

Chapter 12

Integrated Public Financial Management Information Systems in Turkey



Habip Demirhan

12.1 Introduction

The rapid change in technology gives governments an opportunity to develop their financial systems. Governments in developing countries are increasingly exploring methods and systems to modernize and improve their financial systems. Over the years, the governments have aimed at producing an effective, efficient, accountable, transparent, secure, and comprehensive financial reporting and management system. Financial management information systems—the oldest record-keeping methods, dating back hundreds of years—include the recording of financial information based on accounting practices. In other words, it is not a new concept either in the literature or for implementation. However, with the rapid development of information technologies, developed countries have shown an increased tendency to digitize and transfer activities related to public financial management onto the electronic environments. One of the most important activities is the Integrated Financial Management Information System (IFMIS), which allows public institutions to digitize key aspects of budget implementations and accounting procedures. IFMIS is a budgeting and accounting system that manages spending, processing, payment, reporting and budgeting for governments and other entities, based on information technologies. An IFMIS bundles significant financial management functions into one software suite of applications (Chado 2015). The governments implement IFMIS to increase the efficiency and the effectiveness of their financial management. The system helps the governments to facilitate adoption of modern public expenditure's best practices for keeping with international standards and benchmarks (Chado 2015; International Consortium on Governmental Financial Management 2008).

H. Demirhan (✉)
Hakkari University, Hakkari, Turkey
e-mail: habipdemirhan@hakkari.edu.tr

The IFMIS has become one of the most important financial management reform practices. The aim of this reform is to promote efficiency, effectiveness, accountability, transparency, comprehensive financial reporting, and security of data management. The IFMIS represents an enormous, complex strategic reform process. Therefore, the scope and functionality of the system varies across countries (Chado 2015). Developing countries face major challenges of institutional, political, technical, and operational nature. As a result, the IFMIS has been promoted as a core component of public financial reforms in developing countries. Successful case studies are available for countries such as Kosovo, The Slovak Republic, Tanzania, and Ethiopia. These studies indicate that supporting successful implementation of an IFMIS should include a clear commitment from the relevant authorities to the objectives of the financial reform (Chêne and Hodess 2009).

This chapter examines the reform process of IFMIS in Turkey. The chapter aims to explain the current situation and challenges of the applications of IFMIS in Turkey. Our methodology used literature studies to investigate and solve the research problem. The results indicate that there are numerous challenges concerning the implementation of IFMIS in Turkey.

12.2 Integrated Financial Management Information System

Financial Management System (FMIS) is an information system that tracks the financial events and summarizes information. FMIS generally refers to automating financial operations and it supports policy decisions, adequate management reporting, and preparation of auditable financial statements. An effective FMIS needs to be designed with good relationships between software, hardware, personnel, controls, procedures, and data. The FMIS may include cost management, fund management, and financial reporting. Public financial management system is designed to support all financial operations, collect accurate timely, complete, reliable and consistent information on all public financial events, provide adequate management reporting, support government-wide and agency policy decisions, and produce auditable financial statements.

An Integrated Financial Management Information System (IFMIS) is an automated system that is used for public financial management. Generally, IFMIS applies high technology to enhance financial management and reduce mismanagement of corruption. IFMIS is defined as a system that can provide a rapid and an effective access to reliable financial data and enhance the financial control of the state/public authorities, improve the effectiveness and efficiency of public activities, move the budget process to a higher level of transparency and accountability, and accelerate public activities (Diamond and Khemani 2006). In another definition, IFMIS is defined as a set of automation solutions that enable governments to plan, execute, and monitor the budget (Dener and Min 2013). The first generation of public financial

management reforms concentrated on establishing well-functioning Treasury and Treasury Single Account to solve operational issues.

In order to implement IFMIS, international organizations such as International Monetary Fund and World Bank support the projects that provide a combination of technical assistance, training, financial resources, and procurement supports. Thus, they play an important role in supporting and shaping the financial management systems of the member countries through international incentives (Uysal and Aldemir 2018). There are four characteristics of IFMIS (US Government Accountability Office 2001):

- Classification of standard data for recording events.
- Common processes for similar transactions.
- Internal control over the data entry, reporting, and transaction processing applied consistently.
- A design to avoid unnecessary duplication of transaction entry.

The system should have an ability to collect timely, accurate, complete, reliable, consistent information and provide adequate management reporting. Additionally, the system should support preparation and execution of budget and government-wide and agency policy decisions. It should facilitate the preparation of financial statements and provide complete audit trail to facilitate audits. As a result, in a digitalized world, the implementation of IFMIS has proved a real challenge. The Information and Communication Technologies (ITCs) have a significant role in fighting corruption for the states by promoting transparency of information and greater comprehensiveness across public institutions (Chêne and Hodess 2009). IFMIS is a core component of financial reforms to promote security of data management, efficiency, and comprehensive financial reporting.

IFMIS refers to the system formed by the software programs supporting functional processes related to public financial management, working interactively with each other and sharing information while it needs. As a result, a fully functioning IFMIS contributes to improved governance by providing real-time financial information that financial and other managers can utilize to effectively administer programs, develop budgets, and manage resources. The IFMIS has increased public sector legitimacy, produced timely and efficient accounting of public resources, increased government accountability and transparency and made it possible to audit public accounts and strengthen internal control in government units.

12.3 Benefits and Challenges of IFMIS

IFMIS processes financial management transactions on a single software platform and a single database, facilitates sharing of common data and flow of information among different functions and processes of an enterprise, allows users to track and analyze trends in a wide range of events in an integrated fashion to plan for future

performance improvements across enterprises (International Consortium of Governmental Financial Management 2009). Besides a number of ways that IFMIS can improve public finance management, the most important role of IFMIS is to enhance credibility and confidence of budget through greater comprehensiveness and transparency of information (Chêne and Hodess 2009). The governments need timely and accurate data for budget management and decision-making process to improve the planning and execution of their budget. Numerous benefits of IFMIS were cited by the researchers. The most important goals for an IFMIS acquisition are effectiveness and improved outcomes. According to Parry (2005), IFMIS improves management of resources, reduces fraud and corruption, improves transparency and accountability, provides optimal resource allocation opportunity, lowers transaction costs, and finally provides a better fiscal management. Some researchers claim that there are no systematic assessments of the impact of IFMIS on corruption. However, IFMIS can have a deterrent function on corruption by increasing the risks of detection. A well-designed IFMIS can provide a number of features that may help detect excessive payments, fraud, and theft (Chêne and Hodess 2009). On one hand IFMIS implies efficiency reforms and on the other hand implies reforms that change existing procedures. For a successful IFMIS implementation, IT reforms are crucial. Mostly, IT reforms are perceived as complex, resource intensive, risky, and require major procedural changes, often involving high-level officials, and lacking incentives for reform. Decision-makers should be convinced that benefits exceed risks. The agencies should recognize the need for a new system. Therefore, the IFMIS must be carefully designed to meet agency's needs and functional requirements, including the accounting and financial managements the system should perform (Chêne and Hodess 2009).

Fiscal transparency, fiscal discipline and accountability are the most important elements for financial management. The achievements of these elements depends on open data accession. IFMIS can improve fiscal transparency through disclosure of public finance information to citizens. Therefore, the data of published budget should be accurate, timely, easily accessible, and meaningful to ordinary citizens (Dener and Min 2013). The accession of data also improves the accountability and fiscal discipline while fiscal transparency can improve trust in government. Consequently, the benefits of IFMIS implementation can be summarized as below (ICPAK 2017; Hendriks 2013):

- Enables efficient resource allocation mechanisms;
- Improves management information for decision-making;
- Establishes effective links between key players in accounting and financial management;
- Improves financial controls by availing reliable and timely financial information;
- Improves accounting, recording, and reporting through timely, accurate financial data provision;
- Accelerates the pace/scope of economic growth;
- Enhances development of partners' confidence.

In addition to the benefits mentioned above, IFMIS also enables government reforms; improves efficiency and controls, budget planning and decision-making, and confidence through transparency; increases government revenue; and reduces costs.

12.4 The IFMIS Experiences in Turkey

In Turkey, the public financial management reforms started in the early 1990s. In 1995, an agreement was signed between Turkey and the World Bank to restructure public financial management. In 2000, the government of Turkey requested the support of the World Bank for Public Expenditure and Institutional Structure Review (PEIR). PEIR is intended to take place in two stages. In the first phase, the government planned to focus on public expenditure reforms. In the second phase, they concentrated on institutional issues related to the development of public sector management. Since then, various regulations have been made to emphasize the necessity of the system. Finally, with the leading decision Number 2002/3, the Ad Hoc Committee on Restructuring of Public Finance Management and Fiscal Transparency prepared a report and explained the requirement of a new system.

In 2003, the Public Financial Management and Control Law No: 5018 was adopted. This law has been one of the most important reforms of the administrative transformation of the public sector. In 2010, The Court of Accounts Law No: 6085 was adopted. Both of these laws mention accounting, reporting, and budgeting as the core concepts of new integrated system. In order to meet the basic requirements of the new system, public administrations try to make use of information and communication technologies as much as possible and to develop and operate information systems related to their respective fields. However, the system remained at the institutional level rather than covering the whole of public financial management, which led to creation of redundant jobs and expenditures in some areas, and the inefficient use of public resources (Uysal and Aldemir 2018). For this reason, the 10th Development Plan (2014–2018) determined the prior transformation programs. In 2015, the core concept of Prior Transformation Programs has been issued. The 10th Development Plan also included the Rationalization of Public Expenditure Program which was coordinated by former Ministry of Development and Ministry of Finance.

The Ministry of Finance is responsible for “Keeping the Current Expenditures Under Control” and “Strengthening Program-based Budget Link.” Strengthening the Program-based Budget Link was the fifth component of the Rationalization of Public Expenditure Program. The “Integrating Management Information System” was mentioned as the first policy and the establishment of Integrated Public Management Information System as the first action under the fifth component of the Program. Then, it was mentioned both in Medium-term program (2016–2018) and Medium-term Fiscal Plan (2016–2018). In National e-Government Strategy and Action Plan, the responsible and related institutions for integration of information systems for public financial management have been determined. The main aim of these plans and

programs is to develop an integrated public financial information system. On May 16, 2017 Prime Minister's Circular was published in Official Gazette No. 20068 in order to increase the efficiency of public expenditures and integrate information systems infrastructures in public financial management to achieve this aim. The basic principles of the IFMIS project can be summarized as below (Prime Minister's Circular 2017):

- An innovative and process-oriented approach will be adopted in order to restructure the system.
- All financial management processes will be established together with the stakeholders that have the authority and responsibility.
- The Ministry of Finance will deliver services related to expenditure processes within the framework of a process-oriented approach.
- The administrations having the necessary technical infrastructure and performing the pre-financial process transactions through their own information systems will develop integration solutions that will enable them to perform their financial process through their own information systems.
- The integrated system design will be built on electronic document–electronic signature structure on the purpose of all of works, and transactions within the scope of Law No. 5018 could be carried out in electronic environment.
- The integrated financial management information system will be designed to include modern practices and methods such as e-Procurement, e-Invoice, e-Collection, e-Audit, financial statement analysis, risk analysis, decision support system, and early warning system.

The main objective of the project is to provide a technological integration of automation systems, electronic documents, electronic signatures, automated accounting, and the process-oriented integrated IT system infrastructure for financial management system from the beginning of budget preparation to the Turkish Grand National Assembly's legislative process. Also, the project determined the observed problems with the existing automation systems developed by different institutions as below:

- Limited integration between information systems,
- There are redundant work processes and different implementation can be observed for the same process,
- Inadequacy of the expected level of benefit from information technologies,
- Labor-intensive processes and productivity loss,
- There is no common data dictionary for information systems,
- Difficulty in target-budget-performance and accountability through plan-program-budget linkage,
- failure to create the data set needed in decision-making processes,
- Facing with difficulties in allocation of resources according to priorities and with tracing these transactions,
- Using new technologies and adaptation problem due to existing structures of systems,

- Limitation of accessing financial information produced by central systems.
- The responsibilities, obligations, and standards have not been clearly defined,
- Inadequate utilization of information technologies in audit processes,

Expected Outcomes are (IFMIS Policy Paper and Action Plan 2017; Yıldırım 2017)

- To obtain and use public resources effectively, economically, and efficiently;
- Increased level of control in expenditure processes;
- Development of financial reporting opportunities in the public sector;
- Effective and widespread use of statistical analysis methods in decision-making processes;
- Faster and more accurate processing of works and transactions in financial processes;
- Minimizing paper use and eliminating problems due to paper-based processes with the widespread use of electronic document;
- Evaluation of human resources in productive areas due to increase in automation level;
- Increasing the use of computer-based techniques in internal and external audit activities;
- Accelerating the e-Transformation process of our country.

The integrated Public Financial Management Information System consists of integrated systems composed of softwares that interact with each other with regard to some functional processes. These systems are: Macroeconomic forecasting and planning, Budget management, Financial planning, Cash management, Debt management, Revenue management, Public staff management, Asset management, Expenditure management, Accounting and financial reporting, Monitoring and Evaluation, and Audit (IFMIS Policy Paper and Action Plan 2017). In our study, the structure of some of these important systems will be explained and examined.

12.5 The IFMIS Policy Paper and Action Plan

Public Financial Management and Control Law No. 5018 constitutes the basic legal framework for public financial management and aims to ensure accountability and fiscal transparency as well as effective, economic, and efficient use of public resources. For this purpose, the law regulates the structure and operation of public financial management, preparation and implementation of public budgets, accounting, reporting, and financial control of all financial transactions. Law No. 5018 -prepared with the aim of creating a public financial management and control system in compliance with international standards and European Union norms- aims to increase efficiency in the process of budget preparation and implementation, ensure accountability and transparency in financial management, establish an effective internal control system. The new financial structure established by Law No. 5018 brings a new approach of

which financial management and control will be carried out under the management and responsibility of the institutions, and increases the functions and responsibilities of public institutions. In this context, political responsibility and administrative responsibility are separated from each other and the political responsible (Minister or Mayor) and the administrative officer (undersecretary, mayor, other top managers) of each public institution budget are determined separately.

The rapid transformation of information and communication technologies brings new opportunities for the public institutions to develop their automation systems. In Turkey, each institution has developed its automation system independently and this situation brings out various problems. Some of these problems can be listed as below (IFMIS Policy Paper and Action Plan 2017):

- The development and management of related automation system independently lead to a limited level of integration between the public financial management information systems. Therefore, it becomes difficult to provide the required information timely, completely, and accurately. In addition, it also causes the creation of redundant job processes and different implementations for the same process.
- The process of basic financial transactions cannot be executed completely in electronic environment despite the developed automation systems, and some stages of the processes are still paper-based. Paper-based processing steps affecting the organizational structure of public financial management eliminate the expected level of benefit from information technologies significantly.
- Most of the routine procedures carried out based on paper are labor-intensive and this causes the productivity loses in terms of human resources utilization.
- There is no common data glossary for public financial management information systems.

In order to solve the problems mentioned above and solve the problems related to the automation systems developed and operated by different institutions, development of an integrated public financial management information system in line with the principles stipulated in Law No. 5018 is required. For this reason, IFMIS Policy Paper and Action Plan was released in 2017 within the context of Prime Minister Circular No:2017/7. The Policy Paper and Action Plan covers the 2017–2020 period and determines all actions and policies clearly.

The Regulation on Implementation Procedures and Principles of the Integrated Public Financial Management Information System published in Official Gazette on June 26, 2018 within the context of the Prime Minister Circular No:2017/7. The IFMIS project is coordinated by the Ministry of Finance. The purpose of this regulation is to create, record, deliver, save, and submit; and keeping accounts, records, and similar contents on electronic environment; and to determine the interoperability standards and security policies between the information systems related to the processes covered by the Law in order to ensure that the transactions mentioned in the Public Financial Management and Control Law No: 5018 are carried out electronically and in an integrated manner.

12.6 New Accounting Information System

The integrated Public Financial Management Information System (BKMYS) projects bring with it a comprehensive renewal and transformation process that directly concerns institutions within the scope of general administration institutions. The division of a project of this scale into certain stages is essential for obtaining successful results. For this purpose, at first stage, a new accounting system that is compatible with the principles of interoperability and e-document is being designed. For this reason, the Ministry of Finance has already renewed the public accounting information system called “Say2000i.” The basic principle of the new accounting system is to register the administrative ledgers with a rowed per diem number. In this manner, the system provides flexibility to do changes on the existing job processes and organizational structure. The New Public Accounting Information System was developed in order to make automatic registration of jobs and transactions of public administrations’ accounting units with a process-oriented approach (Table 12.1 and Fig. 12.1).

The new accounting system is administration based. It is appropriate to use Financial Management Approach and it also supports institutional transformation. The new system is accountable, open to integration, and uses smart accounting processes. In other words, the new system is interoperability based and it removes the paper-based processes. It offers the opportunity to reorganize the accounting units. The payment information and accounting information are separated. The processes are proper to the staff’s expertise.

Table 12.1 A brief comparison of old and new accounting system

Say2000i	New accounting system
Accounting of accounting unit	Institutional Accounting, Multiple Account Plan Management
Accounting record form	Process-based Accounting
Process steps based on paper	Electronic document (preparation for applications such as e-procurement, e-invoice, e-collection, etc.)
Traditional data exchange methods	Improved integration possibilities
Desktop/Thinclient	PC + Mobile

Source IFMIS Policy Paper and Action Plan 2017



Fig. 12.1 The Transformation of Accounting Process. Source Gathered from IFMIS Policy Paper and Action Plan 2017; Uysal and Aldemir 2018; Polat 2007

12.7 New Expenditure Management System

The New Expenditure Management System is an information system that allows public administration to prepare “Spending Instruction Approval Document 1” and “Payment Order Document” electronically in accordance with e-document standards. The spending instruction, approval certificate, and tender approval certificate that are used in the old system are redesigned as a single electronic document format named spending instruction approval document based on the Universal Business Language. This definition is also a preparation for the e-procurement infrastructure which is planned to be formed in the later stages of the project.

The Expenditure Management System consists of the following modules:

1. Expenditure Management Module

- *Expenditures*: Expenditures and Payment Orders;
- *Definitions*: Subscriptions, e-invoice;
- *Travel Allowance Transactions*: List of audit task, List of Audit Advance, Entrance of travel allowance information;
- *References*: query of expenditure unit, query of payment code.

2. Movable Management Module

- Movable transactions.

3. Assistance Module

Ongoing Studies: e-procurement processes, Asset management, Reporting module.

The main purpose of the New Expenditure Management System is to fulfill the expenditure processes, which are carried out on the basis of the wet signed documents in accordance with its legislation, with the e-document prepared according to the determined standards. It is aimed that transactions in financial processes can be carried out in an integrated manner with the New State Accounting Information System, thanks to the Spending Instruction Approval Certificate and the Payment Order Document, which is designed to provide a structured file format (Table 12.2).

12.8 E-Document Standards & Standard Documents and Reporting

The standard document and reporting refer to the framework for e-document standards defined in the New Accounting Information System. The old documentary process was paper-based and the documents were transferred physically. The e-document definition is based on functional differentiation. The functional differentiation allows to define e-document definitions for other regulatory institutions. Standard Document and Reporting process is defined as a result of the development

Table 12.2 The differences between old expenditure system and new expenditure management system

Old expenditure system	New expenditure management system
There are accounting records in the payment order document issued by the spending unit	There are no accounting records in the payment order document. Reference values containing verbal expressions that can be easily understood by the personnel of the spending unit are used
There is no process logic of expenditure	The system starts with the expenditure order and ends with the payment order certificate and the payment order certificate attachments can be kept on the system
The system does not support e-document	The system design is based on e-document.
The users that make transactions in the system are the authorizing officers and realization officers	The system users that make transactions are data entry officers, realization officer, strategy officer, and authorizing officer. The documents prepared by the data entry officer shall be approved electronically by the realization Officer and the authorizing Officer. Besides, Ex ante financial that did not exist in old system is added to the system as a new function. The edited documents can be sent to the Strategy User optionally. These documents can be viewed and examined by the strategy user on the system

Source IFMIS Policy paper and action plan 2017; <http://bkmybs.maliye.gov.tr/> (accessed date, 04.01.2018)

of electronic document standards within the scope of “Integrated Public Financial Management System Project was carried out under the coordination of Ministry of Finance General Directorate of Accounting. Standard Document and Reporting is the technical and administrative process for determination and publication of standards related to electronic document circulation and other relevant standards among IT systems as a part of IFMIS project. The e-document formats are determined by the Ministry of Finance based on the studies of Public Financial Management Information System Steering Committee. Process and organizational responsibilities are taken into consideration during the development of the relevant e-document formats. The e-document standards are determined in accordance with the core component technical specification of The United Nations Centre for Trade Facilitation and Electronic Business. Also, the e-documents to be used in public e-procurement applications are determined within the scope of the Universal Business Language (UBL) and the formats for documents used in financial transactions such as Payment Order Document and Accrual Document are developed within the framework of XBRL—The Business Reporting Standards.

As a result, the main objectives of e-document can be listed as below:

- To remove paper-based processes
- To ensure institutional transformation
- To submit required data set
- To create end to end integrated business process
- To provide an interoperability environment.

12.9 Conclusion

We witnessed the rapid development in ICTs recently. This development process forces government to regulate their service delivery methods. Financial management is a core concept for the governments. In early 1990s, Turkey started to transform its financial management system with various reforms. One of these reforms—Public Financial Management and Control Law No. 5018—was accepted in 2003. The main objective of the reform was to strengthen financial discipline and provide transparency and accountability in financial processes. In 2017, Prime Minister’s Circular was released in order to ensure that the transactions in Public Management and Control Law No. 5018 are carried out electronically in an integrated manner. The implementation of Integrated Public Financial Management Information System will create an institutional perspective, provide sufficient data sets, eliminate the lack of a common language with a common data glossary, eliminate the creation of redundant job processes, and eliminate paper-based and labor-based processes. There are various benefits of IFMIS project. Some of these benefits are

- It combines different sources of information in a single environment.
- It allows an analytical evaluation.
- It shortens and accelerates decision-making process.
- It develops the financial reporting opportunities in public sector.
- It reduces paper use due to increased use of electronic documents and reduces costs due to paper-based processes.
- It increases transparency and accountability due to accessible information data sets.

We can conclude that the international best practices and regulations are taken into consideration during the project. For example, e-document standards are determined in accordance with the core component technical specification of The United Nations Centre for Trade Facilitation and Electronic Business. Also, public e-documents for public e-procurement applications are determined within the scope of the Universal Business Language (UBL) and the formats for documents used in financial transactions such as Payment Order Document and Accrual Document are developed within the framework of XBRL—The Business Reporting Standards. These regulations are the strengths for the IFMIS project. However, many public institutions still don’t have enough information about the whole processes. For this reason, a series

of trainings should be planned for the institutions to raise awareness of the project. There are three core components of information management systems. These are: job processes, personnel, and technology. For this reason, the achievement of IFMIS not only depends on technological development but also depends on qualified personnel and clearly defined job processes.

The IFMIS project is a core component for the financial management. It is a fact that all public services will be electronically soon. Therefore, the development of IT database is important. For the achievement of all project objectives, information and communication technologies database should be adequate institutionally. As a result, public resources will be used and obtained effectively, economically, and efficiently while the IFMIS, which will contribute to the more effective transactions of the internal control system in public sector, is fully implemented.

References

- Chado, H. M. (2015). The effect of integrated financial management information system on the financial management of public sector in Kenya. *Unpublished MSC Project, University of Nairobi*.
- Chêne, M., & Hodess, R. (2009). The Implementation of Integrated Financial Information Management Systems (IFMIS). <https://www.u4.no/publications/the-implementation-of-integrated-financial-management-systems-ifmis.pdf> (Accessed date: 02.01.2019).
- Dener, C. & Min, S.Y. (2013). *Financial Management Information Systems and Open Budget Data: Do The Governments Report on Where the Money Goes?* Washington DC: The World Bank.
- Diamond, J. & Khemani, P. (2006). Introducing financial management information systems in developing countries, *OECD Journal on Budgeting*. 5(3). 97–132.
- Hendriks, C.J. (2013). Integrated Financial Management Information Systems: Guidelines for effective implementation by the public sector of South Africa. *South African Journal of Information Management*, 15(1), 1–9.
- Integrated Public Financial Management Information System Policy Paper and Action Plan (2018). International Consortium of Governmental Financial Management (2009). Use of Financial Management Information Systems (FMIS) to improve financial management and accountability in the public sector. *Conference Proceedings*. December 2007. Washington DC. <https://tr.scribd.com/document/10269078/Use-of-Financial-Management-Information-Systems-to-Improve-Financial-Management-and-Accountability-in-the-Public-Sector> (Accessed date: 02.01.2019).
- ICPAK (2017). The Benefits, Challenges and way forward of IFMIS in Kenya. *IPSAS Workshop*. 18th-19th July. Kakamega. <https://www.icpak.com/wp-content/uploads/2017/07./IFMIS-CPA-Andrew-Rori.pdf> (Accessed 04.01.2019).
- Parry, M. (2005). Why government IFMS procurements so often get it wrong. *ACCA International Public Sector Bulletin*, 4, 4–7.
- Polat, N. (2007). Management Information System and Implementations of the Court of Account (Yönetim Bilgi Sistemi ve Sayıştay'da Yürütülen Çalışmalar). *Sayıştay Dergisi*, 18(65). 187–198.
- US Government Accountability Office (2001). *Federal Financial Management System Requirements*. The Joint Financial Management Improvement Program. November. No: A02576.
- The Prime Ministry Circular No. 2017/7 on the Integrated Public Financial Management Information System Policy Paper and Action Plan.
- Uysal, T. U. & Aldemir, C. (2018). Digital Public Financial Management System and Blockchain Technology (Dijital Kamu Mali Yönetim Sistemi ve Blok Zinciri Teknolojisi). *Muhasebe ve Vergi Uygulamaları Dergisi*. 11(3). 505–522.

Yıldırım, A (2017). *Integrated Public Financial Management Information System Project: General Description, Policy Paper and Action Plan* (Bütünleşik Kamu Mali Yönetim Bilişim Sistemi Projesi Genel Açıklamalar, Politika Belgesi ve Eylem Planı) <https://www.bumko.gov.tr/Eklenti/10657,butunlesik-kamu-mali-yonetim-bilism-sistemi-projesi-arif-yildirimpdf.pdf?0> (Accessed date: 07.01.2019).

The Courts of Account Law No:6085.

Medium-term program (2016–2018).

Medium-term Fiscal Plan (2016–2018).

National e-Government Strategy and Action Plan.

Public Financial Management and Control Law No. 5018.

10th Development Plan (2014–2018).

Habip Demirhan is Assistant Professor of Public Finance at Faculty of Economics and Administrative Science of Hakkari University. Dr. Demirhan has also been serving as Vice-Dean at Faculty of Economics and Administrative Science since January 2018. He graduated from Faculty of Political Sciences of Ankara University in 2005. During 2006–2011, he worked in local governments as project manager and foreign relation advisor. He wrote and coordinated many EU projects. Shortly after that he started his academic career at Hakkari University as a research assistant. Dr. Demirhan received his both MSc and PhD from Social Sciences Institute of Dokuz Eylül University. He has been working as an Assistant professor of public finance at Hakkari University since September 2017. Dr. Demirhan's research and teaching interests are primarily in the Budgeting and Fiscal Issues. He has various articles, book chapters in the field of public finance.