

FUNDING OPPORTUNITIES THROUGH THE FUND FOR INNOVATION AND TECHNOLOGICAL DEVELOPMENT		Science
		Keywords: Digital disruption, on-line learning, challenge, new technology in education.

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Abstract

Technology surrounds us everywhere, every moment. It seems almost impossible to imagine our life without technology. It is pervasive and persuasive. As new technologies emerge, creative people in every industry can imagine new applications. In the education field, teachers embrace these innovations in the classroom and online. Many of these new resources are changing the traditional understanding of education. In this paper we'll talk about the use of technology, digital media and digital disruption and the opportunities they can offer to everyone and every organization. We'll focus on three phases: 1) In the past – Personal experiences as a Fulbright Visiting Scholar on ‘Teaching through Media’, 2002; 2) Present – On the implementation of the project, on ‘Impact of Teaching English in Limited Access to Technology Environment’, 2020, with the financial support of the US Embassy in Tirana; 3) 2020 onwards: challenges of using new technologies in the classroom for the future. The paper will also try to answer the following research questions: What is digital media? What is digital disruption and its importance in language learning? How does it help to improve skills in teaching through technology? How does the use of technology influence the English language learning? What are some of the challenges that teachers face while teaching in a low tech class? How does digital disruption help hybrid communication skills? On-line learning vs. face-to-face learning, etc. When available both students and teachers embrace the use of technology as a tool to make teaching and learning English fun and inclusive. Finally, the researcher will try to offer some challenges and solutions about the use of some practical disruptive education technologies.

1. Background

The Fund for Innovation and Technology Development (FITD) is a state institution specialized in providing support for innovation activity and management. It was founded in December 2013, for the purpose of encouraging innovations by provisioning additional sources for innovation funding and due to the need to build competitive economy based on knowledge.

Main vision of the Fund for Innovation and Technology Development is to encourage and support innovation activity in micro, small and medium-sized enterprises in order to ensure hastened technology development based on knowledge transfer, research and development of innovations which will contribute to the creating of new jobs and ensuring economic growth and development and at the same time improving the business environment for development of the competitive abilities of the companies.

¹ This paper was presented on the 5th International Multidisciplinary Scientific Conference (IMSC-2022) held by The Association-Institute for English Language and American Studies, Tetovo, North Macedonia.

Main Aim of the Paper

The purpose of the paper is to analyse the financial results reached by the companies and institutions funded by FITD in the period 2016–2020. Paper results from the financial support, the companies and institutions will be categorized according to their size, department, instrument and programme they applied for and performance analysis before and after receiving the funds, and taking into account Macedonian economy in its entirety. For that purpose, paper will be made of the general financial outcomes of the companies/institution per areas, instrument, project and size. The growth is gauged cumulatively between the years before the funding as a standard year of operation at the companies and two years (or one year) after the funding. This study paper will ensure certain points and making conclusions at segment level and future activities and funding.

General Macroeconomic Data of Republic of North Macedonia

The macroeconomic outlook of the country displayed positive growth, with an annual average growth at 3.5 percent during 2019–2023². Last data demonstrate that GDP value per capita in the period 2015–2021 was between EUR 9.11–6,694 billion with average actual growth rate of 2.78%.³ In the preliminary calculations it is expected the total GDP to reduce by -4.5%. According to the World Bank Report (2019) the employment rate increased by 6.7 percentage points to 45.1 percent in 2018, with associated lower poverty and inequality levels. This job creation was supported mainly by public spending for large-scale public projects, new active labor market policies, and government support for employment in Special Economic Zones. Employment in public administration, health, education, and water supply constituted more than 20 percent of net employment growth in 2009–2013. Nevertheless, unemployment remains high at 20.7 percent and labor force participation is low, especially for those younger than 25 and older than 55 and for women. In 2021, the share of the workforce in the working age population was 55.7%. The trend is stagnating; yet, the rate of female activity (47.7%) is significantly lower compared to men (67.1%).⁴ There is a great possibility the trend of decrease to continue in 2021 as well. The average net salary in the same period increased from EUR 369 to EUR 470 or 27%.⁵ Data from the Central Bank estimates that 2022, total net inflows from direct investments in the country nearly at EUR 753.8 million, as a result of registered net inflows based on intercompany lending (EUR 457.6 million) and equity (EUR 307.2 million) amid decreased reinvestment of earnings.⁶ Participation in the research and development at national level is scarce. According to World Bank (2018), North Macedonia is on the 82 place according to the participation in research and development from the total GDP of the country. In 2019, according to the estimated investment in research and development the percentage is between both values (0.40%) and approximately EUR 44 million.⁷

² World Bank, 2019

³ Finance think, 2022

⁴ Ibid, 3

⁵ Performance analysis of companies, FITD, 2021

⁶ <https://www.lloydsbanktrade.com/en/market-potential/north-macedonia/investment>

⁷ Ibid, 5

Main Activities of the FITD

Currently, the Fund, through its financial instruments, co-finances 918 projects with a joint investment of 110 million euros (Figure 1). As much as 51% of the FITR portfolio, i.e 326 supported companies is startup companies, mostly founded by young people. With almost 1.5 million euros, the Fund also supports the development of three accelerators in the country: X Factor, Seavus Accelerator and Business-Technology Accelerator UKIM.

Project funding programmes have two sources “Plan for Economic Growth” from the Government of Republic of North Macedonia and loan from the “World Bank”. According to the programme, the highest percentage or 398 (59%) of 669 projects are within the “Plan for Economic Growth” with total value of EUR 55.80 million. The second programme is with loan from the “World Bank (WB SDIS)” through which 191 projects were co-funded with total value of EUR 12.99 million. The last is the combined programme created by the “World Bank” and the “Plan for Economic Growth” through which 80 projects were funded with total value of EUR 19.68 million. As analysed hereinafter in the report, the funds from the “World Bank” are mainly used as financial support of Start-Up enterprises.

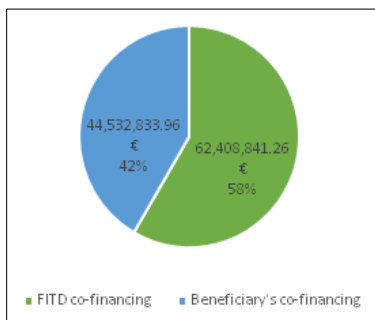


Figure 1: Total volume of portfolio of FITD

- Co-financing of startups, micro, small and medium enterprises, registered in the Republic of North Macedonia;
- National Startup Council whose goal is the transformation of the Macedonian startup ecosystem;
- Corporate Innovation Program to encourage collaboration between the private sector and startups;
- Partnership with Amazon Web Services through which the Fund provides loans for the use of this global platform in the amount of 10,000, 25,000 and 100,000 US dollars;
- Separate portfolio for investments in digitalization of agriculture and public institutions;
- Development of a National Strategy for Artificial Intelligence;
- Mentoring support for potential and current users.

2. Co-funded Projects per Instrument

Start-Up/Spin-off: The first instrument through which 227 projects (26, 4%) are co-funded has total project value of EUR 9.412,250 million, of which EUR 2.041 million are co-funded by FITD. The average project value is EUR 36,000 of which EUR 28,000 are co-funded by FITD. In fact, the majority of projects funded under this instrument per total project value is on the 5th position and after “Technology Development – COVID19” it shows the lowest average value per project.

Improvement of Innovation: The second instrument through which 106 projects (12%) are co-funded has total project value of EUR 13,964,993.18 million and is the instrument through which most of the funds i.e. 14.54 are co-funded. The average value per project is EUR 197,000 of which EUR 132,000 are cofunded by FITD.

Technology Development for Accelerated Economic Growth: The third instrument through which 209 projects are funded with total value of EUR 10.326 million, of which EUR 5.72 million are co-funded by FITD. The average project value is EUR 107,000 with average FITD participation of EUR 56,000.

Commercialization: 143 projects (17%) with total value of EUR 21.27 million are funded through the instrument for Commercialization of products/services, of which EUR 14.18 million are co-funded by FITD.

Technology Development – COVID-19: 92 projects (14%) with total value of EUR 2.68 million and average project value of EUR 29,000 are funded through the instrument whose purpose is technological development of the companies in time of the pandemic in 2020. FITD co-funding is EUR 1.64 million or EUR 18,000 per project in average.

Technology Development: 36 projects (6%) with total value of EUR 6.15 million and average project value of EUR 171,000 are funded through the instrument for Technology Development. FITD cofunding is EUR 1.78 million with average project value of EUR 50,000. This instrument is one of the three instruments where the FITD co-funding value is lower than the funding of the companies.

Technology Development (fast track): 32 projects (5%) are funded through the seventh instrument with total value of EUR 7.11 million and average project value of EUR 222,000. The FITD co-funding is in the value of EUR 2.10 million or EUR 66,000 per project in average.

Technology Extension n Business Accelerator: 4 projects with total value of EUR 3.23 million and average value of EUR 808,000 per project were funded through “Technology Extension” instrument. This instrument has the second highest average value per project and FITD

co-funding of EUR 351,000 per project. The highest average value of the co-funding belongs to the last “Business Accelerator” instrument i.e. EUR 481,000 per project

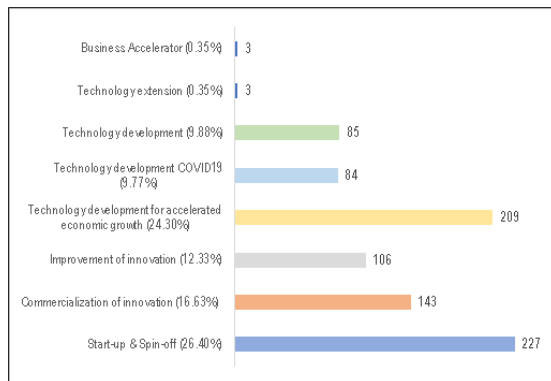


Figure 2: Number of beneficiaries per support instrument

In regards to company sizes financed by the abovementioned instruments the funding is oriented towards micro enterprises as presented below on Figure 3 (including ones without employees) with funding value of EUR 25.43 million of which FITD co-funds EUR 15.52 million, while the remaining EUR 9.91 million are funded by the companies.

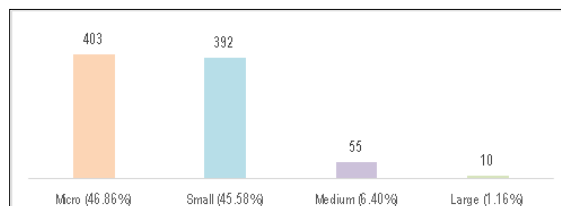


Figure 3: Analytics per size of the supported companies

Another approach that Fund uses to support innovation is organization and implementation of public calls on topics of special social interest, in accordance with the Rules for the organization and implementation of competitions and challenges to encourage innovation in the priority areas of science and technology. Through the support of successful global educational programs, the Fund ensures sustainability at the national level of programs that are co-financed by international donors, as well as the inclusion of Macedonian students and young people in global initiatives.

Through these public calls the total awarded budget is EUR 89 million of which EUR 51; 941 million are co-funded by FITD. The number of supported projects counts 901.

3. Conclusions

Based on the last analysis conducted in 2021 all companies divided by sectors, size, instrument and project show positive financial performance before and after the investment in the innovative project. Part of the recommendations of the Fund is the creation of training and education programs for companies that have not received or do not need financial support FITR for research and development, because the significantly low investment in research and development in North Macedonia is an indication that a general improvement of the domestic economy in this regard, in companies that have capacity, but do not use it for innovative solutions. In addition, according to FITR, the training and consultation sessions of entrepreneurs for establishing a new business are of crucial importance, which will increase the probability of success and achieving better financial results in a shorter time interval.

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