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OPEN ENTREPRENEURIAL ACADEMIC CENTRES[5]

The increasing need for innovative ideas, technologies and products leads to the usage of new approaches and methods fostering innovative work. As it is found, the sharing economy covers not just consumption and customers' behaviour, but finance (crowdfunds), research (co-creation areas), entrepreneurship (co-working areas) and etc. As academic entrepreneurship often is not given priority in the university policy and goals, the paper aims to present specific requirements of the specific open space inside the universities /open entrepreneurial academic centre/ that uses co-working and co-creation approaches. Thus, the paper is focused on the basics of open entrepreneurial centres (paragraph 1), indicators for their entrepreneurial success (paragraph 2) and organization of the crowd-working space (paragraph 3).
Keywords: academic entrepreneurship; co-creation; co-working
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Introduction

OPEN ENTREPRENEURIAL ACADEMIC CENTRES, although a new phenomenon in universities around the world, are based on the classical theory of CENTRES FROM THEORY TO PRACTICE (T2P Centres). At the same time, the emphasis is not so much on establish entrepreneurs, as on creating a completely different model of behaviour and

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thinking of young people, through which they can make the connection from theoretical knowledge to their applicability in practice much easier and faster.

The **main research thesis** is that the OPEN ENTREPRENEURIAL ACADEMIC CENTRES are undoubtedly successful instruments for fostering entrepreneurial mindset establishment that have the potential for exponential increase of the newcomers' business in future. Thus, the OPEN ENTREPRENEURIAL ACADEMIC CENTRES are focused on the **entrepreneurial black-box** process and perquisites: mindset /resp. way of thinking of young academicians/ instead of **entrepreneurial results**: entrepreneurship and academic companies.

Accordingly, the main **research questions** are set as follows:

1. What are the *main characteristics* of the OPEN ENTREPRENEURIAL ACADEMIC CENTRES, resp. how they differ from the T2P Centres.
2. How to *measure the effectiveness* of the OPEN ENTREPRENEURIAL ACADEMIC CENTRES as their main goal is not to start students' start-ups or academic spin-offs.
3. How to organize the existence of OPEN ENTREPRENEURIAL ACADEMIC CENTRES taking into account the main principles of co-working and co-creation.

Of course, by establishing and using the open entrepreneurial centres, an opportunity is provided to use the CO-CREATION and CO-WORKING approaches for "group intelligence" in the generation and use of innovative entrepreneurial ideas, by analogy with social networks, which achieves:

- unfolding the creativity of people from the academic community, resp. mostly students, but also teachers and researchers;
- expanding the scope of functional and technological innovations;
- overcoming discrepancies between students' skills and labour market requirements;
- practical implementation and consolidation within the framework of the open entrepreneurship centres of acquired transversal skills and key competencies, such as problem-solving skills and entrepreneurial skills.

The realization of the OPEN ENTREPRENEURIAL ACADEMIC CENTRES is related to encouraging the academic community to "be active", to seek and find solutions to conventional and new problems; to attract and manage resources – material, financial and human, to develop the attitudes of "mutual help" and the transfer of knowledge and technology. At the same time, there is a "shortening" of the distance between teachers/researchers, on the one hand, and students, on the other.

Moreover, by using the specific organization and dissemination of information, resp. formally or by word of mouth, changes the academic interaction and within the academic life /resp. lectures, seminars, individual and group assignments, etc./ thus teachers are perceived not so much as "conductors of knowledge" / lecturers/teachers, but as "creators" giving support for their students. Thus, a "lost form" of ACADEMIC GUIDANCE, resp. leader of

a group, stream or programme, acquires a new form and content through the so-called ACADEMIC MENTORING / TUTORING.

Last but not least, the OPEN ENTREPRENEURIAL ACADEMIC CENTRES are fully in line with public attitudes and sharing tendencies expressed through the so-called SHARING SOCIAL ECONOMY. In addition, the main advantages of academic training at "open doors" are the following:

- The created social skills of the students are used, which most of the time are worked in social groups;
- The acquisition of transversal skills is much more effective in physically more active students who have the opportunity to "share" their physical and mental energy with other colleagues.
- The removal of walls enables the reduction of aggression and the achievement of a higher degree of empathy while learning problem-solving and team management skills.

This type of skill acquisition encourages the use of a variety of communication skills; promotes cooperation and collaboration in teamwork – the main principles of CO-CREATION and CO-WORKING approaches (Waters-Lynch et al. 2016, Uda 2013, Lorenzo-Romeroa at al. 2014, Jotte et al. 2016 and others).

CO-WORKING firstly appears in the mid-2000s as a concept of occupancy of the workplace that saves time, space and money (Gabrielli, Fiorentino, 2022). So, co-working spaces are percept as a part of the emerging **sharing economy** concept. Thus, a co-working space is a modern working environment that gives: flexibility, dynamics and resilient design, which are favourable requirements for start-ups, freelancers and creative industries (Pan et al. 2022, Kartika et al. 2019 and others). In addition, Kwiatkowski and Buczynski (2011) summarize five core values for co-working space: **collaboration, openness, community, accessibility and sustainability**.

Something more, co-working spaces have become a focal point that gives flor to all stakeholders: associations, groups of traders and clients, as well as supply entrepreneurial skills and propose business matchmaking for them (Gabrielli, Fiorentino, 2022). They could be effective instruments for small and medium businesses not just in big business conglomerates but also in small villages. For example, the added value of the proposed Rural Enterprise Hubs (REHs) are: geographical, social, institutional, cognitive, and organisational proximities for the co-working entrepreneurs (see Brown 2016)

CO-CREATION appears as a marketing instrument in the 2000s for creating brands collectively with consumers and other stakeholders that evolve in the mid-2010s as an instrument for promoting the social dimension of business as a result of viral Corporate Social Responsibility endorsement. In this meaning, co-creation is the process of collaboration of two or more parties in building a new type of value for themselves or others (Zuniga et al., 2021; Hughes, 2014).

The effectiveness of the co-creation is explained with the behavioural approach as messages / new products co-designed collectively with the participation of customers are more effective than those messages / new products designed by the companies only (Zhang, Jeong, 2023;

Fuchs, Schreier, 2012; Van Dijk et al., 2014; and others). And once again, the social dimension of customer behaviour makes them more favourable to companies/brands that are engaged with societal problems than individual ones.

Accordingly, the co-creation as a collaborative process considers the involvement of a (social) network (Prahalad, Ramaswamy, 2004; Romero, Molina, 2011) that creates the right environment for the development of co-creation of co-creative innovative value. Thus, the co-creation process needs a co-working approach, but the collaborative network success is based on group interests, individual and group objectives and type of cooperation (Takahashi, Takahashi, 2022; Li et al., 2022)

Summarizing, the co-creation and co-working approaches are set for the success of the entrepreneurial business (Ghezzi et al., 2022). The entrepreneurial business become more "open" from the value co-creation perspectives and respectively better sustainable to the viral environment through business cooperation and collaboration via co-creation and co-working initiatives, and it is proven for different sectors: ICT (Mohamad et al., 2022), Food Industry (Mars, 2022), Biotech industry (Ghezzi et al., 2022).

Another perspective on co-creation and co-working in fostering entrepreneurship is finding the role of the Universities / Research labs at the Strategic Framework of business establishment. Some papers discuss that role. For example, Benneworth et al. (2017) discuss the contribution of Universities to institutional entrepreneurship. They found 3 main areas of contribution: research projects in creating a novel knowledge pool; provision for local business clusters' high-value knowledge; and contribute funds in private/state research projects for collective benefit.

In that meaning, according to Jackson et al. (2022) and Mahlberg and Riemer (2017), the co-working space in universities embodies: **entrepreneurship**, **cutting-edge technologies, and transdisciplinary and collaborative working** as well as supports **matching students** with co-working members and gives interns access to developmental activities. Accordingly, Sankari et al. (2018) set that the benefits of academic co-working spaces are their attractiveness and community appreciation. In addition, according to Lahti (2021) through University Future Tech Labs (FTLabs): co-working spaces in Universities, the students receive **collaborative learning/teaching**, where learning is carried out as a team exploring or co-creating a project.

Additionally, the main interactions between Universities and (entrepreneurial) businesses are: formation of spin-offs; knowledge transfer (licensing or selling of intellectual property) and co-creation (De Silva et al., 2023). De Silva et al. (2023) proposed that Universities could offer customized training, incl. entrepreneurial training, and support (entrepreneurial) structures based on four types of the interplay between motivation and decision-making approaches in co-creation (i.e., push effectuation, push causation, pull effectuation, and pull causation). The establishment of such co-creation instruments affects the positive attitude of students towards the university, increasing their teaching experience satisfaction, and they become more committed to the university's brand (Beier et al., 2022). Accordingly, Shen et al. (2022) explore the co-creation cooperative construction between business and scientific community (resp. Universities and Research Labs) that explore the integration of industry, education and research.

Finally, according to Zhao et al. (2022) co-creation is considered to be a new entrepreneurship pedagogy strategy in entrepreneurship education in Universities. In addition, the idea of establishing an academic entrepreneurial hub /centre/ is not new. It is proposed for suburbs of big cities, for small villages and rural areas (Merrell et al., 2022; Hölzel et al., 2022). Furthermore, the Universities / Research Labs are put in focus for fostering innovations.

Following the literature analysis, a better understanding of the functions and role of the OPEN ENTREPRENEURIAL ACADEMIC CENTRES requires the introduction of 2 concepts related to the implementation of the concept of these centres:

A. ACADEMIC ENTREPRENEURSHIP

Academic entrepreneurship is a phenomenon through which dynamically growing micro- and small enterprises are established for: realising high business growth, having a proactive market behaviour, implementing strategies oriented towards achieving sustainable competitive advantages, using high-tech innovations and taking on a large but calculated risk (Todorov 2002). Academic entrepreneurship is associated with: teachers' / researchers' spin-offs (Hayter et al. 2021); students' start-ups (Bagis, 2022); or entrepreneurial education (EE).

The role of existing academic entrepreneurs is essential to increase the impact of the obtained scientific results, as their main function is the transfer of knowledge and research results in the economy through the engagement of students / academic teachers and researchers. Academic entrepreneurs are actually laying the foundations for the revival of some of the traditional sectors and becoming key players in the new private industrial structures.

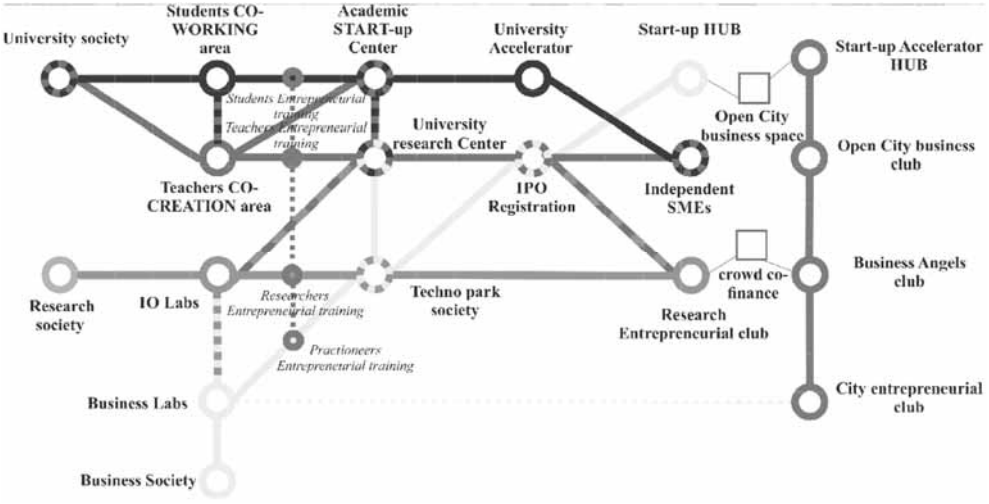
The specificity of academic entrepreneurship is determined by the fact that it combines features of intra-corporate entrepreneurship known from the literature with the autonomy of the authentic entrepreneur (Georgieva, 2013).

B. ENTREPRENEURIAL ROADMAP

The Entrepreneurial Roadmap defines the necessary support for the development and growth of new start-ups based on technology transfer from academia to business. The road map reveals the "stops" of an entrepreneurial idea from inception to the growth of the entrepreneurial business. For example, an entrepreneurship academy/entrepreneurship training can be the common stop/crossroads for any business idea, regardless of its origin – an academy, a research institute or a business organization.

The entrepreneurial road map is based on the proposed algorithm in Figure 1, presented with road stops expressing the realization of an entrepreneurial process and includes innovative creation /at the beginning of the road/ and financing of the entrepreneurial idea /at the end of the road/.

Figure 1. Road map of entrepreneurship



Source: Sterev, Milusheva, Hertleer, Saeed, Guagliumi, 2021.

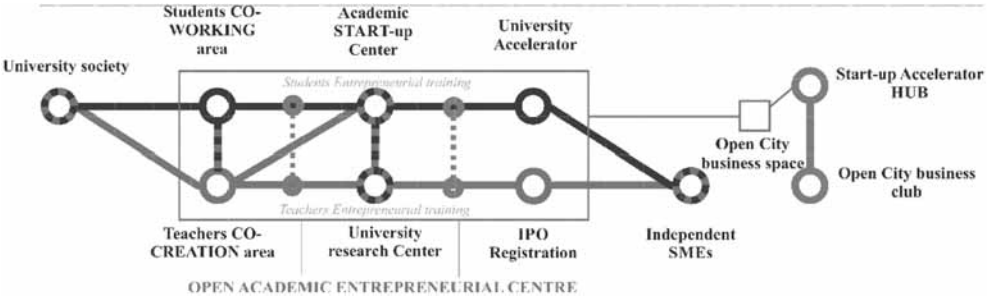
A given entrepreneurial roadmap is a distribution of entrepreneurial activities over time that lead to a goal: the establishment of an academic spin-off/start-up. Some of these activities could be implemented in parallel.

1. Functions and Role of Open Entrepreneurial Academic Centres

Despite the fact that the main goal of the OPEN ENTREPRENEURIAL ACADEMIC CENTRES is to create specific attitudes and to develop modern skills necessary for students/academic staff to be full participants in economic life, this type of organization "showcases" and develops non-standard ideas of students/teachers/researchers whose ideas have a potential for development and, of course, have high added value.

Following the above, this type of "university/academic" structure should fulfil the role of a "centre" for the development of academic entrepreneurial ideas until the legal establishment of a sustainable /in-time/ innovative entrepreneurial business – spin-off or start-up. Accordingly, the OPEN ENTREPRENEURIAL ACADEMIC CENTRES follow the roadmap for promoting academic entrepreneurship (Figure 2).

Figure 2. Road map of an academic entrepreneurship



Source: Sterev, Milusheva, Hertleer, Saeed, Guagliumi, 2021.

According to the above road map (Figure 2), the functions inherent in the open entrepreneurial academic centres are:

- To provide a shared workspace for students, teachers and researchers to realize their "entrepreneurial ideas": this is CO-WORKING AREA (Waters-Lynch et al. 2016, Uda 2013 and others). Unlike shared business spaces, at OPEN ENTREPRENEURIAL ACADEMIC CENTRES the shared space is used to hold informal meetings between students, their teachers and researchers, which informal meetings are driven by a common interest: sharing and finding like-minded people. At the same time, shared spaces for academic entrepreneurship provide the minimally necessary academic infrastructure to work on the preliminary phases of realizing an entrepreneurial idea.
- To provide opportunities for the development of promising business ideas based on the joint work between students and/or professors and researchers in universities. This is CO-CREATION AREA (Lorenzo-Romeroa at al. 2014, Jotte et al. 2016 and others). Without pretending to be a real Start-up centre, OPEN ENTREPRENEURIAL ACADEMIC CENTRES create the necessary prerequisites for advising "academic entrepreneurs" by introducing the figure of an ACADEMIC MENTOR/TUTOR. For this purpose, through the OPEN ENTREPRENEURIAL ACADEMIC CENTRES, selected teachers /researchers – volunteers /ACADEMIC TUTORS/ are given the opportunity to organize meetings-discussions on topics important for the development of the entrepreneurial idea. For example, creating an entrepreneurial business model (entrepreneurial canvas); financing entrepreneurial ideas; digital tools for selling entrepreneurial products; protecting intellectual/industrial property rights, etc. An essential part of the activity of the OPEN ENTREPRENEURIAL ACADEMIC CENTRES is to organize blended meetings with successful entrepreneurs /TUTORS/ to share their experiences, problems and solutions on a chosen topic.
- To lay the foundation of an entrepreneurial ecosystem for the development of academic entrepreneurship. Without usurping the functions of typical business accelerators, OPEN ENTREPRENEURIAL ACADEMIC CENTRES should ensure a possible exchange of information and/or mediate this exchange between the various stakeholders in the

entrepreneurial process. At the same time, an important part of these interested parties are the possible financial institutions /e.g. business angels, venture capital funds, etc./; professional consultants, public representatives, etc. In this interaction, the created "entrepreneurial groups" of academic entrepreneurs have the opportunity to find suitable ideas, people and finances, which will take them to a new entrepreneurial level, namely – applied development of their entrepreneurial ideas in a developing business.

The implementation of the specified functions is based on the observance of several principles:

- Academic freedom – students, teachers and researchers have the opportunity to develop their own independent or joint ideas without preventing their other colleagues from developing their entrepreneurial ideas and without disparaging or damaging the image and prestige of the higher education institution. Respect for academic freedom enables academic entrepreneurship to develop in many different directions without being limited to university specialization /if applicable/.
- Multidisciplinary approach – "future" academic entrepreneurs have the opportunity within the OPEN ENTREPRENEURIAL ACADEMIC CENTRES to "look" at their business idea "through the eyes" of others. The sharing of personal ideas, impressions and experiences, especially when representatives with different basic competencies (engineers, technologists, mathematicians, economists, doctors, etc.) participate in the open discussions. With such collaboration, the probability of creating an idea that combines principles from different sciences is much greater.
- Teamworking – teamwork is an integral part of the realization of the principle of a multidisciplinary approach. Teamwork requires the participation and commitment of different people in the realization of an entrepreneurial idea. In this way, each of the team members can focus on a specific task for the realization of the entrepreneurial business idea and thus increase the probability of success and transition to the next phase of academic entrepreneurship.
- Participation of various interested parties / entrepreneurial networks – representatives of various interested parties or entrepreneurial networks will be given the opportunity to participate within the OPEN ENTREPRENEURIAL ACADEMIC CENTRES. Of course, the most desired participation is of representatives of the student (including alumni), academic and research communities, but within the framework of the functioning of the centres, the participation of representatives of the financial sphere will be sought; accomplished entrepreneurs; representatives of big business; representatives of state and municipal structures; public figures, etc.

The OPEN ENTREPRENEURIAL ACADEMIC CENTRES should perform some specific tasks:

- to provide the necessary training to the "candidate-entrepreneurs" by organizing various events to increase the competence of the students/academic staff regarding the possibilities of creating and developing their own entrepreneurial businesses. These events can include:

- conducting blended trainings /Masterclasses/ on entrepreneurship with the participation of leading experts in different areas of entrepreneurial business establishment: economists, financiers, technologists, specialists in intellectual property rights, lawyers, etc. During the theoretical-applied trainings, the interested students/academics teachers/researchers will have the opportunity to acquire new or consolidate acquired entrepreneurial knowledge. At the same time, in compliance with the principle of a multidisciplinary approach, "entrepreneurial teams" can be established during the training to develop their own entrepreneurial ideas outside the training;
- conducting meetings-discussions with teachers. Within the discussions-meetings, short demonstrations will be made with the opportunity to ask questions and receive answers from leading specialists, thereby encouraging the acquisition of specific entrepreneurial skills. During the meetings, interested academic participants will have the opportunity to receive consultation and/or confirm their entrepreneurial actions from leading specialists/consultants in various fields;
- conducting meetings with entrepreneurs/business representatives. Within these meetings, business representatives will have the opportunity to share their entrepreneurial experience in various difficult situations in which an entrepreneur finds himself.
- Sharing and discussing good practices for fostering academic entrepreneurs to establish academic spin-offs or start-ups.

- To provide the necessary academic mentoring/tutoring to the "young" academic entrepreneurs. This activity requires the involvement of representatives of various interest groups to "facilitate" the establishment of entrepreneurial teams/groups and, on a voluntary basis, assist them with advice, consultation and recommendations. Of course, the development of the entrepreneurial idea itself is a priority of the academic entrepreneurs themselves, but the academic mentors/tutors should "guide" them in the right direction, so that the academic entrepreneurs themselves reach the "right" decisions for them. The realization of the task of academic mentoring/tutoring should be realized with the help of 3 techniques:
  - Discussion of a problem that arose when considering the entrepreneurial idea. At the same time, the academic mentor/tutor does not offer possible solutions, but through discussion with the academic entrepreneurs "directs" them to independent decision-making regarding the realization of the entrepreneurial business idea. Very often, within the framework of the discussion of the problems, the academic mentor/tutor can assign the implementation of a given task, through the implementation of which the academic entrepreneur will find his solution to his entrepreneurial problem.
  - Recommending relevant literature: scientific and applied, which will benefit academic entrepreneurs to understand the problem themselves and find its solution;
  - Recommending specialists/people from practice who can not only explain the "next" steps in the realization of the entrepreneurial idea, but also be co-teachers (mentors).

- To create an information database with ideas of various participants in the OPEN ENTREPRENEURIAL ACADEMIC CENTRES. In this way, prerequisites are created for finding "suitable" entrepreneurial teams. The important thing in creating this information base is to have a brief description of the entrepreneurial idea and what expertise the initiator of the entrepreneurial idea needs to see it through to the end and realize it in an entrepreneurial business. Although the openness of the database of entrepreneurial ideas should be the main approach in organizing the database of ideas, access should be limited to the following persons in order to prevent "idea predation":
    - Students / academic teachers/researchers participating in the events of the OPEN ENTREPRENEURIAL ACADEMIC CENTRES;
    - Academic mentors/tutors participating in the events of the OPEN ENTREPRENEURIAL ACADEMIC CENTRES, incl. and industry mentors;
    - Representatives of various stakeholders forming the entrepreneurial ecosystem of academic entrepreneurs.

2. Backgrounds of the Open Entrepreneurial Academic Centres

Regardless of the fact that the main result sought from the establishment and implementation of the OPEN ENTREPRENEURIAL ACADEMIC CENTRES is the creation of an academic entrepreneurial business with high market potential (spin-off or start-up business), the desired result is a change in the motivation and attitudes of the participants in the various events – students/academic teachers/researchers business representatives.

A. Creating a high-potential academic entrepreneurial business requires many more activities than are envisaged in the conceptual framework of OPEN ENTREPRENEURIAL ACADEMIC CENTRES. Regardless of the fact that the activities of developing the entrepreneurial idea /carried out by START-UP centres/hubs and promoting the growth of entrepreneurial business /carried out by different types of accelerators and/or networks of business angels/ are not within the scope of the OPEN ENTREPRENEURIAL ACADEMIC CENTRES, important indicators of the centre's activity are:

- A number of students/academic teachers/researchers participate in the various activities of the centre. If we assume that 1 in every 100 business ideas has the potential for development without being accepted as a "fixed idea" of the centre, the more participants in the activity of the centre, the greater the number of "successfully implemented" ideas for academic entrepreneurship.
- A number of "shared business ideas". It's no secret that "typical entrepreneurs" are full of ideas. Very often an entrepreneur thinks of 5-6 different entrepreneurial ideas at the same time. Lack of focus is one of the reasons for the numerous failures of many enterprising people. Through the OPEN ENTREPRENEURIAL ACADEMIC CENTRES, academic entrepreneurs can share their ideas by forming different entrepreneurial teams/networks to increase the overall probability of success of these entrepreneurs.

- A number of entrepreneurial ideas of academic entrepreneurs that have started to be realized in practice. Regardless of whether academic entrepreneurs will continue along the stops on the road map of academic entrepreneurship /Figure 2/ or deviate along one of the other stops for entrepreneurship development /Figure 1/, it is important to know how many of those involved academic staff in OPEN ENTREPRENEURIAL ACADEMIC CENTRES have changed their professional path. Moreover, this may not happen immediately and within the framework of their active participation in the OPEN ENTREPRENEURIAL ACADEMIC CENTRES, but after a certain period of time, for example: 1 – 5 – 10 or more years. This information will allow attracting these "successful" already academic entrepreneurs as tutors to the young academic entrepreneurs.
- A number of funded ideas of academic entrepreneurs. As part of the entrepreneurial ecosystem created and functioning within the OPEN ENTREPRENEURIAL ACADEMIC CENTRES, part of the entrepreneurial ideas with potential can be financed during the participation of the students/academic teachers/researchers in the centre. An example of this practice is the organization of competitions for academic entrepreneurs, with the winners receiving a cash prize for realizing their entrepreneurial idea.

B. The change in the motivation and attitudes of the participants in the OPEN ENTREPRENEURIAL ACADEMIC CENTRES is the real success of the concept. In this way, the "refusal" to develop an entrepreneurial idea is not a weakness of the centre's functioning, but part of creating such professional attitudes that lead to the subsequent success of the participating students/academic teachers/researchers in the labour market. The main qualitative psychological indicators expressing the internal motivation and attitudes towards starting a business, which change when participating in the OPEN ENTREPRENEURIAL ACADEMIC CENTRES events, are reduced to the following few more significant ones:

- Creativity – participating in the exchange of different ideas, meeting with different people with their specific competencies /knowledge, skills and experience/, discussing entrepreneurial ideas, even foreign ones, within the framework of meetings-discussions, allow the participating interested parties to be more -creative in their usual activity, even outside of academic entrepreneurship. In this way, this creativity is transferred to the work outside the OPEN ENTREPRENEURIAL ACADEMIC CENTRES and these people are more successful in their workplace.
- Visionary – the opportunity to see "one's" idea through the "eyes of others" enables the participants in the OPEN ENTREPRENEURIAL ACADEMIC CENTRES to "jump" their personal boundaries. In this way, their position changes and they "begin to think beyond" their thinking limitations. This allows them to be much more insightful regarding future plans and their implementation.
- Initiative – being able to share one's own entrepreneurial ideas shows participants that initiative is not a "bad trait". Adopting the attitude that "the front lines always fall first" inhibits initiative in any field of activity. Participation in the work of the OPEN ENTREPRENEURIAL ACADEMIC CENTRES, however, shows that "innovators /the

first/ in a given field always win". This develops the sense of initiative of the stakeholders: students/academic teachers/researchers / business representatives etc.

- Motivation – successful employees are highly motivated. Participation in the activities of the OPEN ENTREPRENEURIAL ACADEMIC CENTRES enables the participating stakeholders: students/academics researchers/business representatives etc., to be much more motivated and enthusiastic in carrying out their usual activities. "Carried on the wings" of the manifestation of creativity and initiative, the participating stakeholders "find" the appropriate work behaviour that brings them success in their usual work activities. Moreover, verifying the knowledge and skills they possess inspires them and makes them realize that they can achieve more and this also increases their personal motivation.

3. Role of the Open Entrepreneurial Academic Centres Fostering Academic Entrepreneurship

The role of the Universities in training students how to be entrepreneurs is well discussed in the literature. In that feature, entrepreneurship could be assigned with carrier development (to be an entrepreneur) or with academic knowledge for management of Small and medium enterprises.

As the taught intention to be an entrepreneur is well-researched, the development of an Entrepreneurial mindset is not. Hence, the entrepreneurial mindset is explained by the personality focused on dynamics, innovations and communication skills. Al-Ghazali et al. (2022) found that entrepreneurial mindset and mentality are used by entrepreneurs to make new recommendations and to assess risks and opportunities related to new business initiatives.

The entrepreneurial intention and entrepreneurial education are investigated in different countries: for example, Saudi Arabia (Al-Ghazali et al., 2022), Pakistan (Khawar et al., 2022), Chilie (Acuña-Duran et al., 2022), China (Wang et al., 2022) or in different sectors: for example, Mining industry (Sörensen 2021), Textile and clothing industry (Sterev at al., 2021).

For analyzing the possible role of OPEN ENTREPRENEURIAL ACADEMIC CENTRES to foster academic entrepreneurship, we use the results of Entrepreneurial training under the ICT-TEX Project that is done in Venice, Italy in 2021 with the participation of 41 participants within 3 groups: students, researchers/teachers, entrepreneurs. The chosen example is close to the OPEN ENTREPRENEURIAL ACADEMIC CENTRES as it is provided as a co-working and co-creation project with the participation of different stakeholders.

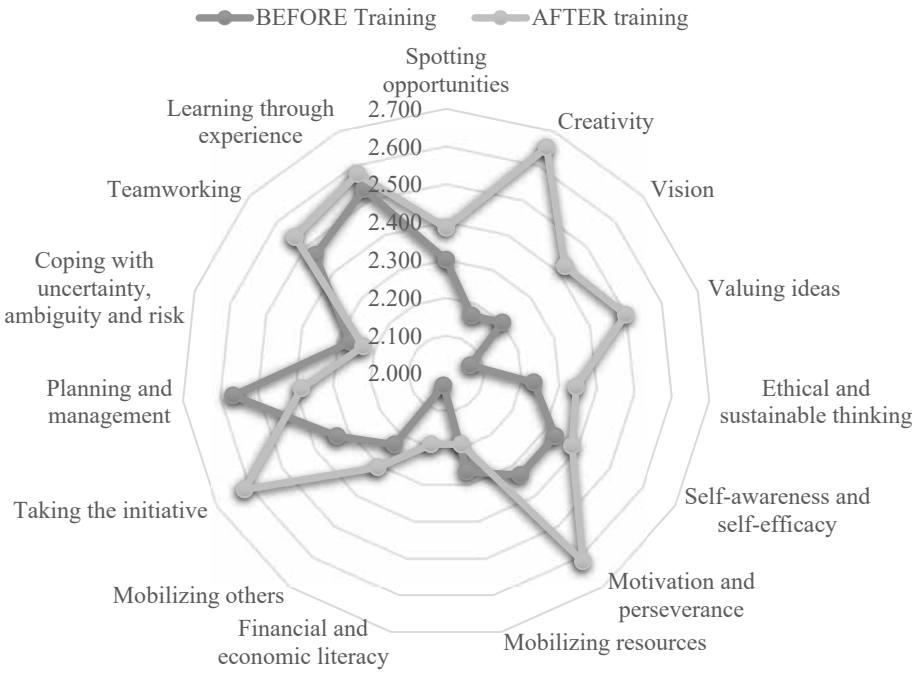
The research is done with the questionnaire of EntreComp framework (https://ec.europa.eu/social/main.jsp?catId=1317&langId=en) that covers 3 categories entrepreneurial skills:

1. Ideas and opportunities: Spotting opportunities; Creativity; Vision; Valuing ideas; Ethical and sustainable Thinking

2. Resources: Motivation and perseverance; Mobilising resources; Financial and economic literacy; Mobilising others
3. Into Action: Taking the initiative; Planning and management; Coping with uncertainty, ambiguity and risk; Working with others; Learning through experience

The Questionnaire was fulfilled before the start of entrepreneurial training and after the end of the training. The main results are presented in Figure 3 and Figure 4.

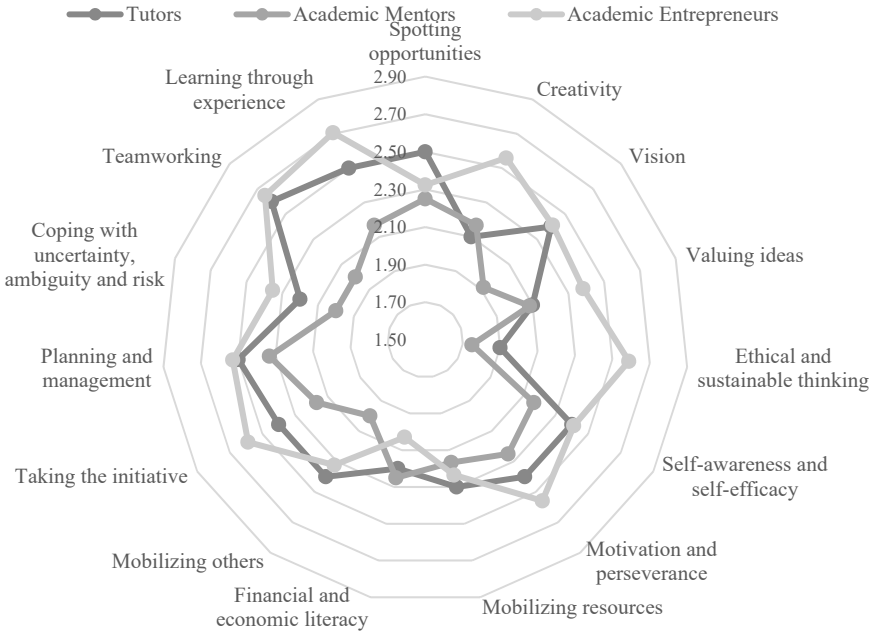
Figure 3. Changing attitudes BEFORE and AFTER academic entrepreneurial training



Source: Sterev, Milusheva, Yordanov, 2022.

The change in the motivation and attitudes of academic entrepreneurs: students / academic teachers/researchers, can be explained by the different motivational profiles of the different interested groups. Academic entrepreneurs are the most sceptical to change in personal attitudes before and after training. The sample profiles measured during the ICT-Tex project show that academic entrepreneurs should be perceived as the "artist's canvas" and through blended learning, they can be more motivated and more goal-oriented, as in creating their own START-up business, as well as when starting a professional career (Figure 4).

Figure 4. Attitudes of the various stakeholders when participating in the OPEN ENTREPRENEURIAL ACADEMIC CENTRES



Source: Sterev, Milusheva, Yordanov, 2022.

4. Approach to Organizing Open Entrepreneurship Centers

Looking at the results from the survey, the **OPEN ENTREPRENEURIAL ACADEMIC CENTRES** would be a very effective instrument for fostering academic entrepreneurship. The organization of the OPEN ENTREPRENEURIAL ACADEMIC CENTRES is carried out by determining the necessary infrastructure and team for the implementation of the above-mentioned activities in the following way.

A. INFRASTRUCTURE.

Infrastructural, the functioning of such a centre needs appropriate premises and a base. In accordance with the basic principles of the existence of this type of entrepreneurial centre: with open doors, it follows that the centre must be physically located in a building/premises with public access. Similarly, the centre can also be located in the virtual space, and free access to the website/platform on which the centre is presented is also required. Restriction of access to a physical/virtual centre can only be done in relation to belonging to one or more interested groups through an access card/student card (for physical centres) or username and password (for virtual centres).

The public access and open nature of the OPEN ENTREPRENEURIAL ACADEMIC CENTRES implies that it has suitable places to work "in the open", the necessary equipment for presentation through multimedia files, the necessary means of conducting demonstrations when organizing meetings-discussions, as well as the necessary literature, through which to increase the competence of interested academic entrepreneurs.

In addition to the physical infrastructure, the OPEN ENTREPRENEURIAL ACADEMIC CENTRES can also be located in the virtual space, such as on a website or on a specially developed platform for academic entrepreneurship, the physical infrastructure being duplicated virtually.

Along with the above, regardless of whether the OPEN ENTREPRENEURIAL ACADEMIC CENTRES are physical and/or virtual, a database of entrepreneurial ideas of the academic entrepreneurs needs to be built, as well as a platform to check the academic entrepreneurship motivation and attitudes of the stakeholders. The existence of such a base is key for the subsequent monitoring and control of the results of the centre's activity, as according to the data from the register of entrepreneurial ideas, the professional development of the participating academic entrepreneurs can be followed over time, and also the effect on motivation and attitudes can be monitored to the participants in the various events, in this way to offer exactly such blended trainings, where the highest motivational effect is observed.

B. TEAM

The functioning of the OPEN ENTREPRENEURIAL ACADEMIC CENTRES requires that there are several groups of participants who support and ensure the functioning of the centre.

- Activity organizers: includes a team of 2-3 people who maintain the physical infrastructure, schedule and organize face-to-face and/or virtual academic entrepreneurship trainings, schedule and organize face-to-face and/or virtual meetings with active entrepreneurs / academic tutors, support meetings-discussions with academic mentors. The centre's organizing team should support the maintenance of the electronic database with entrepreneurial ideas and support (if necessary – a.n.) the verification of entrepreneurial motivations and attitudes in the platforms specialized for this. Along with the above, depending on the level of construction of the OPEN ENTREPRENEURIAL ACADEMIC CENTRES, the team should support the organization and holding of contests for entrepreneurial ideas, support the organization of meetings with funding institutions and create contacts with the Centre for the transfer of technologies in the academic institution (if any).
- Academic entrepreneurs: students/academic teachers/researchers. The inclusion of this interested group forms the need for OPEN ENTREPRENEURIAL ACADEMIC CENTRES. For this purpose, it is necessary to identify these academic entrepreneurs and, above all, to attract them to take part in the activities of the centre. The lack of sufficient information about the centre, turning it into a "closed club" will inevitably lead to low interest and worsen the results of its activity. Anyone can be an entrepreneur as long as they get the support they need to realize their own ideas!

- Academic mentors. This group includes academic teachers /it is recommended that they have or have had their own entrepreneurial business/ who support academic entrepreneurs. Their role is to provide guidance and direction to academic entrepreneurs without influencing their entrepreneurial idea. It is necessary to organize meetings-discussions at least once every 2 weeks to demonstrate certain professional and personal skills necessary for the success of an academic entrepreneur through appropriate applied tools. Attracting such a group of academic mentors requires the creation of appropriate mechanisms within the framework of the employment of teachers in the academic institution (if similar academic teachers are available in the institution – a.n.) or appropriate mechanisms (through cooperation contracts with other academic institutions) for inclusion of their academic teachers.
- Academic tutors. This group includes successful entrepreneurs or successful executives. Their role is to encourage academic entrepreneurs to realize their entrepreneurial ideas. They share their experience, which can become a group experience for all students/academic teachers/researchers involved in the activity of the OPEN ENTREPRENEURIAL ACADEMIC CENTRES. It is necessary to organize meetings with the academic tutors once a month. Attracting a similar group of academic tutors requires the use of the mechanisms of the Alumni Clubs (persons who have graduated from the academic institution and successfully realized themselves in the professional sphere). Attracting academic tutors is related to giving them a "special" status in the academic institution (by promoting their participation, recognition of participation in the OPEN ENTREPRENEURIAL ACADEMIC CENTRES, etc.).
- Industrial mentors – it is necessary to attract people from the industry in various professional fields to support the academic entrepreneurs as business, technology or manufacturing mentors.

Conclusion

Undoubtedly, academic entrepreneurship is gaining more and more supporters in conditions of growing demand for innovative ideas and transfer of innovative ideas and technologies from the academy /universities and research institutions/ to business.

The promotion of academic entrepreneurship, however, requires the creation of an appropriate infrastructure through which the "academia-business" interaction can be successfully implemented. However, not only the physical existence of a "technology transfer unit" and/or "start-up/entrepreneurial centre" etc. is taken into account here, but the establishment of a complete entrepreneurial ecosystem through which the interaction between academic entrepreneurs and business is supported.

Of course, the academic entrepreneurship ecosystem is inextricably linked with the existing national and regional entrepreneurship ecosystems, and on the other hand, the academic entrepreneurship roadmap is part of the overall entrepreneurship development map in a given region/country, town, etc./. This requires, when implementing the road map for the promotion of academic entrepreneurship, to follow the main "stops" of promising entrepreneurial ideas

and by creating OPEN ENTREPRENEURIAL ACADEMIC CENTRES to "channel" the innovation potential of the academic community: students/academic teachers/researchers.

Moreover, an essential part of the functioning of such OPEN ENTREPRENEURIAL ACADEMIC CENTRES is organizing and conducting appropriate blended entrepreneurial educations and trainings, through which not only to increase the number of academic start-ups but also to increase motivation and build appropriate motivational attitudes of the participants in the whole process so that they become the future business leaders.

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