

STUDY ON THE EVOLUTION OF THE ACTIVITY OF MOLDOVA INNOVATION TECHNOLOGY PARK RESIDENTS

Galina BĂDICU

Academy of Economic Studies of Moldova, Republic of Moldova

badicu.galina@ase.md

Abstract: *IT in Moldova has become an increasingly visible source of economic growth. In this context, the rapid development of the IT industry has also led to the development of legislation in this field. Thus, the IT sector is stimulated by the state, benefiting from a more advantageous tax regime, with a one-off 7% sales tax. The rebranding of the Moldova Innovation Technology Park has the vision of making Moldova a top destination for tech and innovation services and products. In order to examine the evolution of Moldova Innovation Technology Park residents' activity, we conducted research on entities in this sector, looking at four consecutive financial periods (2018-2021), the first two of which were in a normal environment, while the years 2020-2021 are marked by the pandemic context. In order to investigate the activity of residents Moldova Innovation Technology Park operated with methods and techniques specific to economic and financial analysis, such as: absolute and relative deviations, growth indices, graphs, etc. The results obtained, exceeded expectations, since there are over 15 thousand employees in 960 resident entities, with an average monthly salary per employee of over 1800 euros, and, sales revenue constitutes 6.9 billion MDL, of which about 86% makes up export in eligible sales revenue.*

Key words: *economic analysis; IT park residents; main eligible activities; unique tax; Moldova Innovation Technology Park; income.*

JEL Classification: M41, L63, L86

I. INTRODUCTION

Today, IT remains a priority and the continued adoption of technological innovation and IT tools and their integration into strategic areas remain some of the main solutions for the country's development. The increasing trend of integrating the Republic of Moldova into the world economy requires the IT sector to continue to be efficient, competitive and sustainable, given the fact that long-term performance depends on sustainability, representing a promising economic branch that not only ensures the growth of the national economy, but is also a solution to combat the shadow economy.

Information technology, abbreviated IT, is the technology required to process (acquire, process, store, convert and transmit) information, particularly through the use of computers (electronic computers) (Longley D., Shain M., 1985).

The term information technology was introduced in 1958 by Harold J. Leavitt and Thomas L. Whisler, meaning - processing technologies, the application of statistical and mathematical methods in decision making, and simulation using computer programs. In other words, information technology meant providing tools for collection, processing and simulation in the decision-making process by managers, and the computer was the tool, they did not communicate with each other. With the development of the digital economy, enormous volumes of information can be accumulated on digital devices and conditions are created for the free movement of information, for the rapid exchange of information between citizens of different countries on different continents (Tapscott D., 1994, 25).

The rapid development of the IT industry has also led to the development of legislation in this area. Thus, states have created increasingly favourable conditions to attract IT specialists or to keep them from leaving the country and are trying to open borders for entities. We should mention that the Republic of Moldova has also adopted a new law creating in 2018 the first IT park. It cannot give up the advantages that the IT Park offers, that's why it makes investments in the IT sector. Through it, the state aims to attract large entities and encourage the development of the IT sector. As a result, in 2018, the year when the IT Park became operational, the registration of new businesses of IT entities reached 589 compared to 194 in 2016 and 208 in 2017 (National Bureau of Statistics). This is an increase of almost 200%, providing strong evidence of new entrepreneurs setting up businesses as well as informal businesses formalising their activities given the incentives provided by Law 77/2016.

With the approval of the Development Strategy, the IT Park Administration also carried out the branding and communication strategy, which resulted in the rebranding of Moldova IT Park into Moldova Innovation Technology Park (MITP), with the vision of transforming the Republic of Moldova into a top destination for tech and innovation services and products. We note that in just 4 years since its establishment, there are more

than 1,200 active residents in MITP, of which more than 200 are foreign-owned entities from over 40 countries. MITP's efforts are to create the conditions for innovation, noticed by investors, who want to foster a favourable environment, care and grow, first and foremost. Thus, in 2021 MITP residents made investments of 404 million in their activity, reaching the cumulative figure of 643 million lei in the period 2018-2021. Since the launch of the IT Park, there have been over 800 newly created entities that have joined MITP, contributing to job creation and increasing the residents' contribution to the public budget.

The increase in the number of residents and the sales generated by them in the MITP has contributed to a substantial increase in taxes and duties paid to the National Public Budget. According to data presented by the State Tax Service, in 2021 the contribution of MITP residents to the National Public Budget amounted to 735 million lei, of which 535 million lei related to the single tax and 200 million lei related to other taxes and fees. The amount of taxes and duties paid by IT Park residents increased by 36% or 196 million lei in 2021 compared to 2020 (https://mitp.md/p/public/files/4_Raport_anual_2021.pdf).

Thanks to the enabling environment for tech business development within MITP, the park's residents produce about 4% of GDP, and the share of technology services exports is 90% of the country's IT services exports. Resident employees enjoy competitive salaries comparable to those in the European IT market.

The majority of IT specialists in Moldova are employees of Park residents - more than 15,300. Almost 60 resident entities have more than 50 employees in their team, and 9 entities - more than 250 employees. The local labour market is also being reshaped, as the population sees enormous potential in a job in this successful sector of the economy, with more than 6 000 new jobs created in the IT Park.

It should be noted that the development of the IT sector is stimulated by the state, benefiting from a more advantageous tax regime, with a single tax of 7% of sales. In fact, IT in many countries around the world is stimulated by the authorities. Unlike other sectors, IT by definition generates added value compared to other sectors. Subjects of taxation with the single tax are any legal entities and individuals registered in the Republic of Moldova as subjects of entrepreneurial activity and who cumulatively meet the conditions specified in the legislation on information technology parks (Tax Code of the Republic of Moldova, art. 368, para.1). The subject of taxation with a single tax is the income from sales, recorded monthly in the accounting records. The amount of such income is determined in accordance with the provisions of the National Accounting Standards or, where applicable, IFRS, under the conditions of the legislation in force. The minimum amount of the single tax shall be determined monthly for each employee and shall constitute 30% of the amount of the average monthly salary on the economy, forecasted for the year to which the tax period refers (Tax Code of the Republic of Moldova, art. 370, para. 1).

In addition to these facilities offered by the legislation, residents can also benefit from facilities granted by the IT Park administration, namely: financial allowances, obtained through a competition within the framework of state programmes and the possibility to benefit from financial means from risk funds, created with the involvement of the Government. The results of 2021, in our view, exceeded expectations, as there are more than 15 170 employees in 960 resident entities of the IT park, with an average monthly salary per employee of 36 100 MDL. The sales revenue recorded in 2021 constitutes 6.9 billion MDL, of which about 86% makes up the export in eligible sales revenue (MITP Annual Activity Report 2021).

The importance and timeliness of research in this field is conditioned by the abundance of new products and services, with the continuous changes in the current economic context, which generate complex and extensive information needs. In addition, the topic of the present work fits into the conjuncture of the development of the IT domain and focuses on a broad spectrum of problems that need to be solved. Taking into account the evolution of frequent changes in legislation, we considered important an analysis from the perspective of knowing the current situation of the IT park residents' activity. The present research aims at investigating the evolution of the IT park residents' activity in terms of the number of employees, sales revenues and investments. In this context, we conducted an examination of the data provided by the annual activity reports of Moldova Innovation Technology Park for the years 2018-2021, information placed on the official website (<https://mitp.md/>).

The purpose of this research is to present the most relevant aspects of the activity of the residents of Moldova Innovation Technology Park, but also to highlight the current context related to the topic, in order to formulate conclusions related to the research topic.

In order to examine the evolution of sales revenues of IT park residents, we conducted a research on entities in this sector, investigating four consecutive financial periods (2018-2021), of which the first two were in a normal environment and the years 2020-2021 are marked by the pandemic context. The data in the tables and graphs represent our own processing (in Excel) based on MITP's annual activity reports, taken from the park's official website. At the same time, in order to investigate the activity of the residents of the IT park, we used methods and techniques specific to economic-financial analysis, such as: absolute and relative deviations, growth indices, graphs, etc. As an indirect research technique, we used the analysis of the provisions of the IT legislation in order to produce a qualitative review of the evolution of the activity of MITP residents.

II. Moldova Innovation Technology Park

Research of the legislative provisions shows that a resident of the Moldova Innovation Technology Park can be a legal or natural person, registered in the Republic of Moldova as a subject of entrepreneurial activity, which is included in the Register of residents of the park and which practices, as its main activity, one or more of the activities provided for in Article 8 (Law 77/2016), on the basis of a contract concluded with the administration of the park (Law 77/2016, art. 2). The contract is concluded for a period of at least 4 years. The term of the contract may not exceed the term of operation of the park (Law 77/2016, Art. 7(2)). Please note that "the park administration is the administrative authority established by the Government for the administration of an information technology park, namely the Ministry of Economy and Infrastructure" (Law 77/2016, art. 2). The sources of income of the park administration are the mandatory membership fees of the park residents and other legal revenues resulting from the duties provided for in art. 13 lit. h) and l) (Law 77/2016). The size of the mandatory park resident fees is determined by the park administration in accordance with its regulations, depending on the number of park residents and their income from sales (Law 77/2016, art. 6, para. 3).

The investigations allowed us to find the main activities carried out in the IT park according to CAEM rev.2. (National Bureau of Statistics). Thus, based on the structure of the CAEM nomenclature, the production of IT software and services is an aggregate result of the component sub-sectors of the macro-sectors, constituting the cumulative result of the following codes (Cojocaru&Bădicu, 2022).

Table 1. Eligible types of activity

Code	Type of activity	Code	Type of activity
62.01	Custom software	58.21	Editing computer games
63.11	Data processing, web administration and related activities	85.59	Other forms of education, limited to computer training
62.02	IT consultancy	74.10	Specialised design activities
62.03	Asset management	72.19	Research and development in other natural sciences and engineering, limited
62.09	Other IT services	72.11	Research and development in biotechnology, limited
58.29	Editing other software products	26.11	Manufacture of electronic components (modules), limited
63.12	Web portal activities	59.12	Film, video and television programme post-production activities

Please note that the main activity is considered to be the activity that generates 70% or more of the sales revenue of the resident of the park (Law No. 77/2016, Art. 2). To determine whether the resident of the information technology park carries out the main activity, which generates 70% or more of the sales revenue, the ratio of the amount of revenue from the sale of services, works allowed in the park in accordance with Article 8 of Law No. 77/2016 on information technology parks and the total amount of revenue from the sale of products (goods), provision of services, execution of works shall be calculated. In this case, both indicators related to the amount of sales income are determined on a monthly basis, with cumulative total from the beginning of the respective calendar year, if the resident status of the IT park was acquired in the previous calendar years, or from the application of the special tax regime, if the resident status of the park was acquired in the current calendar year (Tax Code of the Republic of Moldova, Art. 368, para. 2).

At the end of 2018, 338 entities became the first residents of the Republic of Moldova Park IT, including 96 foreign-owned entities. Currently (2021), MITP already includes 960 entities of which 174 - with foreign capital. The most significant increase in the number of residents, since the launch of MITP is in 2021, representing an increase of 46% compared to 2020.

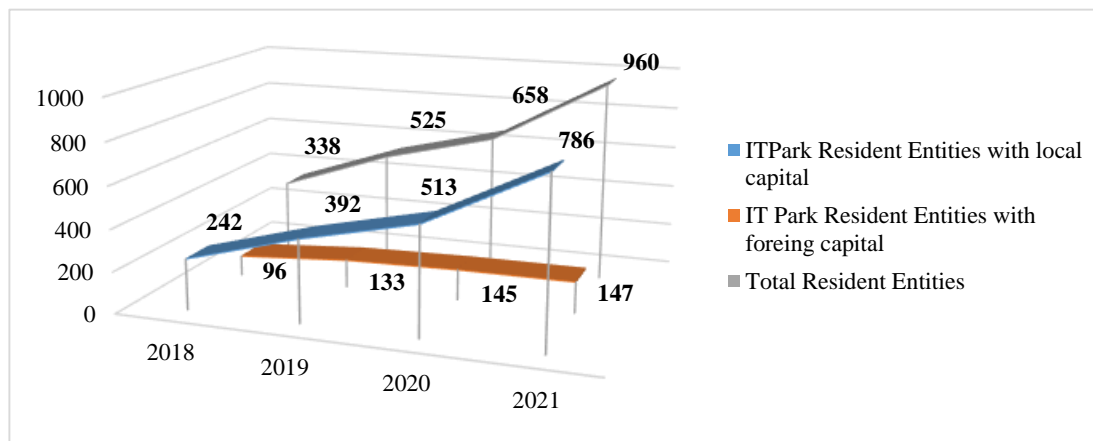
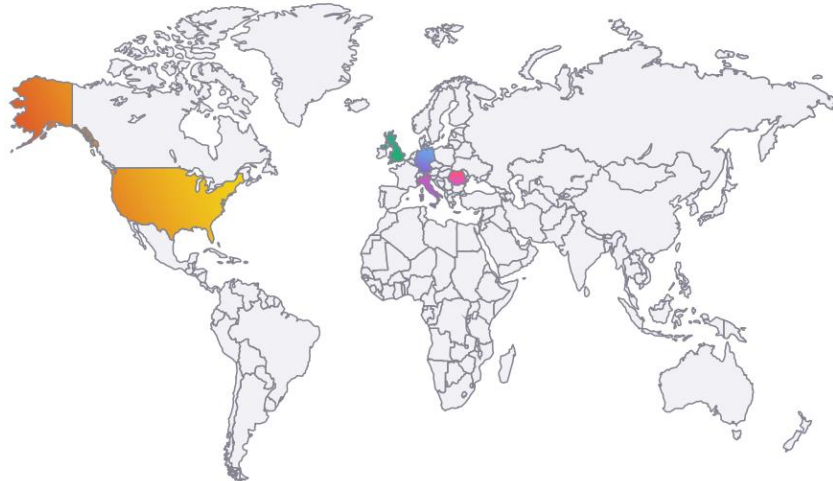


Figure 1 - Evolution of the number of MITP residents (2018-2021)

Source: https://mitp.md/p/public/files/4_Raport_anual_2021.pdf

The data in Figure 1 reveals that the number of locally-owned entities increased by 273 entities (+53%) in 2021 compared to 2020, and in 2020 compared to 2019 by 121 (+31%). At the same time, the number of foreign-owned entities grows more slowly: 29 entities (+20%) in 2021 compared to 2020 and 12 entities (+9%) in 2020 compared to 2019. It is worth noting that the number of locally-owned entities in the Park is growing at a faster rate than the number of foreign-owned entities, accounting for 82% of the total number of residents (or 786 entities) at the end of 2021 compared to 78% recorded at the end of 2020 (or 513 entities).

The research allowed us to find the geographical area of Moldova Innovation Technology Park residents with foreign capital, which is found in 35 countries with a total of 174 entities.



Most representative countries with the highest number of entities

27- USA	22-Romania	16-Germany	14-Italy	13-Britain	11-Holland	10-France	7-Russia	6-Belgium
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Figure 2 - Geography of foreign-owned IT park residents (2021)

Source: https://mitp.md/p/public/files/4_Raport_anual_2021.pdf

An essential condition for maintaining the status of MITP resident and, implicitly, the application of the special tax regime provided for, is the performance of the main activities provided for in Article 8 of Law 77/2016 in a proportion generating 70% or more of the resident's sales revenue.

Next, we aim to analyze the evolution of entities, number of residents and sales revenue of Moldova Innovation Technology Park.

III. Evolution of significant indicators of Moldova Innovation Technology Park residents

In order to understand the entity's strategy and its position in the market, analysis of sales revenue is essential. As a rule, a competitively strong entity seeks to develop side activities to its core business, which on the one hand helps to improve the core business and on the other hand helps to strengthen its image among customers.

The following shows the number of residents of the IT park by category of entity, classified according to the provisions of Law 77/2016, the number of employees and sales revenue, including eligible and ineligible for 2021.

Table 2. Situation of IT park residents by categories of entities, number of employees and sales revenue

Entity category according to Law 79/2016	Number of entities		Number of employees		Total income from sales		Including (mln. lei)		
	Number	Weight,%	People	Weight,%	million lei	Weight,%	Eligible income (97.30%)		Non-eligible income (2.70%)
							Local sales	Export sales	
Micro and small (<49 employees)	904	94,17	6 578	43,34	3 012	43,87	499	2473	40
Middle (50-249 employees)	47	4,89	4 187	27,59	1 959	28,53	257	1663	39
Sea (>249 employees)	9	0,94	4 411	29,07	1 895	27,60	170	1619	106
Total	960	100,00	15 176	100,00	6 866	100,00	926	5755	185

Source: https://mitp.md/p/public/files/4_Raport_anual_2021.pdf

The data in the table shows that the sales income of residents in 2021 is 6 866 million lei, of which 97.30% is obtained from eligible activities according to Law 77/2016. This development is due to both the increase in the number of residents and the increase in the volume of sales made by residents registered with MITP in previous years.

Thus, of the 960 resident entities analysed, 94.17% represent micro and small entities, which generated 43.87% of the total IT Park revenues and provided 42.97% of the total volume of eligible exports by MITP residents in 2021. At the same time, these entities contributed 53.88% of the total local sales volume.

For medium-sized entities, with a total of 47 residents (4.89% of the total number of entities analysed), the foreign market is also of interest, with a 28.89% share of eligible exports. Thus, medium-sized entities have almost the same volume of exports as large entities (total of 9 entities), which reached the share of 27.60%. In terms of local sales, medium-sized and large entities deliver 27.75% and 18.35% respectively of total local deliveries to the domestic market. In the case of medium-sized entities, even though the share of employees is only 4.89%, these entities generated 28.53% of the total IT Park revenues. The share of non-eligible ones is 1.99%.

With reference to the sales revenue per employee, we note that the entities with the number of employees up to 49 persons generate an annual revenue per employee mostly equal to other categories of entities - namely, 457.89 thousand lei, recording an increase compared to the results obtained in the previous year. Entities with 50-249 employees generated about 467.78 thousand lei annually per employee in 2021, marking the largest jump compared to the previous year. At the same time, large entities with more than 249 employees recorded annual revenues of 429.60 thousand lei per employee in 2021, similar to the previous year.

At the end of 2021 the total number of employees of resident entities is 15,176. Thus, the number of employees increased by 3,152 people, or 26% compared to 2020. This is the largest increase since the launch of the Park. New entities joining in 2021 alone created 1,757 jobs, of which 900 were provided by new entities in 2021. The 1,395 newly created jobs were generated by entities that also held resident status in previous years.

In order to assess the employment growth of the resident entities during the period of operation under MITP, the number of their employees in the first year of operation in the Park and at the end of 2021 was analysed. Thus, resident entities in 2018 increased the number of jobs in total by 2,654 employees - from 6,746 to 9,400 employees. Resident companies in 2019 hired +1,197 people from 2019 to 2021, increasing the number of employees from 1,781 people to 2,978 people. Resident companies in 2020 increased their number of employees by 334 persons, from 672 in 2020 to 1,006 persons in 2021.

The number of foreign specialists in resident entities increased by 35 people in 2021 compared to last year, representing an increase of 36%. Thus, the number of foreign employees directly involved in eligible activities in the Park constitutes 131 persons at the end of 2021. Most foreign specialists are employed by foreign-owned entities, i.e. - on average 58% during 2018-2021. Thus, the share of companies with local capital is 42% when referring to the employment of foreign nationals. At the end of 2021 the average monthly salary is 36,118 lei per employee directly involved in eligible activities according to Law 77/2016. This indicator registered an increase of 29% compared to the value recorded at the end of last year.

The dynamic income structure by type of eligible activities recorded by MITP residents as a development over the period 2018-2021 is shown in Figure 5.

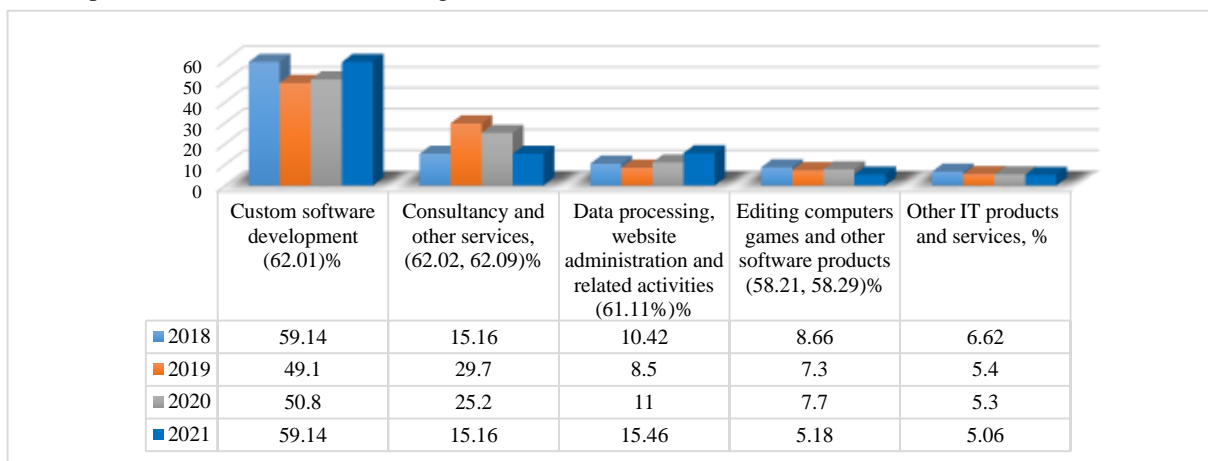


Figure 3. Income structure in dynamics by types of eligible activities registered by Moldova Innovation Technology Park residents

Source: prepared by the authors based on National Bureau of Statistics data

From the figure, there is an uneven increase in the share of all types of activities, with the exception of web portal activities and computer training. Examining the structure of sales revenue, we see that in both periods, revenue is derived from all activities eligible under the National Bureau of Statistics (NBS). The largest share in IT sales revenue generation is from custom software development, about 59% in 2021. At the same time, we deduce that the operational activity of IT entities is diversified, as revenues are obtained from approximately 10 types of activities.

Conclusion

The activity of Moldova Innovation Technology Park residents is strictly related to the economic activities of creating software programs or applications in a specific programming language. Resident entities apply a special tax regime. This is the taxation system provided for by the Tax Code of the Republic of Moldova, as well as by the legislation on information technology parks. The object of taxation with a single tax is the sales income, recorded monthly in the accounts. An essential condition for maintaining the resident status of the IT park and, therefore, the application of the special tax regime provided for, is the performance of the main activities provided for in the legislation in a proportion generating 70% or more of the resident's sales revenue. In terms of the CAEM nomenclature, the activity of Moldova Innovation Technology Park residents is an aggregate result of the component sub-sectors of the macro-sectors: C - Manufacturing; J - Information and communication; M - Professional, scientific and technical activities and P - Education.

The research carried out shows a significant increase in the number of employees and resident entities. It is worth noting that the growth rate of residents with local capital is higher than that of residents with foreign capital. In our view, the increase in the number of residents directly influences the evolution of sales revenues, which reached the figure of 6.9 billion lei, with an export share of 86% in the eligible revenues of Moldova Innovation Technology Park.

At the same time, we note that at the end of 2021, locally-owned entities accounted for 82% of the total number of Moldova Innovation Technology Park residents, who generated 53% of the total sales revenue of all residents. And foreign-owned entities account for 47% of the total sales revenue in 2021, which is 4 times less than local-owned entities.

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