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FATİH Project in Turkey: A Case Analysis

Abstract

In the 2023 vision strategy, prepared by TUBITAK in Turkey, Information Technology (IT), areas have been designated for target countries and FATİH project started in 2010. In order to achieve the aimed goals, FATİH (Increasing Opportunities and Improving Technology Movement) project consists of five main components. These components establish hardware and software infrastructure, educational e-content preparation and management, effective use of IT in the curriculum, in-service training of teachers, conscious, reliable, manageable and quantifiable IT use. The first component identifies technical infrastructures of school. The second component was created for the provision of educational content which is Education Information Network (EIN). The third component considers training programs. The fourth and fifth components of the effective use of IT by teachers discuss the issue of conscious and reliable Internet use and plan information for the in-service training. This paper presents the first component of the FATİH project and discusses the current situation and future goals of the ongoing project.

K e y w o r d s: Information technology, FATİH project in Turkey, effective use of IT

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Introduction

The Supreme Council for Science and Technology (BTYK) assigned the Scientific and Technological Research Council of Turkey in order to determine the science and technology policies for about 20 years – until 2023. Within this perspective, Turkey’s current situation in technology and science was determined by means of National Science and Technology Policies 2003–2023 Strategy Report, which was prepared in more than two years and the objectives for 2023 were presented.

In addition to this, the 2023 vision report (TUBITAK, 2004) says that information and communication technologies improved considerably starting from the last quarter of the 20th century. These technologies have played a crucial role as the infrastructure of scientific and technological developments in other fields. Moreover, it is foreseen that this role will remain as important as today in the near future (TUBITAK, 2004, p. 18).

“FATİH Project in Education” started in the light of these studies. This project has an important role in the educational policies of the country and it required a great deal of investment. The project, which started on November 22, 2010, was planned to be completed in a very short period of 5 years. However, the project has not been completed yet. The first two years were allocated to planning, preparation and pilot studies. The remaining three years were planned as three stages, which can be seen in Figure 1:

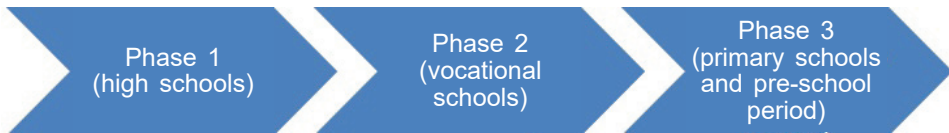


Figure 1. The Planning of FATİH Project in Education in terms of Infrastructure and Hardware.

S o u r c e: The authors’ own work.

As it can be seen, a three-phase process was planned for the infrastructure and hardware issues. In the first phase – high schools, in the second phase – vocational schools, and in the third phase – primary schools and pre-schools were planned to be equipped with the required infrastructure and hardware (MoNE, Activity Report, 2011; Alkan, Bilici, Akdur, Temizhan & Çiçek, 2011; MoNE FATİH Project Web, 2012).

FATİH Project in Education

FATİH Project in Education is defined by the Ministry of National Education (MoNE) as enabling equal opportunities in education and improving technology in our schools for the efficient usage of Information, Communication, and Technology (ICT) tools in the learning-teaching processes. Within this context, it was aimed at appealing to more sensory organs in all 42,000 schools and 570,000 classes that are in the pre-school education, the primary education and the secondary education through providing tablets and LCD Interactive Boards. In-service trainings for teachers are going to be held in order to provide effective usage of the ICT equipment in the classrooms in the learning-teaching process. In this transformation process, educational e-contents is going to be formed in accordance with the current teaching programs (MoNE FATİH Project Web, 2012).

As for the aforementioned activities, five main components of the project were determined within the scope of the FATİH Project in Education (MoNE FATİH Project Web, 2012; MoNE Activity Report, 2013):

- providing equipment and software substructure;
- providing educational e-content and management of e-content;
- effective usage of the ICT in teaching programs;
- in-service training of the teachers;
- conscious, reliable, manageable, and measurable ICT usage.

Method

In the study, the document analysis model, which is one of the qualitative research methods, was used. Qualitative studies enable researchers to reach the data source directly. They allow to make convincing generalizations and detailed descriptions about the context and the phenomena (Büyüköztürk, Çakmak, Akgün, Karadeniz, & Demirel, 2012, p. 177). Document analysis can be defined as analyzing printed or web-based information and documents systematically (Bowen, 2009).

In this study, *Providing Equipment and Software Substructure* component, which is one of the main components of FATİH Project was examined, the current situation was analyzed and the objectives of the projects were discussed within this context.

The sources of the study included the MoNE's activity reports, formal websites, regulations which were published in the official gazette, research reports of some institutions on the project, articles and theses on this project.

Findings

The Starting Objectives of the Project about Providing Equipment and Software Substructure Component

In the first year of the project, MoNE's plan about providing equipment and software component was "to equip all classrooms with a laptop computer and overhead projectors, all schools with a multifunctional printer and all classrooms with 8 MB wideband Internet connection" in 2010 (MoNE Activity Report, 2011). There occurred some changes in these objectives in 2011 and it was modified as "The schools will be equipped with a multipurpose camera and a multifunctional printer and all classrooms will have 10 MB wideband Internet connection" (MoNE Activity Report, 2012). When the changes were taken into account, it was seen that laptop computers and overhead projectors were removed and cameras were added. Moreover, the Internet infrastructure was increased from 8 MB to 10 MB thanks to the technological improvements.

It can be thought that there was the need to change the objectives of the project in the light of evaluations after the pilot studies and progress of the projects within two years. When the MoNE Activity Report 2012 was taken into consideration, it can be seen that 5 more subtopics were added to the *providing equipment and software substructure* component (MoNE Activity Report, 2013):

- information collection module;
- geographical decision support system;
- identity management project hardware and software purchase;
- interactive whiteboard;
- infrastructure studies;
- infrastructure;
- management and support system for school infrastructure;
- data center.

The above-mentioned subtopics clarify that private sector representatives and MoNE staff hold a great number of meetings in order to plan the legal purchasing process and accomplish the objectives of the project (MoNE Activity Report, 2013).

The details of the subtopics for *Providing Equipment and Software Substructure* were explained below (MoNE Activity Report, 2013).

- Information collection module: the updated information about the schools is collected, project is monitored and needs analyses are completed.
- Geographical decision support system: the geographical distribution of schools and analysis and reports are indicated on a map so that the administrators could easily make decisions.
- Identity management project hardware and software purchase: the related units are supported in purchasing hardware and software legally.

- Interactive whiteboard: the councils that are formed in the project are responsible for preparing technical contract, evaluating proposals, and signing the contract.
- Infrastructure studies: the infrastructure studies at schools are monitored. They are responsible for active web devices, wireless web management, trouble shooting, and the management of tablet PCs.

As for today, the following items are distributed for schools, classrooms, teachers, and students in FATIH Project in Education (OrduMoNE, 2015; MoNE FATIH Project Web, 2012; MoNE Activity Report, 2011).

- For 40,000 schools: a multifunctional printer, physical infrastructure, high speed Internet connection;
- For 570,000 classrooms: interactive whiteboards, classroom management software, wireless connection in the classrooms;
- For 853,000 teachers: tablet PCs, EBA Portal, EBA Market, access to content portals, e-mail account, online content development studio, Cloud Storage, access to Learning Management System, digital identification, platform for sharing course content;
- For 10,000,000 students: tablet PCs, EBA Portal, EBA Market, Cloud Storage, digital identification, assignment sharing, individual learning materials.

The Investment for the Component of Providing Equipment and Software Substructure and Current Situation

As for the pilot studies of the project, the infrastructure of 52 schools in February 2012 and 102 schools in May 2012 were completed by Turk Telekom, Turkey's leading communication and technological company. Moreover, 13,800 tablet PCs were distributed to teachers and students at 154 pilot schools (MoNE Activity Report, 2013). After the completion and the evaluation of pilot studies, the infrastructure and hardware works that were planned in three phases are summarized below (MoNE Activity Report, 2015; MoNE Press, 2015).

1st phase infrastructure and hardware. In this context, the local area connection and the Internet infrastructure at 154 pilot schools and 3,362 schools in phase 1 (3,516 in total) were completed. In these schools, 84,921 classrooms were equipped with interactive white boards and 3,657 camera and multifunctional printers were distributed to these schools. In this context, 62,800 tablet PCs were delivered to teachers and students in 2013 (MoNE Activity Report, 2014; Anatolian Press, 2014). In 2014, the number of interactive whiteboards which were given to the schools within the context of phase 1 of FATIH Project in Education, increased to 114,921. These schools were provided with 20,269 multifunctional printers. The number of tablet PCs delivered to the teachers and students was 737,800. After that, 10,600 tablet PCs were planned to be distributed and this is still in progress (MoNE Activity Report, 2015).

2nd and 3rd phases infrastructure and hardware. In the 2nd and 3rd phases of infrastructure and hardware work, the tender process for 347,367 interactive whiteboards, 13,645 A3 multifunctional printers and 28,351 A4 multifunctional printers for vocational schools, primary schools at districts and villages was completed and the setting up process started. At the end of 2014, 101,644 interactive whiteboards were delivered (MoNE Activity Report, 2015). By the end of 2015, 25,384 multifunctional printers will have been delivered and set at schools (MoNE Press, 2015).

According to the news release by MoNE on February 21, 2015, 4,000 schools which were not provided with high speed Internet connection were provided with the Internet by satellite, and 35,684 schools were provided with ADSL connection. It was planned that all schools have fiber Internet connection meant to be completed in the first quarter of 2015 (MoNE Press, 2015).

The works related to the geographical decision support system, which is one of the subtopics of *Providing Equipment and Software Substructure* component were completed. 54,000 schools were defined in the geographical decision support system. All schools are able to update their institutional and contact information in the system. The institutional and contact information of 154 pilot schools and 3,657 schools in Phase 1 and their hardware information were updated in the system (MoNE Activity Report, 2015).

The future objectives of the project. It has been planned that 10 million 600 thousand tablet PCs will be distributed in February, 2016 (Table 1). The distribution of tablet PCs in the FATIH Project in Education will start from 5th and 9th grade students. In this process, interactive whiteboards and Internet infrastructure will be prerequisite for tablet PC distribution (MoNE Press, 2015).

Table 1. The current situation for Equipment and Software Substructure component of FATIH Project in Education

Current situation	High speed Internet	Interactive whiteboard	Multi-functional printer	Tablet PC
Completed	4,000 Internet by satellite. ADSL Connection for 35,684 schools. Fiber Internet Connection for 3,516 schools	114,921	45,653 schools	887,800 students and teachers
Going on	Fiber Internet connection for all schools	318,644	The rest of the schools	10,6 mln teachers and students

Source: The authors' own work.

As the table shows, there has been a huge amount of investment and the technical infrastructure and hardware needs have been met. It can also be understood that

the investments which were to be completed at the beginning of the project have been planned but could not be completed before the deadline.

Conclusions

In the light of the studies, it can be stated that “FATİH Project in Education” had an important role in educational policy of the country and it required a huge amount of investment. The project that started on November 22, 2010, was planned to be completed in a short period. However, the project has not been completed. The component of *Providing Equipment and Software Substructure* can be seen as the exposed face of the project. This component was also the part in which great financial investments and purchases were completed.

Analyzing the MoNE Activity Reports and MoNE Press releases, it can be seen that the infrastructure works have not been completed yet. The MoNE has the right to purchase any good until the end of 2015 and this period will end soon. Thus, this period should be extended.

Twenty-first-century developments enable us to use high speed Internet connection so that the investments which could allow the schools to use these technologies are of great importance. According to the Gücü (2014), the schools at which fiber Internet connection was available had the high speed Internet connection. However, most of the websites are blocked and there are some problems about the web browser installed on tablet PCs, and because of this, fiber Internet connection cannot be used properly.

According to a study on the project, it occurred that teachers avoided the use of tablet PCs during lessons, as the students used them for different purposes and it was impossible to control them. Moreover, most teachers used interactive whiteboards for watching slides, films, animations, solving problems, and showing book content so that students were passive in these activities (Albayrak, 2014).

As a result of some studies, it was mentioned that there were some problems as there was no connection between the tablet PCs and the interactive white boards (Gücü, 2014; Altın, & Kalelioğlu, 2015). Updating the software, this problem might be solved and the project will work more effectively as there will be interaction in the classroom.

On the other hand, Akıncı and colleagues (2012) claimed that the improvements in the infrastructure would not guarantee the effective and productive use of ICT tools in the classrooms. Therefore, they mentioned that the investment made on infrastructure appeared to be more important than the investment made on teachers, which was the most important weakness of the project (Akıncı, Kurtoğlu, & Seferoğlu, 2012).

FATİH Project in Education is quite an important movement for the future of our country. Moreover, the documentation of each processes and its dissemination are very crucial as this project might be a sample project for other countries in the world (İslamoğlu, Ursavaş, & Reisoğlu, 2015). Moreover, analyses should be done at schools where the project has been completed. Thus, the problems which occurred during the implementation of the project will be diagnosed and possible solutions might be suggested.

At the end of this study, it could be concluded that only providing infrastructure will not be sufficient for the success of the project. The teacher training courses are required and the software programs in classrooms should be more user-friendly.

Recommendations

- The right of MoNE to purchase goods and services will end at the end of 2015 so this period should be extended before 2016.
- The software programs should be developed which will enable the interaction between interactive whiteboards and tablet PCs.
- While providing secure and virus-free Internet platforms, the efficiency and performance should not be ignored.
- Activity or project development reports should be prepared and shared publicly in order to inform people.

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Projekt FATİH w Turcji: analiza przypadku

Streszczenie

W strategicznym dokumencie Wizja 2023 przygotowanym przez TUBITAK w Turcji dziedziny związane z technologią informatyczną zostały wyznaczone dla docelowych krajów i w 2010 roku rozpoczęto realizację projektu FATİH. Aby zrealizować założone cele, projekt FATİH (Działania w celu zwiększenia szans i poprawy poziomu technologii) obejmuje pięć elementów, takich jak: tworzenie infrastruktury informatycznej, przygotowanie e-treści i zarządzanie nimi, efektywne wykorzystywanie technologii informatycznej w programach nauczania i praktykach zawodowych nauczycieli, świadome, rzetelne, zorganizowane i wymierne wykorzystywanie technologii informatycznej. Pierwszy element zakładał rozpoznanie technicznych uwarunkowań szkoły. Drugi element został stworzony w celu zapewniania treści edukacyjnych stanowiących Edukacyjną Sieć Informacyjną (EIN). Trzeci element dotyczył programów szkoleń. W zakresie komponentu czwartego i piątego, przewidujących efektywne wykorzystywanie technologii informatycznej przez nauczycieli, została opracowana kwestia świadomego i rzetelnego wykorzystywania Internetu, jak i informacje dotyczące praktyk zawodowych. Artykuł prezentuje pierwszy element projektu FATİH, a także omawia prezentuje bieżącą sytuację oraz przyszłe cele trwającego projektu.

Słowa kluczowe: informatyka, projekt FATİH w Turcji, efektywne wykorzystywanie informatyki

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Fatihprojekt в турции: анализ

Резюме

В документе, посвященном стратегии 2023, которой был разработан в Турции, информационные технологии (ИТ) целевым предназначаются странам. Реализация проекта FATİH (Движение к расширению возможностей и улучшению технологий) началась в 2010 году. Проект состоит из пяти основных компонентов: создание аппаратного и программного обеспечения и инфраструктуры; подготовка и управление образовательным контентом; эффективное использование ИТ в учебных программах; обучение без отрыва для учителей; сознательное, надежное, управляемое и количественное использование ИТ. Первый компонент заключается в определении требований к технической инфраструктуре школы. Второй компонент создан для предоставления образовательного контента с помощью Образовательной информационной сети (EIN). Третий компонент направлен на изучение учебных программ. В четвертом и пятом компонентах будет рассмотрено эффективное использование ИТ учителями, вопрос о сознательном и надежном использовании Интернета. В настоящей статье представлен первый компонент проекта FATİH, текущая ситуация и цели проекта.

Ключевые слова: информационные технологии (ИТ), проект FATİH в Турции, эффективное использование ИТ

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Proyecto FATIH en Turquía: análisis de un caso

Resumen

En el documento Estrategia 2023 elaborado por TUBITAK en Turquía, las áreas de las Tecnologías de la Información y la Comunicación (TIC) han sido designadas para los países objeto. El proyecto FATIH comenzó en 2010. Con el fin de alcanzar las metas propuestas, el proyecto Fatih (Movimiento Tecnológico para el Aumento de las Oportunidades y la Mejora) consta de cinco componentes principales. Estos componentes son implementar una infraestructura de *hardware* y *software*, una preparación y gestión de e-contenidos educativos, el uso efectivo de las TIC en el currículum, la formación para docentes en servicio y un uso consciente, fiable, manejable y cuantificable de las TIC. El primer componente fue identificar las infraestructuras técnicas de la escuela. El segundo componente se creó para proporcionar contenidos educativos; la denominada Red de Información Educativa (EIN) que está siendo examinada. El tercer componente considerado fueron los programas de formación. Los últimos componentes son el uso eficaz de las TIC por el profesorado, el uso de Internet consciente y con confianza y la información planificada de la formación en servicio también son objeto de estudio. Este trabajo presenta el primer componente del proyecto FATIH, así como la situación actual y las futuras metas del proyecto en curso.

Palabras clave: Tecnologías de la Información, Proyecto FAITH en Turquía, Uso efectivo de las TIC