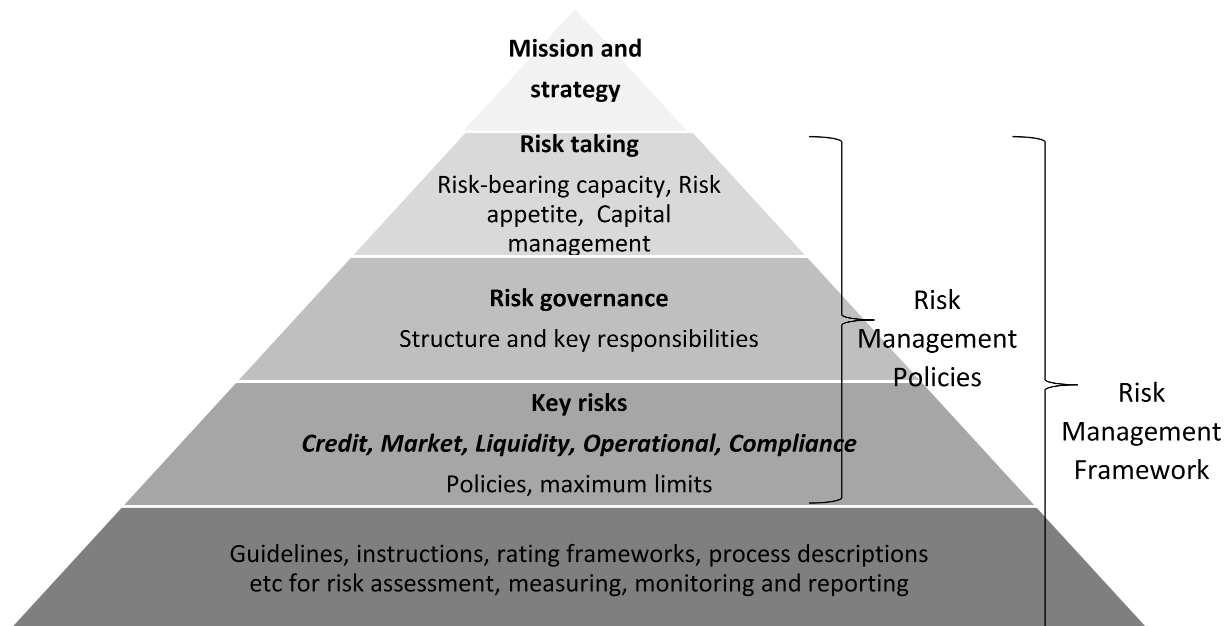

Figure 2: Risk Management Framework
Sources: NIB, 2017:6

In the execution-oriented risk management process, the existence of the units that are responsible for risk, that is, the units that need to work in harmony with the risk managing units, are noteworthy. Thus, risk management reduces the likelihood of missed key opportunities to use the data obtained at the end of the process in the decision making and risk-taking stages of banks (Büyükakın and et al 2018).

2.2. Liquidity Risk Management

Most banks do not prefer to have liquid assets in their portfolios as they have alternative cost and prevent interest income opportunities. However, if banks are faced with sudden and intense deposit demand by their customers and if they do not have sufficient liquidity to overcome it, it is inevitable that the banks will suffer great losses and even go bankrupt. For this reason, the management of liquidity risk for banks is of great importance since it will be based on the preferences between risk and return (Ertürk, 2010).

Liquidity risk for banking sector may be defined as a risk of not providing liquidity needs, fails to fulfill its commitments or fails to enter new transactions. Asset-liability management is at the core of the liquidity management and aim is to have positive net liquid asset. Among Islamic banks, 76% uses their own methodology for measuring liquidity risk and include measurement results in their decision-making processes (TBB, 2004).

Two types of ratios are used by the Banking Regulatory and Supervisory Authority of Turkey in determining whether banks are liquid in terms of total and foreign currency exposures: the liquidity adequacy ratio and the liquidity coverage ratio. In accordance with the Regulation on the Measurement and Evaluation of Liquidity Adequacy of Banks (the Liquidity Adequacy Regulation for Banks), banks are required to hold foreign currency and total liquidity adequacy ratios in two different maturity brackets: weekly and monthly. The liquidity adequacy ratios are calculated by the ratio of total assets to total liabilities, and the FX liquidity adequacy ratio should be at least 80% and the total liquidity adequacy ratio should be 100% based on the Liquidity Adequacy Regulation for Banks.

Liquidity coverage ratio (LCR), which is regulated in Basel III by the Basel Committee, aims to keep the high quality liquid assets at a certain level by banks in order to ensure short-term liquidity shortage of banks in case of short-term and severe cash outflows. The proportions required to be met by total and foreign currency are determined within the framework of the Liquidity Coverage Regulation for Banks (for 2018; as 90% LCH and 70% FX and for 2019; LCH will be 100% and FX will be 80%).

Compared to their conventional counterparts, the Islamic banks are expected to expose less to asset-liability mismatches due to nature and comparative advantage of the "pass-through" and the "risksharing" structure (Greuning and Iqbal, 2008). However, there are many reasons for exposing liquidity risk by participation banks, just to name a few; the absence of appropriate instruments for sharia principles, the limited scope of the secondary markets and the lack of the lender of last resort (Oubdi and Elouali, 2016; Farooq and Zaheer, 2015). Due to the scarcity of sharia-compliant marketable securities problem, the commercial portfolio of Islamic banks is either small or absent. With the development of Islamic debt (sukuk) instruments, the trend is changing and expanding the Islamic banking commercial portfolio. However, due to the shallow formation of the secondary market for sukuks, the market behavior is to hold

these instruments until their expiry (Greuning and Iqbal, 2008). Major source of liquidity risks are as follows (Al-Bashir and Al-Amine, 2013):

- Limited shariah compliant money market and short-term interbank instruments
- Shallow secondary market
- Limited number of participants/investors in the secondary market
- Absence of lender of last resort
- Most of derivative instruments used by conventional banks for risk management purpose are not compliant with the Islamic banks
- Weak systemic liquidity infrastructure

In the absence of short term interbank and local markets, participation banks meet their cash needs by selling precious metals bought forward in advance. These transactions are usually executed at the London Metal Exchange which are also increasing the transaction costs. This type of transaction is named as Tawarruq and is often not accepted by Shari'ah scholars if the borrower sells back the commodity to the original seller (Hussain and et al, 2017).

As depicted in the Table II, share of liquid asset in total assets of the all participation banks increased in 2011-2016 period, in general, however it declined to its 2010 levels in 2017. Cash funds to total funds ratio also followed similar pattern. Although share of total funds in total assets followed a decreasing trend, it increased in 2017.

Table II: Participation Banks Liquidity Ratios

Ratios	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Liquid assets/Total assets-%	12.6	12.6	15.4	15.0	15.8	16.0	16.0	11.8
Cash funds/ Total funds-%	16.2	17.7	21.9	22.8	24.7	25.1	24.4	17.6
Total funds / Total assets-%	78.1	71.1	69.9	65.8	64.1	63.9	65.8	67.0

Source: Participation Banks Association of Turkey web site accessed April 20, 2017

Although both types of banks operate on the same financial environment causes them to be exposed to almost the same risks, since interest and uncertain and speculative activities are strictly prohibited for participation banks, statutory regulations and restrictions limit effective risk management for participation banks (Büyükakın and et.al. 2018). Asset-based operation structure makes participation banks to develop various methods in order to meet all kinds of risk mitigation needs, the diversification of risk and various opportunities to be protected from risk.

3. Literature Review

Regarding measuring the liquidity risk, there are several variables used in the literature. The gap between funds collected and placed to total asset ratio (Saunders and Cornett, 2008; Shen and et al, 2009; Çelik and Akarım, 2012; Alzoubi, 2017; Işıl and Özkan, 2015), the share of liquid asset to total asset (Anam and et al, 2012; Iqbal, 2012; Almumani, 2013) and financial performance such as asset profitability (Ahmed and et al, 2011; Anam and et al, 2012; Iqbal, 2012; Almumani, 2013; Mohamad and et al, 2013) are some of the variables used in risk measurement. Paldi (2014) analyzed effect of capital adequacy on Islamic

banks' risk and found that Islamic banking is less liquid and more expensive requiring higher levels of capital as Islamic modes of finance are riskier and are based on undertaking real transactions.

There are also studies that show positive correlation in between size of the banks and liquidity risk (Ahmad and et al, 2011; Anam and et al, 2012; Iqbal, 2012 and Almumani, 2013) since increase in asset leads to increase in liquidity risk. On the contrary, Alzoubi (2017) showed negative relation in bank size with liquidity risk, as large-sized banks tend to have more stability and customers feel safer dealing with large-sized banks. In this regard, in order to reduce liquidity risk, increasing the size of a bank or its equity will help.

There are various studies that investigated Islamic bank liquidity risk and macroeconomic variables such as economic growth and inflation. According to these studies, macroeconomic conditions and the economic cycle are also effecting liquidity risk of the Islamic banks (Mohamad and et al, 2013). Chen and et al (2009) finds that liquidity risk is effected with the performance of banks e.g. liquid assets and external funding as well as macroeconomic, regulatory and supervisory factors.

Regarding liquidity risk and profitability relation; increase in the current ratio and the investment ratio of the available funds have positive effects on the profitability (Malik and Aqeel, 2017) (Mongid, 2016).

Islamic banking needs to develop its liquidity risk management environment as a practice of modern banking standards to ensure and maintain safe business operations via developing an organizational approach and liquid instruments in line with Islamic principles (Rifki, 2008). In her doctoral thesis, which was completed in 2016, Azimova examined the liquidity risk management in the banking sector of Azerbaijan. In this study, panel data analysis was performed by using the method of Deep and Schaefer for 43 banks operating in Azerbaijan and found significant relation between bank size and the liquidity transfer coefficient, the ratio of insured deposits to total deposits, deposit interest rate, return on assets, ratio of non-performing loans to total loans, total liabilities of deposits results and oil prices.

Zengin and Yüksel (2016) tested the data for 2005-2014 period for 10 banks with the highest asset size in the Turkish banking sector with the Logit Model and among 12 variables, the banks' capital adequacy ratio and net interest margin were significantly effecting banks' liquidity risk.

Firuzan and Firuzan (2017) measured the factors affecting both the liquidity and credit risk for the 16 banks operating in the Turkish banking sector between 2009 and 2016 using the Dynamic Panel Data Model- Arellano-Bond GMM estimator method. As a result of the study, it was found that rapid changes in macroeconomic variables affect the liquidity risk.

Akkaya and Azimli (2018a) used the Deep and Schaefer methodologies to perform Panel Data analysis and aimed to determine the factors affecting the liquidity risk for the Turkish banking sector. According to their findings, asset profitability ratio, deposit/total liability ratio, interest income/interest expenses ratio, bond issue, inflation, unemployment, US Dollar rate and GDP variables were found to affect the liquidity management of the Turkish banking sector. In the same year (2018b), the authors published another study titled "Liquidity Risk Management in the Banking Sector of Azerbaijan" which aimed to measure the liquidity risk of Azerbaijan banks by using "Berger and Bouwman" and "Deep and Schaefer" methods. Result showed that both Azerbaijani banks and the Turkish banks had similar results.

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

URL: http://jedep.spiruharet.ro
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4. Case Study: Turkey

4.1. Data and Descriptive Analysis

Data set for participation banks is gathered from the Turkish Participation Banks Association website and macroeconomic variables are gathered from the Central Bank of Turkey website. Among five participation banks, three of them are within our analysis since the two of them were established recently (2015) and do not have all figures for the relevant period. Financial ratios are quarterly ratios beginning from 2005 last quarter to 2017 third quarter since the last quarter for conventional deposit banks have not published yet. There are 48 observations for each bank.

Data set for conventional banks is gathered from the Banks Association of Turkey website. Among 34 deposit banks, 3 of them which have similar total-asset base (ING Bank, Şekerbank, T. Ekonomi Bankası) were selected as a reference for deposit banking sector. Financial ratios are quarterly ratios beginning from 2005 last quarter to 2017 third quarter. There are 48 observations for each bank.

Macroeconomic indicators are taken from Turkish Statistics Institute (TÜIK) web site and are also for quarterly periods.

In our model, the liquidity risk is represented by the difference of funds collected and placed to total asset: “Credits and Receivables – Total Funds Collected)/Total Asset”. Table III depicts the list of bank specific and macroeconomic independent variables used in the model.

Table III: Model Variables

Independent variable:	
LR_t	(Credits + Receivables – Total Funds Collected)/Total Asset at t
Bank specific dependent variables:	
LR_{t-1}	(Credits + Receivables – Total Funds Collected)/Total Asset at t-1
$TCRTA_t$	(Total credits and receivables)/Total assets at t
$NPTA_t$	Net profit/Total assets at t
$LFTA_t$	Liquid funds/Total assets at t
Macroeconomic dependent variables:	
GDP_t	GDP growth rate at t
CPI_t	Consumer price index change at t

Based on the above variables, in order to evaluate liquidity risk of participation banks, the following equation is formed for each bank:

$$LR_{it} = \beta_0 + \beta_1 LR_{it-1} + \beta_2 TCRTA_{it} + \beta_3 NPTA_{it} + \beta_4 LFTA_{it} + \beta_5 GDP_{it} + \beta_6 CPI_{it} + U_{it} \quad \text{(Equation I)}$$

We use STATA for our econometric analysis.

4.2. Econometric Methodology

In order to evaluate factors effecting participation banks liquidity risk and compare it with the conventional deposit banks’ same liquidity risk factors, we used seemingly unrelated regression (SUR) model proposed by Zellner in 1962.

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

URL: http://jedep.spiruharet.ro
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This is a single model that contains a number of linear equations. In such a model it is often unrealistic to expect that the equation errors would be uncorrelated. In this regard, the set of equations in the model has contemporaneous cross-equation error correlation which is called SUR system.

The SUR methodology helps us to eliminate probable correlation among the panel data set in our analysis and allows us to estimate the whole system via using factors affecting all banks, not to estimate separately. SUR is a way of estimating panel data models that have large T but small N (T>N; e.g. N as number of participation banks and T as factors effecting liquidity risks).

A classical linear SUR model is a set of linear regression equations (Zellner, 1962):

$y_i = \beta_i X_i + u_i$ (Equation II)

where

- y_i and u_i are T x 1 vectors
- i= 1, …., m
- X_i is T x k_i matrix
- $1 \leq \text{rank}(X_i) = k_i < T$
- $E[u_i u'_j] = \sigma_{ij} I_T$

These m relations can be written:

$$\begin{bmatrix} y_1 \\ y_2 \\ \vdots \\ y_m \end{bmatrix} = \begin{bmatrix} X_1 & 0 & \cdots & 0 \\ 0 & X_2 & \cdots & 0 \\ \vdots & \vdots & & \vdots \\ 0 & 0 & \cdots & X_m \end{bmatrix} \begin{bmatrix} \beta_1 \\ \beta_2 \\ \vdots \\ \beta_m \end{bmatrix} + \begin{bmatrix} u_1 \\ u_2 \\ \vdots \\ u_m \end{bmatrix}$$

or $y = X\beta + u$ (Equation III)

where y, X, β and u are vectors (or matrices) of dimensions (Tm) × 1, (Tm) × k, k × 1 and (Tm) × 1 respectively.

Within the framework of the SUR methodology, we run the multiple linear regressions for 6 equations for relevant banks.

4.3. Empirical findings

When we evaluate the results of our econometric analysis; summary results for the model for 2005-2017 period are as follows in the Table IV. There are 48 observations and R2s are high and P-values are low, which means the model is significant for all banks. The Wald test (Chi2) shows that the parameters for certain explanatory variables are zero which can be removed from the model. If the test shows the parameters are not zero, you should include the variables in the model. None of Chi2 is zero in our model which means the variables in the model are significant for all banks.

Table IV: SUR Model Summary Results

Bank Titles	No. of observations	Parameters	RMSE	R^2	Chi2	P-Value
Albaraka Türk	48	6	3.429537	0.8413	260.27	0.0000
Kuveyt Türk	48	6	2.854036	0.7454	212.89	0.0000
Türkiye Finans	48	6	4.427095	0.7711	196.03	0.0000

Şekerbank	48	6	2.650106	0.9592	1148.78	0.0000
TEB	48	6	3.403922	0.8075	216.67	0.0000
ING Bank	48	6	4.151660	0.8651	373.19	0.0000

Based on the Model results given in the Appendix, statistically significant variables with their significance level are given in Table V for each bank. For 6 banks, "TCRTA-(Total credits and receivables)/Total assets" variables and "LRt-1-Last term's liquidity risk" explains current term's liquidity risk significantly. Their coefficients are positive for all participation banks and one unit increase in credits and receivables increase the liquidity risk with the same unit. "NPTA- Net Profit/Total Asset" and "LFTA-Liquid funds to total assets" ratios are also significant for all participation banks. NPTA ratios' coefficients are all negative and change in one unit in the ratio decrease the liquidity risk more than the change. LFTA coefficients are positive and change in the one unit change will increase the liquidity level. Regarding the macroeconomic variables, although prior empirical literature (Sulaiman et al, 2013; Nikomaram et al 2013) found positive impact of GDP growth rate on the banking sectors' liquidity ratios, neither GDP nor CPI is significant for any bank in our analysis.

Table V: SUR Model P-Value Summary Results

Variables	Albaraka Türk	Kuveyt Türk	Türkiye Finans	Şekerbank	TEB	ING Bank	No. of Banks
LR_{t-1}	***	*	*	*	***	*	6
$TCRTA_t$	*	*	*	*	*	*	6
$NPTA_t$	**	*	*	*			4
$LFTA_t$	*	*	*		*	*	5
GDP_t							0
CPI_t							0

(*) Significance level: "" stands for 1%, "**" stands for 5%, "***" stands for 10%*

Table VI: Model Data Set Summary Statistics

Bank Titles	(%)	Average	Std. Dev.	Min	Max	Median	Skewness
Albaraka Türk	LR	-6.04	8.70	-18.71	40.65	-5.63	3.16
	NPTA	1.05	0.65	0.01	2.85	0.88	0.77
	TCRTA	71.49	8.44	62.80	121.90	70.22	4.65
	LFTA	21.23	4.17	11.46	28.60	20.83	-0.23
Kuveyt Türk	*LR*	*-2.85*	*5.72*	*-16.83*	*11.92*	*-4.11*	*0.76*
	NPTA	*1.02*	*0.54*	*0.25*	*2.52*	*1.01*	*0.61*
	TCRTA	*68.27*	*7.02*	*58.61*	*83.49*	*67.46*	*0.59*
	LFTA	*24.20*	*7.86*	*10.70*	*34.57*	*24.79*	*-0.41*
Türkiye Finans	LR	3.27	9.35	-28.91	13.28	4.87	-1.62
	NPTA	0.94	0.53	0.17	2.02	0.78	0.46
	TCRTA	72.53	6.76	47.98	82.18	72.43	-0.88
	LFTA	19.79	4.65	10.97	27.94	20.32	-0.29

Şekerbank	*LR*	*-5.90*	*13.26*	*-42.49*	*8.90*	*-3.10*	*-1.27*
	NPTA	*1.09*	*0.47*	*0.26*	*2.02*	*1.10*	*0.02*
	TCRTA	*61.57*	*9.50*	*34.45*	*73.90*	*60.97*	*-1.16*
	LFTA	*25.60*	*9.33*	*13.40*	*49.63*	*24.36*	*0.94*
TEB	LR	2.99	7.84	-11.79	19.10	5.85	-0.30
	NPTA	1.11	0.28	0.48	1.80	1.11	-0.20
	TCRTA	66.12	6.24	53.52	75.10	67.65	-0.49
	LFTA	29.01	5.65	21.00	46.57	27.80	0.99
ING Bank	*LR*	*13.06*	*11.42*	*-9.26*	*28.60*	*16.25*	*-0.56*
	NPTA	*0.79*	*0.57*	*0.20*	*3.68*	*0.70*	*2.94*
	TCRTA	*70.50*	*4.19*	*60.80*	*77.70*	*71.40*	*-0.72*
	LFTA	*24.91*	*3.60*	*18.60*	*34.62*	*24.30*	*0.91*
Macroeconomic Var.	GDP	0.95	0.83	-1.11	2.31	0.96	-0.31
	CPI	1.32	2.15	-5.10	5.10	1.70	-1.08

According to the model findings; one unit change in previous term liquidity ratio, asset profitability, credit base and liquid assets change the liquidity risk 0.1%, 1,01%, -2.06% and 1.1% respectively for Albaraka Türk. For Kuveyt Türk, one unit change in previous term liquidity ratio, asset profitability, credit base and liquid assets change the liquidity risk 0.26%, 1,07%, -3.91% and 0.51% respectively. For Türkiye Finans, one unit change in previous term liquidity ratio, asset profitability, credit base and liquid assets change the liquidity risk 0.56%, 0,87%, -6.02% and 0.69% respectively.

Based on the summary statistics of the banks in our model given in the Table VI, except Türkiye Finans, all participation banks have a negative average LR-Liquidity risk which means Islamic banks have allocated less credit than the funds they collect. When we compare average ratios of "TCRTA-Total credits and receivables to total assets"; it is higher in participation banks (68-73%) than deposit banks (62-71%). "LFTA-Liquid funds to total assets ratio" is lower in participation banks (20-24%) than deposit banks (25-29%).

When we evaluate the model residuals correlation coefficients in the Table VII, the highest correlation is in between Turkiye Finans and Kuveyt Türk with a 53.84% positive correlation. Among other deposit and participation banks, correlation level is low in between -23.04% and 16.20%.

Table VII: SUR Model Correlation Matrix of Residuals

Bank Titles	Albaraka Türk	Kuveyt Türk	Türkiye Finans	Şekerbank	TEB	ING Bank
Albaraka Türk	1.0000					
Kuveyt Türk	0.1620	1.0000				
Türkiye Finans	0.0243	0.5384	1.0000			
Şekerbank	0.1079	-0.1799	-0.0094	1.0000		
TEB	0.0198	-0.1705	-0.2043	0.0575	1.0000	
ING Bank	-0.1992	-0.2304	-0.1705	0.0711	0.0366	1.0000

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

URL: http://jedep.spiruharet.ro
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Regarding the Breusch-Pagan test for correlation among units in our model, null hypothesis of the test is the residuals across entities are not correlated. Breusch-Pagan test of independence is chi2(15)=27.050 and Prob= 0.0283 which means that we reject the null hypothesis and there is correlation between units within 5% significance level.

This result shows that via SUR methodology, it is possible to estimate factors effecting banks liquidity structure.

5. Conclusion

There are five participation banks operating in Turkey as of 2017 year-end and they represents approximately 5% of the Turkish banking sector which is very low compared to potential of Turkey and the Region where Turkey is residing.

Risk concept is significantly important for financial markets and cannot be fully eliminated but can be effectively managed. With the implementation of the Transition to Strong Economy program, Turkish banking sector has made great progress in terms of risk management. In this respect, firstly risks are defined and measured. Among various risks, after global financial crisis, the liquidity risk is one of the issues that has taken the priority in the agenda of regulatory bodies and main principles of liquidity risk management on Banking Supervision were defined by the Basel Committee in 2008.

Based on quarterly financial ratios of 3 participation banks and 3 conventional banks in the sector and macro-economic indicators for Turkey for 2005/12-2017/09; participation banks in our study, except Türkiye Finans, have a negative average LR-Liquidity risk which means Islamic banks have allocated less credit than the funds they collect. When we compare average ratios of "TCRTA-Total credits and receivables to total assets"; it is higher in 3 participation banks (68-73%) than the 3 deposit banks (62-71%). "LFTA-Liquid funds to total assets ratio" is lower in participation banks (20-24%) than deposit banks (25-29%).

In order to determine factors effecting liquidity risk we establish a model based on the Seemingly Unrelated Regression-SUR Methodology. Based on the model results, all bank-specific ratios we consider in our model are statistically significant in explaining liquidity risk. Statistically significant variables not only participation banks but also conventional banks are LRt-1-last term's liquidity risk, TCRTA-(Total credits and receivables)/Total assets and NPTA- asset profitability. GDP and CPI macroeconomic variables are not significant for any bank, contrary to Mohamad and et al (2013) and Chen and et al (2009) studies. When we evaluate the model residuals for correlation among units in our model via the Breusch-Pagan test, the result showed that there is correlation between units within 5% significance level.

Based on our findings, via SUR Methodology, it is possible to estimate factors effecting participation banks liquidity structure and will be a significant input for asset-liability management. This is noteworthy as having robust Islamic banking sector in Turkey and managing risk they face accurately will contribute to improving financial inclusion and foster access through Islamic Finance. Development of Islamic banking will also contribute to make Istanbul regional as well as global financial center and serve to export their services to the international markets.

(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

URL: http://jedep.spiruharet.ro
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(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

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(online) = ISSN 2285 – 3642
ISSN-L = 2285 – 3642
Journal of Economic Development, Environment and People
Volume 8, Issue 4, 2019

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Appendix: SUR Results*

	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
a_lr						
a_lr_prv	.0982965	.0584878	1.68	0.093	-.0163375	.2129306
a_tcrta	1.012644	.0702021	14.42	0.000	.8750506	1.150238
a_npta	-2.062479	.9307375	-2.22	0.027	-3.886691	-.2382673
a_lfta	1.096833	.1392538	7.88	0.000	.8239	1.369765
gdp	.1806889	.2609519	0.69	0.489	-.3307675	.6921453
cpi	-.9771415	.6424554	-1.52	0.128	-2.236331	.2820479
_cons	-98.24315	6.590284	-14.91	0.000	-111.1599	-85.32643
k_lr						
k_lr_prv	.2609123	.0778365	3.35	0.001	.1083555	.413469
k_tcrta	1.074139	.1361575	7.89	0.000	.8072749	1.341003
k_npta	-3.905999	.8020568	-4.87	0.000	-5.478002	-2.333997
k_lfta	.5130974	.1099395	4.67	0.000	.2976199	.7285749
gdp	-.3126485	.2275842	-1.37	0.170	-.7587053	.1334084
cpi	.0532965	.5342587	0.10	0.921	-.9938313	1.100424
_cons	-83.82159	11.73012	-7.15	0.000	-106.8122	-60.83098
t_lr						
t_lr_prv	.5610503	.0812485	6.91	0.000	.4018062	.7202944
t_tcrta	.8706353	.1028874	8.46	0.000	.6689797	1.072291
t_npta	-6.01754	1.250131	-4.81	0.000	-8.467751	-3.567329
t_lfta	.6943703	.1985468	3.50	0.000	.3052258	1.083515
gdp	.0211426	.3266859	0.06	0.948	-.6191501	.6614352
cpi	.2681342	.8398061	0.32	0.750	-1.377856	1.914124
_cons	-69.74332	10.00529	-6.97	0.000	-89.35333	-50.13332
s_lr						
s_lr_prv	.3150348	.0430788	7.31	0.000	.2306018	.3994677
s_tcrta	1.086728	.1015462	10.70	0.000	.8877008	1.285755
s_npta	-3.564143	.8530005	-4.18	0.000	-5.235993	-1.892293
s_lfta	.0574228	.0917079	0.63	0.531	-.1223214	.237167
gdp	.1756207	.1908001	0.92	0.357	-.1983406	.5495821
cpi	.4587564	.5144972	0.89	0.373	-.5496396	1.467152
_cons	-68.31155	8.662203	-7.89	0.000	-85.28916	-51.33395
teb_lr						
teb_lr_prv	-.2479686	.1421206	-1.74	0.081	-.5265199	.0305827
teb_tcrta	.6764704	.1060724	6.38	0.000	.4685723	.8843685
teb_npta	1.064834	1.851239	0.58	0.565	-2.563528	4.693197
teb_lfta	-.5802713	.123466	-4.70	0.000	-.8222602	-.3382825
gdp	.3616458	.2629421	1.38	0.169	-.1537113	.8770029
cpi	.1393342	.6832366	0.20	0.838	-1.199785	1.478453
_cons	-28.49444	9.829246	-2.90	0.004	-47.7594	-9.229468
ing_lr						
ing_lr_prv	-.3859115	.0659145	-5.85	0.000	-.5151016	-.2567214
ing_tcrta	1.389588	.3245813	4.28	0.000	.7534202	2.025755
ing_npta	-.7198098	1.077784	-0.67	0.504	-2.832227	1.392608
ing_lfta	-.6800101	.3774792	-1.80	0.072	-1.419856	.0598355
gdp	-.0462372	.3038183	-0.15	0.879	-.6417101	.5492357
cpi	-.5399953	.7794135	-0.69	0.488	-2.067618	.987627
_cons	-71.85952	31.65529	-2.27	0.023	-133.9028	-9.816286

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Bd. Timisoara nr.58, sector 6, code 061317
Bucharest, Romania

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