

The Influence of the T.E.I. of Thessaly in the Sustainable Development of the Region of Thessaly

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Abstract This work aspires to study the role of the Higher and Highest Educational Institutions in the sustainable development of a Region. More particularly, is studied the impact of the T.E.I. of Thessaly (*based in Larissa and the annexes are in Trikala and Karditsa*) in economic, social, cultural and educational life of the Region. The article is divided into three parts. In the first part it is studied the T.E.I. of Thessaly (*in the frame of country's higher education*) and the region of Thessaly. In the second part it is presented the basic conceptual delimitations and finally in the third part the research conducted in order to highlight the establishment and operation impacts of T.E.I. Departments in the broader Region. The conclusions of this study will contribute to the dialogue developed and will provide knowledge for the peculiarities of the Thessaly Region.

Keywords Sustainable development • Smart city • Economic development • Third higher education • Regional authorities

JEL Classification A20 • O18 • O43

1 Introduction

The Constitution, article 101, par. 1, highlights the importance of Regions when it provides that “*the State's administration is organised according to the decentralizing system*”. In the article 102, par. 5, sp. A’, it is provided that “*the State receives the legislative, regulatory and budgetary measures required to*

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ensure the financial autonomy and resources needed to fulfil the mission and the exercising of powers of local authorities, while ensuring transparency when managing these resources”.

The Programme for International Students Assessment PISA, of OECD, is an international survey, aiming at the follow-up of the effectiveness of educational programs, according student achievements (on the website <http://www.iep.edu.gr/pisa/>). In an article in the Daily, **P. Mandravelis** (October 2014) presents his book **Ph. Aghion** and Roulet (2012) in which the writers consider that the economy advancement requires, among others, greater investments in the highest education. At the same time they present a diagram from which it results that the countries distinguished by the student competition have better growth rates as well (Aghion & Roulet, 2012).

In recent years there has been developed an important dialogue about the affecting way of Higher and University Educational Institutions to the local economy, prosperity and development and in relation to the Lisbon Strategy (*Lisbon Strategy*). In the USA and in Gr. Britain there were created the conditions for development of higher education institutions in order to develop their cooperation frame, as well, with the local communities and the development of human resources (Gomez-Mejia, Balkin, & Cardy, 2012) and entrepreneurship (Local Government Association, 2013; Komninou, 1986). A characteristic example is the University of Cambridge which highlighted the positive relationship between the expenses for the research and these disseminations in the local community to promote the economic development (Genitsaropoulos, Botsaris, & Ladias, 2011).

A lot of areas in Greece supported their economy in the strategy of establishment of higher education Departments and specifically from the 1980s decade 1980 onwards (Diamantopoulou, 2006). Until then, the Institutions were limited to large urban centres such as Athens, Thessaloniki, Patra, Heraklion. Besides, until the beginning of economic crisis, in 2009, this policy was reminiscent, the paraphrased, motto of Colonels Dictatorship “*each city and stage, each village and gym*”, i.e., the establishment of A.E.I. and T.E.I. departments in every city and small town, respectively, as mentioned characteristically by Professor **Bourantas** in an article of his own (2012). The purpose of this policy, according to **Bourantas**, was both the empowering of the local communities and the effective education, but many times it is irrational, because it did not take into consideration the needs of the local community. This policy was intended to create scale economies and to improve the current situation. After the signing of the memoranda, the lenders required reduction, merger or even the closure of the Departments and the Institutions across the country.

The objective of the study is to highlight the economic and the social implications of the establishment and the operation of Higher Education Institutions in a Region, especially in matters relating to development, employment and the knowledge economy. As a case study we have the T.E.I. of Thessaly, based in Larissa and the Departments in Trikala and Karditsa. The proposal is based on the study of written evidences, on the use of the historical method and on the research process. The incentives for employment in this particular issue were both scientific and the personal interest.

In the first part of this proposal we were refer to the higher education in Greece and especially in the T.E.I. of Thessaly and the measuring of its developmental

progress in the wider Region. In the second part we point out the conceptual delimitations. Subsequently there are presented previous studies, the research methodology, its results and the conclusions. The proposal is completed with the presentation of bibliography and annexes.

2 The Higher Education and the T.E.I. of Thessaly

The art and the science, the research and the teaching are free, the development and their promotion shall be a State's obligation.

Constitution of Greece. article 16, par. 1, sb. A'

Article 16 of the Greek Constitution stipulates that the "*education constitutes a fundamental mission of State*" (article 16, par. 2). The Constitution stipulates that the bodies of the Higher Education are PE, fully self, which are under the monitoring of the state and they are financed by it (par. 5). Issues concerning the Professors of A.E.I. and A.T.E.I. are regulated in par. 6. Higher education is defined to be exclusively public. The most recent law that regulates higher education issues is the L. 4009/2011.

In our country the Higher Education is divided in the Highest University Education, which is provided by the Universities and the Polytechnics (A.E.I.), and in the Highest Technological Education, which is provided in Technological Education Institutes (T.E.I.). Moreover, there has been institutionalized the Greek Open University (E.A.P.) and the International University of Greece. The attendance at the A.E.I.s lasts 4 years, apart from certain schools where attendance can last 5 (*in the Polytechnics Schools*) or 6 years (*as in the medical schools*). In Greece there are 22 A.E.I.s (*including the E.A.P. and the International University of Greece*) (Papatheodorou, 2011).

Highest Technological Education's role is to contribute to the development of technology and to the applied science and research in our country. The education is oriented to the absorption and the transfer of scientific data in their application. A.S. PAI.T.E. belongs to the Highest Technological Education as well. The attendance at the T.E.I. lasts 4 years. In Greece there are 14 T.E.I. (Papatheodorou, 2011).

Finally, the National Qualifications Framework states that A.E.I. and T.E.I. degrees and equivalent or corresponding foreign degrees are incorporated in the 6 of the 8 levels (on the web site <http://www.minedu.gov.gr/2012-07-19-10-59-39/298-uncategorised/299-to-ekpaideytiko-systima.html>).

The T.E.I. of Thessaly was founded in 1983 by L. 1404/1983, as T.E.I. of Larissa, after the abolition of K.A.T.E.E. By the GG issue 123/3-6-2013 it renamed to T.E.I. of Thessaly. T.E.I.'s mission, among others is, address the social, cultural, educative and developmental needs of the local community with adherence to the principles of sustainable development and social cohesion and to shape, as well, the necessary conditions for the search and distribution of new knowledge and the promotion of new researchers, seeking partnerships with institutions in the country

or abroad, and participating in the exploitation of knowledge and human resources for the prosperity of the local and the wider society.¹

T.E.I. of Thessaly is constituted by four [4] Schools (*Business and Economics, Technological Applications, Agriculture Technology and Technology of Foods and Nutrition, Professions of Health—Welfare*). 14 departments belong to the Schools. A total of members 153 members RS are currently serving, 114 administrators (73 of which are permanent and 41 under an employment contract P.L.I.D.), 27 GTS members and 4 S.L.T.S. members. In addition, each year in T.E.I. is recruited a sufficient number of Academic Scholars, Scientific and Laboratorial Collaborators covering emergencies.²

According to the Institution's account, as approved by the Council of T.E.I., on 16th of July 2014³ (*as published in Diavgeia*) the T.E.I. had a total of 11,486,569.70 Euros in expenses (8,320,929,11 Euros of which were related to ordinary budget expenditures and 3,165,640.59 Euros were related to public investments budget expenses). These expenses are related to supplies of books and consumables, purchases, repairs, development of studies, construction of buildings and modernisation of student accommodation blocks, movements of staff payments, advertising costs, buildings and facilities maintenance, fees of temporary staff and others. Most of these expenses were related to the local community and the money remained in the Region of Thessaly.⁴ In the T.E.I. there is a total of 20,017 students 9685 of which (5128 men and 4557 women) are considered active⁵ and 10,332 students (6525 men and 3807 women) they are beyond the regular duration of their educational attendance.⁶

3 The Region of Thessaly

The Region of Thessaly is a geographical region of Greece. It was annexed to the independent Greek state in 1881 and it currently includes the Regional Units of Larissa, Trikala, Karditsa, Magnesia and Northern Sporades (*Annex 1*).

¹ The information is from the website of the T.E.I. of Thessaly www.teilar.gr.

² At this point we wish to thank Mrs E. Nasioula—Pitaraki, Head of Personnel Management, for the provision of data.

³ Practical No 25 (*the 5th issue*).

⁴ For the contribution of Postgraduate Programs of Study read Fitsilis (2012).

⁵ According to the L. 4009/2011 (article 2) "*Active students*" : *the students of Universities and T.E.I., registered in accordance with the article 33 and the students that the duration of studies has not exceeded the duration of semesters required to obtain the diploma according to the indicative curriculum, increased by four semesters. For the part-time students this time is twice the indicative for the watching curriculum. As active students of the second cycle of study, are comprehended the students of which the duration of study has not exceeded the duration of indicative curriculum, while as active students of the third cycle of study are comprehended the students covering the first four years to the corresponding program*".

⁶ We thank Ms Niki Ioannidou, Information service of T.E.I. of Thessaly, for providing data.

The total extent of the Region of Thessaly is 14,036 km² (11 % of the total extent of the Greek territory) and there is a population of 744,037 inhabitants. The ground is 50 % mountainous—hilly and 50 % flat and in its boundaries are included the plain of Thessaly, the largest plain and granary of Greece, which river Peneus flows through. Olympus, the southern part of the Pindos sierra, the northern part of Agrafa are included in the Region. The artificial lake of Tavropos is a project of particular importance as well. Administrative capital of Thessaly is Larissa. The economy of the broader Region is mainly rural, even though there are major industries embedded in IN.AR. of Larissa and Volos.

The Regional Unit of Larissa covers an area of 5381 m² and there is a population of 284,420 inhabitants. The Regional Unit of Magnesia and Sporades (*formerly Prefecture of Magnesia*) covers an area of 2636 m² and there is a population of 208,500 inhabitants (12,004 of which are in Sporades). The Regional Unit of Trikala covers an area of 3376 m² and there is a population of 138,047 inhabitants. Finally, the Regional Unit of Karditsa covers an area of 2576 m² and there is a population of 113,070 inhabitants.⁷

In the Region of Thessaly there have been established and operate two Higher Education Institutions. The University of Thessaly based in Volos and with annexes in the capitals of the Regional Units and in the T.E.I. of Thessaly, as we have mentioned. Furthermore, the Vocational Training Centre of the University of Thessaly, the Institute of Development of Thessaly, the Institute of Lifelong Learning of the T.E.I. of Thessaly and the VTC of the Regional Unit of Larissa are operating. Finally, many private VTC in all capitals of the Regional Units, are operating.

4 Literature Review

Were all instructors to realize that the quality of the mental process, not the production of correct answers, is the measure of educative growth, something hardly less than a revolution in teaching would be worked.

John Dewey, *Democracy and Education* (1916)

The term of economic development in the economic science refers to the long-term trend of increasing the effective *production of* products and services in an economy over time and not in the short-term fluctuation of the produced product. According to the online dictionary of economic terms, the economic development (*economic growth or economic development*) is the ability of a society to meet the financial needs of all members, argumentatively each year (on the website <http://www.euretirio.com/2010/06/oikonomiki-anaptyxi.html#ixzz3HBNUpebB>; Belias, Koustelios, Koutiva, Golia, & Zournatzi 2014).

⁷ According to data of the HSA for the last general census conducted in 2011, on the website <http://www.statistics.gr/portal/page/portal/ESYE/PAGE-census2011>.

According to **Pournarakis and Hatzikonstantinou (2011)**: 663) economic development is “*a process which leads to a continuous increase of the living standards, accompanied by a gradual improvement and maturation of economic, political and social erosions of an underdeveloped or developing economy*”. Some of the characteristics are related to the employment in the three sectors, the level of education, the exploitation of natural resources and others. **Chletsos (2008)**: 4) considers that competitiveness refers to the ability of “*maintaining and improving the living standards of the country’s citizens—increasing the employment and real income, reduction of unemployment, as well as the strengthen of capacities and opportunities—within and across national borders, under globalisation conditions*”.

Economists have determined the local economic development, as well, which concerns a wide range of factors that support and enhance the economic enlargement and the development of the local economies and concerning actions in the internal environment of a region (Metaxas, 2012). The regional competitiveness in accordance with the definition of the European Commission (1999) (cited by Chletsos, 2008: 5) is “*the ability of producing goods and services that satisfy the demand of international markets, while maintaining high and sustainable levels of income, or more generally, the ability (of regions) to create, while are exposed to the international competition, comparatively high incomes and jobs*”.

Viable and sustainable development (*sustainable development*)⁸ refers to the economic development of the region and is materialised in accordance with the principles of the environmental protection. Sustainable development requires the development of the productive structures of the region’s economy, while, in general, the sustainability’s goal is the maximum gain of goods from the environment. This is a development which is in line with the needs of the present generation, but it does not endanger the future, as well. One of the most indicative definitions has been given by the World Bank. “*Sustainable development means that the developmental and environmental policies should rely on a cost analysis—benefit analysis and on a careful economic analysis that will strengthen the environmental protection and it will lead to increasing and sustainable levels of prosperity*” (World Bank, 1992). It was defined for the first time in 1987 in the **Brundtland** report as “*the development that satisfies the needs of the present without compromising the ability of future generations to meet their own needs*”.

⁸ **D. Rokos**, emeritus Professor of the NTU, (2013) gives a different approach to the concept. In particular, he uses the term **worth living integrated development** and defines, that it is “*simultaneously and diachronically, at a global, supranational, national, regional and local level, economic, social, political, cultural and technical/technological “development”, which can exist, only when committed in dialectic harmony and with respect always to the human’s age-old noble values and his “whole” natural and cultural environment, in which he peacefully and creatively comes within as an integral rather than sovereign part of his own. The integrated development as a road and goal, is for this peaceful and worth living, for all citizens, wherever they live, regardless of race, gender and religion and not only for those who have and possess*”.

And all of this in the context of satisfaction, via the economic system, the individual and social needs.⁹

The Lisbon Strategy (2000) dealt among others with a series of reforms based on the knowledge economy within the EU. Structural reforms were concerning the passage into a competitive and dynamic digital economy based on knowledge. To the investment into human through the knowledge economy, with the acquisition of a series of skills to increase the employment rate and others (on the website http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/00100-r1.en0.htm).¹⁰

The knowledge economy term emerged in the late 1990s. Main characteristics of the knowledge economy are their rapid diffusion, it constitutes an economy of networking, it achieves high reciprocity and it is changeable. Large cities and Regions attract new talents, create the suitable environment for exchange of knowledge and to achieve an intimate relationship between economic performance and effectiveness (Kavallas, 2006; Rossidis, 2014; Saitakis, 2009).

The Knowledge Economy is based, according to **Konsolas**, Papadaskalopoulos, and Christofakis (2010), on the triptych of economy (*with the local business operators*), knowledge (*because of the productive processes and the dissemination of knowledge*) and geography of Region. Namely, the Higher Education Institutions interact with the local administration and the entrepreneurship of the Region (Etzkowitz, 2003; Etzkowitz & Leydesdorff, 2001).

According to **Mochianakis** (2014: 12) *“today the society and the knowledge economy, demonstrate a new type of identity of places. The smart. The places, that successfully adopt the vision of smart, usually have powerful economic and social background, universities, inquiring centres and broadband infrastructures. They create, in this way, an effective ecosystem of knowledge and innovation, with an impact in all the sectors of life of their citizens”*.

Smart cities constitutes a tool to all services and the applications based on the Information and Communication Technologies (ICT) for the local communities. Smart city is the city that uses new technologies in order to achieve its strategic and tactical objectives (Anthopoulos & Fitsilis, 2014; Mochianakis, 2014). Its aim is to help the citizens and to improve their lives and it is directly related to the electronic Government (*e-government*). We can define smart city as the city that uses new technologies in order to meet both strategic and its regular targets. Among other fields of digital interventions, are the education (*for example the school network*), the employment, the communications sector and others. There are presented several fields of activity of the “*smart city*” such as the industry, the participation, the technical infrastructure and the education (Mochianakis, 2014).

The characteristic fact is that education, digital activities, school network, students per inhabitant, the satisfaction for accessing the education system and the satisfaction by the quality of the education system, constitute the basic

⁹ See the article 24 of the Constitution, as well.

¹⁰ For the regional policies of the EU see also Babalioutas and Mitsopoulos 2014.

sub-criteria of the smart city evaluation (Giffinger, 2007) (*Annex 2*). From Greece, in the category of smart cities, are both Larissa (Gerogiannis, 2014) and Trikala and the two cities of the Region of Thessaly (Anthopoulos & Fitsilis, 2014; Giffinger, 2007; Giffinger, Fertner, Kramar, & Meijers, 2007).¹¹

According to **Manel Sanromà**, director of information systems of Barcelona, *“The cities have a common anatomy, they are based on an environment which was pre-existed their creation and it will be there for many thousands of generations . . . Every city has different reports and any such report proposes a solution, as well. However, there is not a common platform for all the cities”* (as indicated to Hekimoglou, 2013).

5 Previous Research

Past research demonstrates an intense correlation between the foundation and operation of T.E.I. in a Region and its financial and development as well (*Annex 3*).

Katsogianni, Tsitsis, Priniotakis, and Tseles (2014), have studied the relationship that develops between a Higher Education Institution and the industry. They have presented the best practices from the EU countries and showed the relationship that develops between the T.E.I. of Piraeus (*Dpt. of Textile Industry*) and the local enterprise. The results demonstrate that such partnerships contribute to the development of both the T.E.I. and the provision of profits to the businesses.

In their tasks, **Genitsaropoulos** et al. (2011) και Genitsaropoulos, Botsaris, and Ladias (2012) tried to study the economic effects of operation of an A.E.I. generated by their operation and caused by their expenses, and the expenses of students and visitors as well. Alongside, studies have been conducted for the repercussions due to the creation and the dissemination of knowledge in the formation of capable human resources and strengthening the knowledge economy. For this reason a study conducted on the case of P. of Fthiotida and the operation of Higher Education Institutions in this. The main conclusions of the study were to enhance the local GDP by the students and to strengthen the human resources of the region.

The task of Professor **Th. Pakos** (2007), on the developmental effect of the University of Ioannina, has lead to the conclusion that the University Institute, since its foundation, contributes to the wider development of the Region. The author provides elements on the economic data of the Region of Epirus as well as secondary elements demonstrating the direct relationship between the University and the local economy.

In particular, a research of **Dimitriadis**, Chatzoglou, Theriou, and Madytinios (2003) on the influence of T.E.I. of Kavala in the city’s economic development,

¹¹ There are also other cities of the country belonging in the same category, including Patra (Giffinger, 2007).

demonstrated the direct relevance of T.E.I. with the local economy. The influence of T.E.I. of Kavala is around 5 % of the local GDP and contributes to the job creation. At the same time, T.E.I. of Kavala attracts tourism as well because of the conferences and the cultural and other events conducted. The authors collect their data with the use of a structured questionnaire and the analysis of secondary economic elements relating to the city of Kavala.

In a research, conducted by **Konsolas et al. (2010)**, it is studied the interrelationship between a Higher Education Institution with the city or the Region that resides and concludes that the exploitation of an educational institution can support the local economy and society but simultaneously the central planning will contribute to the development of the unit as well.

If we look back in similar surveys we will observe that **Polyzos, Anastasiou, and Geraki (2013)** studied the developmental course of the small cities (*3500–20,000 inhabitants*) in Greece from 2001 to 2011 and they led to the conclusion that the education index is one of the most important independent variables.

Metaxas (2012) highlights the importance of education, the process of learning (*and providing programs of continuous training*), the promotion and the support of collaborations with the University Institutions of the wider Region and the educational institutions on business competitiveness and the development of local communities.

Polyzos, Sdrolias, and Koutseris (2008), in a research conducted by them, demonstrate the direct dependence of local communities and enterprises with the national highways. The case study was concerning the Athens—Thessaloniki highway, where after the openings of the new national road, the local community has been directly affected, the unemployment has increased, even though the construction activity has increased. According to the authors *“the displacements of the roads have redistributive benefits. One is profited and someone else loses. However, there should be a concern for those who are directly affected by the new alignment. Incentives of relocation shall be provided to them or the possibility of a roadside access”*.

6 Research Methodology

During the preparation of the questionnaire we tried to shape it with the correct order, in order to be friendly both to the interviewer and to the responder. Therefore, we conducted sampling interviews in order to address the potential problems. In the part of sampling we tried to find the smaller possible subset (*as to its characteristics*) which represents the total of population of the three cities that operate Departments of T.E.I. The questionnaire includes closed questions with three answers “*Yes*”, “*No*” and “*DK/DA*” and it was relatively short so as not to tire the interviewee. We relied on the method of random sampling, the sample should not be less than 100 individuals and all of the interviews were anonymous (Babbie, 2011; Saunders, Lewis, & Thornhill, 2009).

The main advantage of this method is the fact that offers capable conclusions for a large population, it is a flexible method, the possibility of collecting large amounts of data is enabled and it is characterized by bigger reliability. Furthermore, the advantages of the questionnaire method are the economy, the speed, the possibility of impartiality and the confidentiality. The main disadvantage is the validity of the results, but it is also rigid, it's characterized by falseness and it generalises the results (Babbie, 2011; Saunders et al., 2009).

7 The Results of the Research

The questionnaire (*Annex 4*) is divided into three parts. The first part includes the demographic elements of the responders, i.e., the place of residence, the age, the gender, the educational level and the birth year. The second part includes 16 questions and we were asking from the responders to reply with "X" to the corresponding question. Among others, the questions which were relating to the contribution of the T.E.I. in the social, economic, enterprising, cultural development of the Region of Thessaly, in the dimension *smart cities* and finally to questions which were relating to the welcoming environment for the students and to the future prospects of T.E.I. The third part includes the comments and the observations the respondents. The data processing was performed by the SPSS and Excel.¹²

A total of 298 individuals replied to our questionnaire, 149 of which were men and 149 were women (*percentage of 50 %*). It is worth noting that the large number of the questionnaires shows the validity of the research as well, because it renders valid all of the questionnaires completed. 26.8 % of which are residents of Trikala, the 23.2 % of Karditsa and the 50 % of Larissa. According to their educational level, most of the respondents have degree of the higher education (56 %), the 32.6 % are High School graduates, the 6 % are graduates the compulsory education and the rest 5.4 % are possessing a postgraduate degree. From the correlations we conclude that statistically there is not a particular level of correlation between the two variables (*the gender and the educational level*) in comparison with other variables (*social development, smart cities, the strengthening of the local economy and others*). This means that both the gender and the educational level of the respondents are not affecting the total responses (Tables 1, 2 and 3).

The vast majority of the respondents consider that the T.E.I. it contributes to the broader development of the Region. In particular, more than 91 % consider that the TE.I. contributes to the social and economic development and strengthens the local economy. The 83 % considers that they are contributing to the enterprising development, and the 74.2 % to the technology and innovation. This percentage should be combined with the results presented in chart 6 where almost half of the

¹² On the statistical analysis (SPSS) of data, Mrs. **Grigoriou Ioanna** has contributed, MBA.

Table 1 Statistical elements

		Gender	Educational level
N	Valid	298	298
	Missing	0	0
Mean		1.50	2.6074
Median		1.50	3.0000
Std. deviation		0.501	0.68427
Minimum		1	1.00
Maximum		2	4.00
Percentiles	25	1.00	2.0000
	50	1.50	3.0000
	75	2.00	3.0000

Table 2 The gender of responders

		Frequency	%	Valid percent (%)	Cumulative percent (%)
Valid	1	149	50.0	50.0	50.0
	2	149	50.0	50.0	100.0
	Total	298	100.0	100.0	

Table 3 The educational level of responders

		Frequency	%	Valid percent (%)	Cumulative percent (%)
Valid	1.00	18	6.0	6.0	6.0
	2.00	97	32.6	32.6	38.6
	3.00	167	56.0	56.0	94.6
	4.00	16	5.4	5.4	100.0
	Total	298	100.0	100.0	

responders know that the cities of Larissa and Trikala are among the smart European cities (*smart cities*), a percentage rather disappointing. Finally, 2 out of the 3 respondents consider that it contributes to the cultural development of the Region.

We conclude that the most of the respondents consider that the T.E.I. is necessary for the wider Region and it should be remained at all costs, as well as the students that contribute to the configuration of the new culture. However, the percentage of 94 % consider that the removal of the T.E.I. would constitute a wound for the wider region. It is characteristic that most of those who answered that they wish the Institution's remaining, they do not have direct revenues (*rents and other*) by the students.

From the survey results, we conclude that the vast majority of the respondents, regardless their direct economic revenues from the students, consider that the T.E.I. is necessary for the wider Region and contributes to the viable and the sustainable development. The results are compared with those of previous researches, which highlight the importance of T.E.I. to the development of local regions.

8 Conclusions

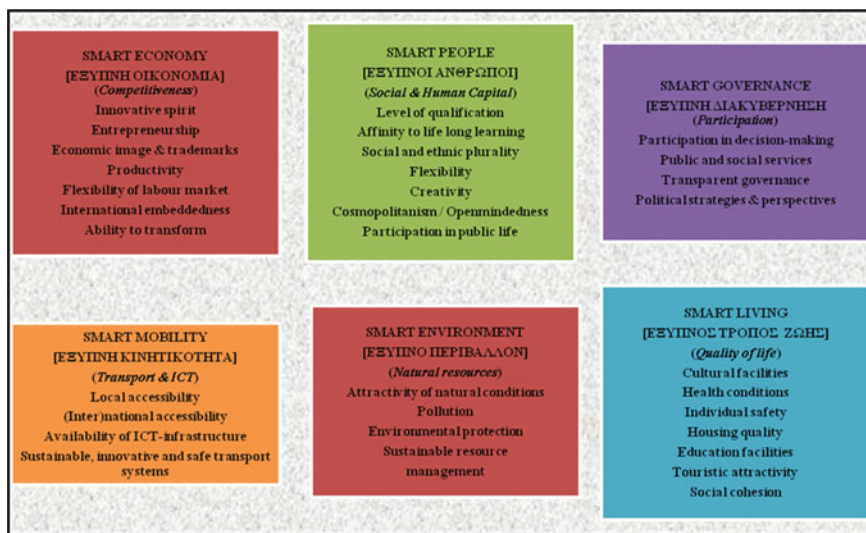
We consider that the research should be performed in all of the 13 Regions of the country and especially in the cities that reside Institutions of the Higher Education. The results that we have presented cannot be generalized to all Regions, except to the corresponding Regions (*depending on the population and the Institutions operating in them*). The main difficulty we encountered was the fact that there were enough citizens that did not wish to answer the questionnaire. Furthermore, we ought to avoid the tendency of overgeneralization, i.e., to forget the restrictive terms arising from the sample we used and to consider that the answers represent the total of population of the Region.

We consider that it is necessary to promote and support the partnerships with the Institutions of Higher Education of the Region of Thessaly and especially with the T.E.I. In this way the education and the lifelong learning will be strengthened in order to improve the human recourses of the Region and to strengthen the competitiveness. The T.E.I. is not enough just to offer positions in order to attract students, as another educational tourism. The T.E.I. should contribute decisively to the strengthening of the Regional GDP and the entrepreneurship with its direct connection with the local community.

Annexes



Annex 1. Map of the region of Thessaly. Source : teilpostgraduate.blogspot.com



Annex 2. Characteristics and criteria of the smart city. Source: Saitakis (2009), Giffinger (2007)

Researcher/Year	Sample	Examined	Conclusions
Katsogianni, M., Tsitsis, Chr., Printiotakis, G., & Tseles, D., 2014	Department of Textile Industry of T.E.I. of Piraeus and the local enterprise.	The effects of cooperation of a Higher Education Institution with the labour market.	The policy of collaborations has positive effects for both the T.E.I. and for the enterprises.
Polyzos, S., Anastasiou, An., & Geraki, M., (2013).	Greek cities including 3.500 – 20.000 inhabitants.	The developmental course of small cities in Greece.	The education index constitutes one of the most important variables to the development of small cities.
Genitaropoulos, Ch., Botsaris, Ch., & Ladias I., (2011 και 2012).	The Higher Education Institutions in the PE of Fthiotida.	The economic impacts and the repercussions on the human resources training.	The foundation and the operation of A.E.I. and T.E.I. in the PE of Fthiotida have a positive effect on the local economy and development
Konsolas, N., Papadaskalopoulos, Ath., & Christofakis M., (2010).	Higher Education Institutions.	The interrelationship of Higher Education Institutions with the local communities.	The exploitation of an educational institution can support the local economy and society but simultaneously the central planning will contribute to the development of the unit as well.
Polyzos, S., Sdroliias L., & Koutseris, E., (2008).	Highways of Greece.	How the new motorways have an impact on the local communities.	The highways are directly affecting the local economy of society (<i>positively and negatively</i>).
Metaxas, Th., (2012).		What the importance of education in the local communities.	The promotion and the supporting of partnerships with University Institutions of the wider Region and of the educational institutions with the competitiveness of enterprises and the development of local communities as well.
Pakos, Th., (2007).	The Uni. of Ioannina and the local community.	The developmental impact on the local communities by the Uni. of Ioannina.	The developing relationship between the local A.E.I. and the local economy, is immediate.
Dimitriadis, E., Chatzoglou, P., Theriou, N., & Madytinis, D., (2003).	The T.E.I. of Kavala and the local community.	The impact of T.E.I. of Kavala on the local community.	There is a direct correlation between the T.E.I. and the development of the local economy and community.

Annex 3. Concise presentation of indicative works related to the impact of higher education institutions on the local communities. Source: Personal elaboration of data

QUESTIONNAIRE ON THE ECONOMIC IMPACT OF T.E.I. IN THE REGION OF THESSALY

<ul style="list-style-type: none"> • City of residence : _____ • Regional Unit: Karditsa, Larissa, Trikala • Profession : _____ • Birth Year: ___/___/___ • Gender : [Male] - [Female] • Educational level : elementary, secondary, higher, postgraduate
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Please rate the following sentences by marking X in the corresponding square

<p>1. Do you believe that the T.E.I. helps to the social development of Thessaly? YES <input type="checkbox"/> NO <input type="checkbox"/> DK/NA <input type="checkbox"/></p> <p>2. Do you believe that the T.E.I. helps to the economic development of Thessaly? YES <input type="checkbox"/> NO <input type="checkbox"/> DK/NA <input type="checkbox"/></p> <p>3. Does the T.E.I. contribute to the development of modern technology and innovation in the Region of Thessaly? YES <input type="checkbox"/> NO <input type="checkbox"/> DK/NA <input type="checkbox"/></p> <p>4. Do you consider that the T.E.I. contributes to the enterprising development of the Region of Thessaly? YES <input type="checkbox"/> NO <input type="checkbox"/> DK/NA <input type="checkbox"/></p> <p>5. Do you consider that the T.E.I. contributes to the cultural development of the Region of Thessaly? YES <input type="checkbox"/> NO <input type="checkbox"/> DK/NA <input type="checkbox"/></p> <p>6. Do you consider that the T.E.I. contributes to the strengthening of the local economy? YES <input type="checkbox"/> NO <input type="checkbox"/> DK/NA <input type="checkbox"/></p> <p>7. Do you know anything about the existence of actions and collaborations of the T.E.I. with the local enterprising community of the Region of Thessaly? YES <input type="checkbox"/> NO <input type="checkbox"/> DK/NA <input type="checkbox"/></p> <p>8. Do you know that Larissa and Trikala are considered as smart cities (<i>smart cities</i>)? YES <input type="checkbox"/> OXI <input type="checkbox"/> DK/NA <input type="checkbox"/></p> <p>9. In your own work / enterprise, do you believe that a large part of your income to you is resulting from the students? YES <input type="checkbox"/> NO <input type="checkbox"/> DK/NA <input type="checkbox"/></p> <p>10. Do you have any direct revenues from students (<i>rent, clothing store and other</i>)? YES <input type="checkbox"/> NO <input type="checkbox"/> DK/NA <input type="checkbox"/></p> <p>11. Do you bother coming students in your city who have different ways of life. Is it giving you a hard time? YES <input type="checkbox"/> NO <input type="checkbox"/> DK/NA <input type="checkbox"/></p> <p>12. Do you believe that the wider region of Thessaly is a hospitable environment for the students? YES <input type="checkbox"/> NO <input type="checkbox"/> DK/NA <input type="checkbox"/></p> <p>13. Do you consider that Thessaly is better with or without students? WITH <input type="checkbox"/> WITHOUT <input type="checkbox"/> DK/NA <input type="checkbox"/></p> <p>14. Do you believe that the T.E.I. is necessary for the economic development of your city? YES <input type="checkbox"/> NO <input type="checkbox"/> DK/NA <input type="checkbox"/></p> <p>15. Do you believe that the removal of T.E.I. will be a "<i>wound</i>" to the Region of Thessaly? YES <input type="checkbox"/> NO <input type="checkbox"/> DK/NA <input type="checkbox"/></p> <p>16. Would you like the remainder or the removal of the T.E.I.? YES <input type="checkbox"/> NO <input type="checkbox"/> DK/NA <input type="checkbox"/></p>

Comments :

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Annex 4. The survey questionnaire. Questionnaire on the economic impact of T.E.I. in the region of Thessaly

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