

Analysis of the Influence of the Role of Financial Literacy on Personal Financial Management

Wisnu Yuwono, Susanna, Dinda Suci Ramadhani,
Eka Widya Sasmita, and Wan Hendri Sihotang

ABSTRACT

This study aims to analyze the effect of the role of financial literacy on personal financial management. The method in this study uses a systematic method by identifying, finding, and discussing selected research journal articles. Data were obtained from scientific articles relevant to the topic of this research. Through the process of finding, discovering, and interpreting the results, the researcher concludes that financial literacy has three main roles, namely: 1) financial literacy plays an important role in a better financial planning process; 2) financial literacy plays an important role in making finances more precise, decisions and their real implementation; and 3) financial literacy plays a role in achieving financial prosperity. The role of financial literacy will adjust to the needs of financial professionals. This can be seen from the dependence of the purpose of the financial plan on the level of financial literacy possessed by financial planners.

Keywords: Decision-Making, Financial Literacy, Personal Financial Planning.

Submitted: February 23, 2023

Published: May 08, 2023

ISSN: 2507-1076

DOI: 10.24018/ejbmr.2023.8.3.1891

W. Yuwono *

Universitas Internasional Batam, Riau Islands, Indonesia

(e-mail: wisnu@uib.ac.id)

Susanna

Universitas Internasional Batam, Riau Islands, Indonesia

(e-mail: 2144026.susanna@uib.edu)

D. S. Ramadhani

Universitas Internasional Batam, Riau Islands, Indonesia

(e-mail: 2144024.dinda@uib.edu)

E. W. Sasmita

Universitas Internasional Batam, Riau Islands, Indonesia

(e-mail: 2144019.eka@uib.edu)

W. H. Sihotang

Universitas Internasional Batam, Riau Islands, Indonesia

(e-mail: 2144031.wan@uib.edu)

**Corresponding Author*

I. INTRODUCTION

Prosperity, prosperity, and happiness is the dream of every individual. Life goals made by individuals cannot be realized without a financial role. Awareness in setting targets to be achieved as life goals is one part of financial literacy. Financial literacy integrates relevant aspects of financial condition by maximizing financial ability to meet life goals (Bogan *et al.*, 2020) Some aspects of financial literacy are financial knowledge, financial competencies, and financial attitudes which are very important when making personal financial planning (Waliszewski & Warchlewska, 2020).

Financial literacy is an ability that every individual should have in carrying out their daily lives. Wise financial attitudes and behavior are reflected in one's ability to determine financial goals, prepare financial plans, manage finances and be able to make quality financial decisions in using financial products and services (Sugiharti & Maula, 2019). Personal financial planning is a systematic process that considers the important elements of an individual's financial affairs and is aimed at meeting his financial goals financial literacy are attitudes and behaviors in addition to knowledge, skills, and beliefs as an effort to improve the quality of decision making

and individual financial management (Billingsley *et al.*, 2017).

Data from Financial Services Authority (2019) shows that Indonesia's financial literacy index is at 38.03%. This is lower when compared to several ASEAN countries, such as Malaysia at 85%, Thailand at 82%, and Singapore at 98%. Whereas low financial literacy can cause financial plans to be undirected and not managed properly, especially when making financial decisions in everyday life (Yulianti & Silvy, 2013). This statement is in line with research by Mendari & Soejono (2019) that financial literacy has a significant influence on personal financial planning so if the individual does not have awareness in terms of financial management, then getting a good financial plan will not be realized. Therefore, this study will analyze the effect of financial literacy on the tendency to make financial decisions in personal financial planning, to find out how financial literacy can provide direction to financial goals that have an impact on several decisions in personal financial planning, such as individual decisions to retirement, purchase of insurance policies, decisions to record or record personal financial history and decisions to invest.

II. LITERATURE REVIEW

A. Personal Financial Planning

Financial planning according to Grozdanovska *et al.* (2017) can be interpreted as the process of estimating the main needs to fulfill the organization's business activities. Financial planning is the process of formulating the objectives, provisions, procedures, programs, and budgets for the financial activities of the organization. Financial planning can also be defined as the provision of appropriate funds, a balance between incoming and outgoing funds, growth, and establishment of programs that ensure the continuation of long-term plans, reduce uncertainty about future market changes, and help provide stability and profitability.

Financial planning means predicting, directing, synchronizing, and distributing the preliminary elements of the financial function. This plan focuses on cash flow and financial structure. This indicates that in financial planning, the amount and structure of funding, sources of financing, and financial flows for a certain time become one of the processes of predicting and projecting financing, income, and assets to be implemented in financial plans, to find out strategies and to determine the resources needed to realize the planned goals (Grozdanovska *et al.*, 2017).

Financial planning consists of several elements, namely planning activities in the financial sector by financial goals, providing predictions based on the inflows and outflows of funds originating from business opinions and activities, and preparing various alternatives to optimize the use and provision of funds for payments (Grozdanovska *et al.*, 2017). According to Tillery and Tillery (2017) personal financial planning is a process, a series of steps that are purposefully and deliberately taken to achieve a personal financial plan for an individual or family. In general, there are three main steps in the financial planning process, namely identifying personal financial goals and sources, designing financial strategies, and making personal recommendations for achieving financial goals.

Personal financial planning consists of six steps that help individuals achieve financial goals: (1) define financial goals; (2) develop financial plans and strategies to achieve these objectives; (3) implement financial plans and strategies; (4) periodically develop and implement budgets to monitor and control progress towards achieving goals; (5) using financial reports to review the results of plans and budgets in taking the necessary corrective actions; and (6) redefining goals and revising plans and strategies as personal circumstances change. It is critical to realistically outline an individual's short, medium, and long-term financial goals. Individual goals, reflecting individual values and circumstances, may change due to individual circumstances (Billingsley *et al.*, 2017).

B. Financial Literacy on Financial Decision Making

Broadly, financial literacy is defined as an understanding of the economy and how to make decisions based on economic conditions and circumstances. Meanwhile, if interpreted more narrowly, financial literacy is basic knowledge about financial management which includes financial budgeting, savings, investment, and insurance (Saeedi & Hamed, 2018).

Financial literacy can also be defined as the knowledge, skills, and confidence that a person needs to be responsible for making financial decisions (Palameta *et al.*, 2016).

Financial knowledge itself can develop into financial skills, namely a person's ability to implement financial knowledge possessed in everyday life. Financial skills also enable a person to make rational and effective decisions related to finances and economic resources (Palameta *et al.*, 2016). The Organization for Economic Co-operation and Development in 2016 defines financial literacy as knowledge and understanding of financial concepts and risks, as well as the skills, motivation, and confidence to implement the knowledge and understanding possessed in making good and effective financial decisions, improving welfare individual and community financial well-being, and participate in the economic field (Financial Services Authority, 2019). Financial literacy has a significant effect on personal financial planning so that the income earned can be managed properly it helps to have good financial behavior (Putri & Tasman, 2019). Research of Sobaya and Hidayanto (2016) also mentions that there is a significant influence between financial literacy on personal financial planning because financial literacy is very important for individuals who have good financial planning not only to save but also to increase asset value. Furthermore, in research of Azlan *et al.* (2015) it is stated that financial literacy will affect saving behavior and retirement planning.

III. RESEARCH METHODS

This study was conducted to analyze in depth the role or function of financial literacy on decision-making in personal financial planning. The method in this research is a systematic review to get an overview of research data on certain topics (Dinter *et al.*, 2021), which in this study is financial literacy. This study uses a qualitative meta-ethnographic approach in reviewing various previous research results related to the role or function of financial literacy on decision-making in personal financial planning, which is then synthesized. The stages in this research consist of identification, evaluation, and interpretation (Siswanto, 2010).

IV. RESULTS AND DISCUSSION

A. Identification

Researchers found data related to research topics between 2016-2021 based on keywords used for literature searches via a web browser, namely personal financial planning, financial literacy, retirement, investment, perceived savings adequacy, financial experience, and financial skills. Furthermore, the researchers divided the topics based on the inclusion criteria that had been set. The inclusion criteria set are reports on the results of research on financial literacy issues on personal financial planning, financial decision-making, retirement plans, insurance, and investment. The results of topic identification obtained more than 100 articles, and from the inclusion criteria process, 21 articles were determined.

TABLE I: RESULTS OF EVALUATION

No	Role and/or decision making in personal financial planning	References
1	Very important for household scale personal financial planning	(Waliszewski & Warchlewska, 2020)
2	Guides decisions to plan financially for retirement	(França & Hershey, 2018; Herrador-Alcaide <i>et al.</i> , 2021)
3	People with a good level of understanding of finances tend to be better at planning personal finances	(Laily, 2021; Setyowati <i>et al.</i> , 2018)
4	The decision to plan personal finances is decided by yourself based on your level of personal knowledge about finance	(Ozyuksel & Gunay, 2019)
5	Help determine the selection of the appropriate form of investment	(Ozyuksel & Gunay, 2019)
6	Social factors that can influence a person's financial decisions	(Ningrum, 2021)
7	Useful indicators of personal financial planning decisions	(Lee <i>et al.</i> , 2019)
8	Individuals who have a high level of financial literacy focus more on personal financial planning to prevent negative impacts that may occur in the future	(Lee <i>et al.</i> , 2019)
9	Shows how much financial knowledge a person has to support personal financial management behavior	(Ameliawati & Setiyani, 2018)
10	Good financial knowledge makes better financial decisions	(Chuah <i>et al.</i> , 2020)
11	People with mature financial literacy will save more	(Bačová <i>et al.</i> , 2017)
12	Improve personal financial performance by increasing income through investment understanding	(Sudarto & Reswari, 2019)
13	Allows one to properly manage personal finances such as budgeting, investing, saving, and deciding matters of coverage	(Chuah <i>et al.</i> , 2020)
14	Improve the ability of effective financial management	(Sugiharti & Maula, 2019)
15	Understanding the use and management of money influences financial planning behavior	(Sugiharti & Maula, 2019)
16	Improve the ability to control finances well and have an impact on treatment in financial decisions such as when to save, invest, and use credit cards	(Aulianingrum & Rochmawati, 2021)
17	As basic knowledge about money management which includes budgeting, savings, investment, and insurance	(Ningrum, 2021; Saeedi & Hamed, 2018)
18	Needed to be responsible for making his financial decisions	(Palameta <i>et al.</i> , 2016)
19	Needed to make rational and effective decisions regarding finances and economic resources	(Palameta <i>et al.</i> , 2016)
20	Maximize financial ability to meet life goals	(Bogan <i>et al.</i> , 2020)

Source: Evaluation process

B. Evaluation

There are 21 articles entered into the evaluation stage. The article was then carried out a systematic review by describing each article and finding statements. The following is a description of the results of the evaluation of the influence of financial literacy on decision-making in personal financial planning.

The results of the research above show that financial literacy role has a very important position in financial planning (Waliszewski & Warchlewska, 2020). The importance of financial literacy is marked by a change in the impact of financial planning that is applied following the level of financial literacy. That is, the higher the level of understanding, the better the results of financial planning that are applied. Vice versa, the lower the literacy level of the planner, the lower the effect of financial planning. Therefore, the level of literacy possessed by financial planners determines the extent to which financial management or management models are applied (Chuah *et al.*, 2020).

C. Interpretation

Based on the identification and evaluation, the interpretation is prepared as follows: First, financial literacy plays an important role in a better financial planning process. A person who has literacy in finance will understand the purpose and use of finance, understand the procedures for financial management, and know well about the financial impact, especially for the future (Laily, 2021).

Planning finance is very important household scale personal financial planning (Waliszewski & Warchlewska, 2020). Someone who has the knowledge and ability to control finances well will be able to plan and determine decisions such as when to save, invest, and use a credit card (Aulianingrum & Rochmawati, 2021). Good financial literacy will encourage someone to make a plan of decisions related to finances, such as when to buy a product or service, when to save, when to retire (França & Hershey, 2018; Herrador-Alcaide *et al.*, 2021), how much to invest, and so on. Planning finance personnel will be in line with literacy in his finances (Ozyuksel & Gunay, 2019). Acknowledgment of good finance will support the decision of good finance (Chuah *et al.*, 2020). The degree of the breadth of knowledge possessed by somebody supports behavior management financial implementation it has implemented (Ameliawati & Setiyani, 2018). The general role of literacy finance in planning finance is as follows: a) Literacy finance be the basis in making planning that includes targets for money inflow and money outflow every month., 2) Inflow money planning, including the selection and management of assets that can be managed effectively financially that is passive income such as deposits, stocks, bonds, crypto currencies and others., 3) Planning money outflow which includes management expenditure every month, which is given level following scale priority, for example, needs life routine monthly, shopping, determination amount investment, and others.

Second, financial literacy plays an important role in making more precise financial decisions and implementing them in real terms. Individuals who have high financial knowledge will be able to easily manage their finances and make decisions alone decision his finances (Ozyuksel & Gunay, 2019). On the other hand, someone who only has little knowledge about it will have difficulty managing his finances (Laily, 2021). Financial decisions related to rational and effective decisions on resources economics (Palameta *et al.*, 2016). As stated by Chuah *et al.* (2020) good financial knowledge will result in better financial decisions. Therefore, someone who has financial literacy will be more careful in making decisions about what steps will be taken to achieve personal goals (Lee *et al.*, 2019; Ningrum, 2021). Someone with financial literacy will decide for themselves the financial steps they want to take because they understand well all the financial risks that may occur. Enhancement of literacy finances also has an impact on the ability to manage finances effectively (Sugiharti & Maula, 2019). The decision to plan your finances is based on the level of knowledge of the decision finances that will take it. The decision-making is driven by the role of financial literacy as the background reasons for buying financial products or carrying out financial activities with financial goals in the future. In the decision-making process and carrying out financial implementation actions, individuals carry out monitoring and evaluation activities on the activities they carry out in accordance with the previously determined plans and make the necessary adjustments, so that the main goal in implementing financial literacy can run efficiently and effectively.

Third, financial literacy plays a role in the achievement of well-being finance. Financial literacy affects financial behavior, becoming one of the indicators and the basis of reference in efforts to going to financial freedom at a time efforts to prevent negative impacts due to errors in financial risks that may arise in the future (Lee *et al.*, 2019). This is related to social factors that influence one's financial decisions (Ningrum, 2021; Saeedi & Hamed, 2018), as well as maximizing ability finance for Fulfill destination live (Bogan *et al.*, 2020). The role of financial literacy as the reasons behind buying financial products or carrying out financial activities with financial goals in the future in the form of investment (Ozyuksel & Gunay, 2019) or managing income (Putri & Tasman, 2019). People with a strong future orientation tend to have saved more than those who are now oriented (Bačová *et al.*, 2017), and increase income through understanding and selecting the right investment (Sudarto & Reswari, 2019). People with mature financial literacy will have financial goals they want to achieve, have good financial planning, and implement them by saving more, having more income, being better prepared for the future, and having post-retirement financial planning. People with mature financial literacy will dare to make financial decisions so that they have an impact on better and more effective personal financial performance.

V. CONCLUSION

The role of financial literacy has a significant influence on decision-making in personal planning. From the result analysis and discussion obtained three role main literacy finance namely: First, financial literacy plays an important role in a better financial planning process., 2) financial literacy plays an important role in making more precise financial decisions and implementing them in real terms., 3) financial literacy plays a role in the achievement of well-being finance. The effectiveness of personal financial planning is following the level of financial literacy possessed by financial planners. Likewise, research explains that decision-making and implementation activity real in personal financial planning is motivated by the level of financial literacy owned by financial planners. At the end of the implementation of good financial literacy will have a significant impact on financial behavior. Financial literacy becomes the basis behind decision-making in financial planning. The effectiveness of personal financial planning is on the level of financial literacy possessed by financial planners. Financial literacy also has a significant impact on financial behavior. Financial lessons received from an early age have a positive influence on knowledge about financial management so that they have a stronger future orientation and tend to have more savings.

This study only shows the results that decision-making in personal financial planning is motivated by the level of financial literacy possessed by financial planners. Further research is needed to determine whether financial literacy has an influence on financial inclusion, considering that (Financial Services Authority, 2019) states that Indonesia has a low index for financial literacy, which is 38.03%, but its financial inclusion index reaches 76.19%. In addition, this study uses a systematic review method based on scientific literature from various types of research objects, so it is necessary to conduct further research using different methods, to obtain more specific data. Good financial planning is in line with the level of financial literacy you have, so the better you're understanding and skills in managing finances will be, the better the financial plan will be implemented. Therefore, it is necessary to socialize the importance of financial planning from an early age, namely by providing financial education to students in elementary to secondary schools, teaching about simple financial management in the family environment, and inviting many people to be more aware of the importance of having a personal financial plan, starting with by determining financial goals, recognizing financial products and how financial literacy has a positive impact on life in the future.

REFERENCES

- Ameliawati, M., & Setiyani, R. (2018). The Influence of Financial Attitude, Financial Socialization, and Financial Experience to Financial Management Behavior with Financial Literacy as the Mediation Variable. *KnE Social Sciences*, 3(10), 811-832. <https://doi.org/10.18502/kss.v3i10.3174>.
- Aulianingrum, R. D., & Rochmawati. (2021). Pengaruh Literasi Keuangan, Status Sosial Ekonomi Orang Tua, dan Gaya Hidup Terhadap Pengelolaan Keuangan Pribadi Siswa. *Jurnal Pendidikan Ekonomi: Jurnal Ilmiah Ilmu Pendidikan, Ilmu Ekonomi, dan Ilmu Sosial*, 15(2), 198-206. <https://doi.org/10.19184/jpe.v15i2.24894>.
- Azlan, A., Jamal, A., Kamal, W., Mohdrahimie, R., Roslemohidin, A. K., & Osman, Z. (2015). The Effects of Social Influence and Financial Literacy on Savings Behavior: A Study on Students of Higher Learning Institutions in Kota Kinabalu, Sabah. *International Journal of Business and Social Science*, 6(111), 110-119.
- Báčová, V., Dudeková, K., Kostovičová, L., & Baláz, V. (2017). Financial Planning for Retirement in Young Adults: Interaction of Professional Experience, Knowledge, and Beliefs. *Studia Psychologica*, 59(2), 84-99. <https://doi.org/10.21909/sp.2017.02.732>.
- Billingsley, R. S., Gitman, L. J., & Joehn, M. D. (2017). *Personal Financial Planning*. Cengage Learning.
- Bogan, V. L., Geczy, C. C., & Grable, J. E. (2020). Financial Planning: A Research Agenda for the Next Decade. *Financial Planning Review*, 3(2), 1-7. <https://doi.org/10.1002/cfp2.1094>.
- Chuah, S. C., Kamaruddin, J. N., & Singh, J. S. K. (2020). Factors Affecting Financial Management Behaviour Among University Students. *Malaysian Journal of Consumer and Family Economics*, 25, 154-174.
- Dinter, R. V., Tekinerdogan, B., & Catal, C. (2021). Automation of Systematic Literature Reviews: A Systematic Literature Review. *Information and Software Technology*, 136, 106589. <https://doi.org/10.1016/j.infsof.2021.106589>.
- França, L. H. F., & Hershey, D. A. (2018). Financial Preparation for Retirement in Brazil: A Cross-Cultural Test of the Interdisciplinary Financial Planning Model. *Journal of Cross-Cultural Gerontology*, 33(1), 43-64. <https://doi.org/10.1007/s10823-018-9343-y>.
- Grozdanovska, V., Bojkovska, K., & Jankulovski, N. (2017). Financial Management and Financial Planning in the Organizations. *Financial Management and Financial Planning in the Organizations*, 9(2), 120-125.
- Herrador-Alcaide, T. C., Hernández-Solis, M., & Topa, G. (2021). A Model for Personal Financial Planning Towards Retirement. *Journal of Business Economics and Management*, 22(2), 482-502. <https://doi.org/10.3846/jbem.2020.13978>.
- Laily, N. (2021). Pengaruh Literasi Keuangan Terhadap Perilaku Mahasiswa Dalam Mengelola Keuangan. *Journal of Accounting and Business Education* 1(4), 1-17.
- Lee, D., Arumugam, D., & Arifin, N. B. (2019). A Study of Factors Influencing Personal Financial Planning Among Young Working Adults in Kuala Lumpur, Malaysia. *International Journal of Recent Technology and Engineering*, 7(5), 114-119. <https://www.ijrte.org/wp-content/uploads/papers/v7i5s/ES2134017519.pdf>.
- Mendari, A. S., & Soejono, F. (2019). Hubungan Tingkat Literasi dan Perencanaan Keuangan. *Jurnal Modus*, 31(2), 227-240.
- Ningrum, H. A. D. (2021). Faktor yang Memengaruhi Personal Financial Planning Pada Masyarakat Kota Kediri. *Jurnal Ilmu Manajemen*, 9(2), 359-372.
- Otoritas Jasa Keuangan. (2017). *Literasi Keuangan. Otoritas Jasa Keuangan*. Retrieved from: <https://www.ojk.go.id/id/kanal/edukasi-dan-perindungan-konsumen/Pages/literasi-keuangan.aspx>.
- Otoritas Jasa Keuangan. (2017). *Strategi Nasional Literasi Keuangan Indonesia (Revisit 2017)*. Otoritas Jasa Keuangan.
- Otoritas Jasa Keuangan. (2019). *Survei Nasional Literasi dan Inklusi Keuangan 2019*. Otoritas Jasa Keuangan. Retrieved from: <https://www.ojk.go.id/id/berita-dan-kegiatan/publikasi/Pages/Survei-Nasional-Literasi-dan-Inklusi-Kuangan-2019.aspx>.
- Ozyuksel, S., & Gunay, U. (2019). Retirement Preparedness in Turkey and the Need for Personal Financial Planning. *Eurasian Journal of Economics and Finance*, 7(1), 15-35. <https://doi.org/10.15604/ejef.2019.07.01.002>.
- Palameta, B., Nguyen, C., Hui, T. S., & Gyarmati, D. (2016). *The Link Between Financial Confidence and Financial Outcomes Among Working-Aged Canadians for the Financial Consumer Agency of Canada*. Social Research and Demonstration Corporation. The Social Research and Demonstration Corporation (SRDC), pp. 1-63.
- Putri, I. R., & Tasman, A. (2019). Pengaruh Financial Literacy dan Income Terhadap Personal Financial Management Behavior Pada Generasi Millennial Kota Padang. *Jurnal Kajian Manajemen dan Wirausaha*, 1(1), 151-160. <http://dx.doi.org/10.24036/jkmw0255050>.
- Rahayu, C. W. E., & Rahmawati, C. H. T. (2019). The Influence of Financial Literacy on the Personal Financial Management of Government Employees. *Inovasi*, 15(2), 128-134. <https://doi.org/10.30872/jinv.v15i2.5421>.
- Saeedi, A., & Hamed, M. (2018). *Financial Literacy: Empowerment in the Stock Market*. Springer.
- Safari, K., Njoka, C., & Munkwa, M. G. (2021). Financial Literacy and Personal Retirement Planning: A Socioeconomic Approach. *Journal of Business and Socio-Economic Development*, 1(2), 121-134. <https://doi.org/10.1108/JBSED-04-2021-0052>.
- Setyowati, A., Harmadi, H., & Sunarjanto, S. (2018). Islamic Financial Literacy and Personal Financial Planning: A Socio-Demographic Study. *Jurnal Keuangan dan Perbankan*, 22(1), 63-72.
- Siswanto. (2010). Systematic Review Sebagai Metode Penelitian Untuk Mensintesis Hasil-Hasil Penelitian (Sebuah Pengantar). *Buletin Penelitian Sistem Kesehatan*, 13(4), 326-333.
- Sobaya, S., Hidayanto, M. F., & Safitri, J. (2016). Pengaruh Literasi Keuangan dan Lingkungan Sosial Terhadap Perencanaan Keuangan Pegawai di Universitas Islam Indonesia Yogyakarta. *Madania: Jurnal Kajian Keislaman*, 20(1), 115-128. <http://dx.doi.org/10.29300/madania.v20i1.90>.
- Sudarto, & Reswari, A. D. (2019). Faktor-Faktor yang Mempengaruhi Perencanaan Keuangan Pribadi (Studi Pada UKM di Bawah Binaan Bank Indonesia di Banyumas). *Sustainable Competitive Advantage (SCA)*, 9(1), 157-167.
- Sugiharti, H., & Maula, K. A. (2019). Pengaruh Literasi Keuangan Terhadap Perilaku Pengelolaan Keuangan Mahasiswa. *Accountthink : Journal of Accounting and Finance*, 4(2), 804-818. <https://doi.org/10.35706/acc.v4i2.2208>.
- Silvy, M., & Yulianti, N. (2013). Sikap Pengelola Keuangan dan Perilaku Perencanaan Investasi Keluarga di Surabaya. *Journal of Business and Banking*, 3(1), 57-68. <http://dx.doi.org/10.14414/jbb.v3i1.254>.
- Tillery, S. M., & Tillery, T. N. (2017). *Essentials of Personal Financial Planning*. John Wiley & Sons.
- Waliszewski, K., & Warchlewska, A. (2020). Financial Technologies in Personal Financial Planning: Robo-Advice Vs. Human-Advice. *Ruch Prawniczy, Ekonomiczny i Socjologiczny*, 82(4), 303-317. <https://doi.org/10.14746/rpeis.2020.82.4.22>.