

THE IMPACT of usage a digital tool KABADA ON ENTREPRENEURIAL INTENTIONS ON GENERATION Z higher education students IN CENTRAL, EASTERN AND SOUTHERN EUROPE

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Abstract

One of the essential functions of the education system is to form the future generation of entrepreneurs. For this to happen, the educational process must try to increase the entrepreneurial intention among Generation Z higher education students. Educational methods and tools related to digitization are appearing more and more often, the authors created digital tool KABADA for the assessment of business idea viability. Along with the educational process, entrepreneurial intention is also influenced by regional, and behavioural factors as well as subjective norms. The framework of the study consists of a literature review on entrepreneurial intention and its influencing factors in a context of behavioral norms and regions, as well as on the peculiarities of the perception of generation Z in the age of digitalization. The empirical part of the article reflects, analyzes, and discusses the results of the experimental research, where training sessions for the youth of generation Z in the countries of Central and Eastern Europe and Southern Europe were conducted. The research results allow to conclude that there are statistically significant differences in impact of the use of digital tool KABADA on entrepreneurial intention between the mentioned two European regions, as well as the fact that subjective norms and behavioral control have a significant impact on entrepreneurial intention in generation Z.

Keywords: digital tool KABADA, entrepreneurial intention, entrepreneurship education, behavioral norms, Generation Z

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Introduction

Sreenivasan and Suresh (2023) identified the trends in entrepreneurship education in prominent journals. A total of 2185 indexed research publications made up the studied data. According to the findings, there has been a substantial number of publications on the growth of entrepreneurial education research. The major themes developed out of the co-occurrence network are determinants of entrepreneurship education for building an entrepreneurial intention among students in higher education, entrepreneurship in the classroom, and innovation and entrepreneurship education.

Asimakopoulos et al. (2019) findings indicate that entrepreneurial education is positively associated with the intention to undertake entrepreneurial activity, in addition to demonstrating a positive moderation effect role of social norms on the relationship between entrepreneurial self-efficacy and entrepreneurial intention. According to findings of Reissová et al. (2020) there are some other factors, such as the country of origin and gender- the ones that are also statistically significant.

The major characteristic of the Generation Z is the global perspective of their views and thinking, tolerance to diversity thanks to the development of the Internet, social platforms and digital opinion leaders (Schawbel, 2014). According to Scholz and Rennig (2019), significant differences exist in the profile of generation Z representatives in different parts of the world, among different European countries, or even within a single country, but the most important characteristic of Generation Z is the usage of IT tools.

The above-mentioned reasons challenged the authors to conduct a study with a purpose to examine and analyse the effects of using an educational digital tool KABADA on entrepreneurial intention among Generation Z in CEE countries and SE countries, as well as to analyse the impact of subjective norms and beliefs on entrepreneurial intention.

The research and its results capture novelty as the training method itself with the digital tool KABADA is unique since the tool was developed and put into use only in 2022.

The results and discussion of the research found statistically significant impact of the use of digital tool in entrepreneurship education on entrepreneurial intention, statistically significant differences between CEE and SE countries in Generation Z and discovered how different beliefs and norms impact entrepreneurial intention in the sample researched. Most of the research results confirm the conclusions of other researchers in the field.

Educational, behavioral and regional factors influencing entrepreneurial intention

By conducting an in-depth review of the literature in this topic, it can be concluded that the results of the research so far in the scientific literature show a controversial picture regarding the impact of entrepreneurship education on entrepreneurial intention.

Maheshwari et al. (2022) identify the factors which have been most studied in the literature and determine which factors are less explored to measure the entrepreneurial intention of students. The analysis of the papers clearly demonstrated that the Ajzen's Theory of Planned Behaviour (TPB) model and cognitive factors dominate this area of research.

Many researchers have found positive impact of entrepreneurial education on entrepreneurial intention, as well as strong relation between behavioural factors and entrepreneurial intention. Asimakopoulos et al. (2019) indicates that entrepreneurial education is positively associated with the intention to undertake entrepreneurial activity, in addition to demonstrating a positive moderation effect role of social norms of behaviour on the relationship between entrepreneurial self-efficacy and entrepreneurial intention. Cera et al. (2020) investigated the relationship between entrepreneurship education and entrepreneurial intention in a Balkan countries. Iwu et al. (2021) explored factors that may influence student entrepreneurial intention and found that the respondent group strongly accede to the usefulness of entrepreneurship education for economic development which reveals that they are well-versed with the role and gains of entrepreneurship at a macro level. Significant positive entrepreneurship education impact on entrepreneurial intentions was found also by Wang et al. (2023).

Wibowo and Narmaditya (2022), investigated how the direct effect of digital entrepreneurship education on digital entrepreneurship intentions. His study provided insights related to psychological and behavioural aspects in the form of entrepreneurial inspiration as one of the predictor variables and mediators for increasing digital entrepreneurship intentions. The importance of digital entrepreneurship education is stressed also by Carvalho et al. (2021).

Mónico et al. (2021) evaluated the students' perception of the entrepreneurial education level of higher education institutions (HEIs) and its impact on their entrepreneurial intention in Portugal. The results pointed indirect effects of the entrepreneurial universities on entrepreneurial intention by the entrepreneurial motivations of the students to become an entrepreneur. Oropallo et al (2007) noted the professional condition of the entrepreneur is important for business success in Italy.

On the contrary, there are also several studies that question or limit the positive effect of entrepreneurial education on entrepreneurial intention. Reissová et al. (2020) finds that if the monitored variables (e.g., personal characteristics) are not considered, it is possible that education aimed at starting and developing a business is less effective. Draksler and Sirec (2021) examined the impact of entrepreneurship education on entrepreneurial intentions and entrepreneurial competencies of university students in Slovenia from a socio-psychological perspective using a conceptual research model based on Ajzen's TPB and the competency approach. Research by Martínez-Gregorio et al. (2021) examined the efficacy of the entrepreneurship education in student samples, attending to studies with a pre-post test design and a control group. The results showed small effect sizes for EE in increasing Entrepreneurship Intention and self-efficacy.

Several authors indicate on regional differences. One of the main conclusions of new theoretical and empirical approaches is that entrepreneurship and entrepreneurial intentions are heavily determined by place (Acs et al. 2015; Audretsch 2015; Fritsch and Mueller 2004). According to findings of Reissová et al. (2020), there are three the most significant factors for the willingness to run the business, the most important being ability to accept risk, but there are some other factors, such as the country of origin and gender- the ones that are also statistically significant.

The First digital natives: Generation Z

The focus of the authors' research is Generation Z, from whom the research sample is made. Right now, Generation Z is actively entering higher education studies and choosing a professional career.

The word "generation" can be defined and explained in different ways. Eyerman and Turner (1998) call a generation a group of people who are united by a similar culture, providing them with a collective consciousness, and try to integrate this group in a certain period of time. Howe (2014) describes a generation as the totality of all people born in more than twenty years, or roughly at one stage of a person's life: childhood, youth, middle age, and old age. Pichler et al. (2021) define this concept as people in a particular group who experience the same significant events over a period of time.

While some authors include in Generation Z those born between 1997 and the second decade of the 21st century, other scholars believe that Generation Z are people born after 1995. Some other scientists believe that Generation Z was born between 1996 and 2010 (Chillakuri & Mahanandia, 2018). The point on which there is a consensus among experts: the generation Z does not know the world without the internet and virtual reality has become as real as the physical world in their lives. Another characteristic of the Generation Z is the global perspective of their views and thinking, tolerance to diversity thanks to the development of the Internet, social platforms and digital opinion leaders (Schawbel, 2014). Scholz and Rennig (2019) indicate that significant differences exist in the profile of Generation Z representatives in different parts of the world, among different European countries, or even within a single country, but the important characteristic of Generation Z is the usage of IT tools.

According to Iftode (2019), Generation Z has a number of characteristics that are not typical to the previous generations - ability to operate in both real and virtual worlds, good ability to quickly obtain and disseminate information and to communicate via social media.

Digital tool KABADA and description of the experiment

KABADA (stands for Knowledge Alliance of Business Idea Assessment: Digital Approach) is a structured, Web-based platform or digital tool that allows business plan development. Informed by theoretical research, relevant statistics, and artificial intelligence (AI) insights, the tool guides new entrepreneurs through every step of the way, helping them understand where they stand, where and how they might consider going, and what challenges and opportunities lie ahead (KABADA consortium, 2023; Lesinskis et al., 2022). In the digital age, automated software with machine learning and artificial intelligence is widely used in both business and everyday life, therefore it has to be used in education and other areas of societal life (Lesinskis et al., 2021; Mavlutova et al., 2020).

In the period from September to December 2022, the authors of the research conducted an experiment, providing 14 educational sessions for three hours for representatives of the Z generation in universities in Latvia, Lithuania, the Czech Republic (CEE countries) and Portugal, Spain and Italy (SE countries) using KABADA tool. In each session, its participants were surveyed both before and after (pre-post) the session.

The total number of respondents who participated in the sessions was 248. All of them filled out the questionnaires before the session, and 193 of them after. The use of appropriate statistical methodology made it possible to obtain a statistically correct comparison of the results before and after the educational session. CEE countries were represented by 123 respondents, and SE countries by 125 respondents.

Before starting the research, the following hypotheses were developed:

H1: The positive effect of the use of a digital tool KABADA in entrepreneurship education on the entrepreneurial intention of Generation Z representatives is not statistically significantly different in CEE and SE countries.

H2: The subjective norms and behavioral control have a statistically significant effect on the entrepreneurial intention of representatives of the Generation Z.

To test the hypotheses, specific tests (Mann-Whitney U test and Wilcoxon signed-rank test) were performed that check the statistical significance for changes or differences in results.

Results and discussion

In general, the results obtained during the experiment showed a positive effect of the educational session with KABADA tool on the respondents' entrepreneurial intention (see Table 1.)

Table 1. Entrepreneurial intention of all respondents before and after the educational session(Likert scale 1-7; 1 = very low, 7 = very high), 95% confidence interval mean

		Valid answers	Mean	Upper	Lower	Std. Deviation
Q: How high is your intention to become an entrepreneur?	Before	248	4.79	4.991	4.59	1.614
Q: How high is your intention to become an entrepreneur?	After	193	5.176	5.369	4.984	1.366

Source: authors, computed with JASP Team (2023). JASP (Version 0.17)

In order to test H1, entrepreneurial intention and its change were separately analyzed in respondent groups representing CEE countries and SE countries. The results are shown in Table 2.

Table 2. Entrepreneurial intention of all respondents before and after the educational session (Likert scale 1-7; 1 = very low, 7 = very high), 95% confidence interval mean

	Mean	Upper	Lower	Confidence Interval
CEE – Before (n=123)	5.23	5.50	4.96	0.27
CEE – After (n=94)	5.57	5.80	5.35	0.23
SE – Before (n=125)	4.36	4.64	4.08	0.28
SE – After (n=99)	4.80	5.09	4.51	0.29

Source: authors, computed with JASP Team (2023). JASP (Version 0.17)

Although the increase in entrepreneurial intention can be observed in all sample and in both groups of countries, when performing the Mann-Whitney U test (checks if the mean values of the two samples differ significantly, used for an ordinal scale of values to which a Likert scale 1-7 corresponds, p value should be less than 0.05 to show statistically significant difference), it is possible to obtain the following results with regard to statistical significance:

- 1) There are significant differences between answers before and after sessions in all sample ($p=0.019$)
- 2) There are significant differences between answers before and after sessions in SE countries ($p=0.046$)
- 3) There are no significant differences between answers before and after sessions in CEE countries ($p=0.212$)

Thus H1 is rejected - the positive effect of the use of a digital tool KABADA in entrepreneurship education on the entrepreneurial intention of Generation Z representatives is statistically significantly different in CEE and SE countries.

Table 3. Evaluation of statements containing subjective norms and behavioral control by respondents of all sample (n =248) (Likert scale 1-7; 1 = strongly disagree, 7 = strongly agree), 95% confidence interval mean

	Mean	Upper	Lower	Confidence Interval
1. My interest in entrepreneurship is affected by society in general	3.86	4.07	3.64	0.21
2. My interest in entrepreneurship is affected by opinion leaders	3.83	4.05	3.61	0.22
3. My interest in entrepreneurship is affected by close relatives	3.61	3.83	3.38	0.22
4. My interest in entrepreneurship is affected by teachers	3.48	3.69	3.27	0.21
5. My interest in entrepreneurship is affected by my friends	3.47	3.68	3.26	0.21
6. I would be able to become an entrepreneur if I believed that I should become one	4.86	5.07	4.65	0.21
7. I would be ready to become an entrepreneur if I thought I should become one	4.86	5.05	4.66	0.20

Source: authors, computed with JASP Team (2023). JASP (Version 0.17)

For the respondents answers on Likert scale where they had to evaluate agreement with seven statements (see Table 3.), Wilcoxon signed-rank test was conducted. This test checks whether the mean values of two samples (columns) differ significantly, and is used for an ordinal scale of values to which a Likert scale 1-7 corresponds. It allowed to conclude that for the set of first five statements related to the subjective norms of respondents, it is possible to divide them in two statistically significantly different sets depending on impact factor:

- 1) Intention affected by society in general and by opinion leaders
- 2) Intention affected by close relatives, teachers and friends

The first set is statistically significantly more important than the second set. The p value of Wilcoxon signed-rank test is 0.043 between the 2nd and 3rd strongest agreement for the statements on subjective norms thus making statistically significant difference between mentioned sets of factors. There was no statistically significant difference between factors inside each of those two sets.

However, the mean agreement levels with the statements are very close but still below the midpoint of 4 on a Likert scale from 1 to 7.

The level of agreement with the 6th and 7th statement which are related to behavioral control turns out to be very high, being close to 5 on average.

Thus H2 is rejected regarding the impact of subjective norms on the entrepreneurial intention, while confirmed regarding the behavioral control which shows significant impact on entrepreneurial intention.

The results obtained from this research confirm the revelations of Asimakopoulos et al. (2019), Iwu et al. (2021), Cera et al. (2020), Wang et al. (2023) and many others stating that entrepreneurial education has a positive effect on entrepreneurial intention. At the same time literature review revealed also some doubts about the impact of entrepreneurial education on entrepreneurial intention – it was expressed by Draksler and Sirec (2021), Martínez-Gregorio et al. (2021) and Reissowa et al. (2020). This opinion also gets some support from the research conducted by the authors, as it shows that in one of the studied regions of the European countries (CEE countries) this effect is indeed minimal and statistically insignificant.

This research strongly supports the previous research results by Acs et al. (2015), Audretsch (2015), Fritsch and Mueller (2004) that entrepreneurial intentions are heavily determined by environmental factor place. Both the level of entrepreneurial intentions and impact on it from educational sessions with KABADA tool proved to be significantly different in CEE and SE countries.

Conclusions

The overall conclusion of the study is that the use of the entrepreneurship education digital tool KABADA has a positive effect on entrepreneurial intention in Generation Z. However, significant differences can be observed between the positive effects in CEE countries and SE countries, as a result of which the hypothesis that such differences do not exist had to be rejected. A statistically significant positive effect can be observed only in SE countries. At the same time it should be noted that this is achieved at a lower base level of entrepreneurial intention compared to CEE countries. These findings support most of the previous studies stating that even though mostly entrepreneurship education brings positive effects on entrepreneurial intentions, there are certain limitations and not always effects are obvious. This study reinforces the aforementioned doubts when the research is carried out on a regional scale.

The study rejected part of the second hypothesis that stated that the subjective norms of Generation Z members significantly influence their entrepreneurial intention. This turned out to be a false claim, with research showing that rather these norms have a neutral effect.

Another part of that hypothesis, which stated that behavioral control has a significant effect on the entrepreneurial intention of Generation Z, turned out to be true and was confirmed. Indeed, belief of respondents in ability and readiness to become an entrepreneur if they thought and believed they should become one, turned out to be strong.

This study was largely focused on analyzing regional differences in the impact of using a digital tool in entrepreneurship education on Generation Z entrepreneurial intention. However, such a study has the limitation of covering only two of several European regions.

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