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Increasing Entrepreneurial Intentions of Generation Z as an Economic Engine: The Use of Digital Tools in Education

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Abstract. Entrepreneurship plays a crucial role in economic development due to its positive impact on employment, innovation, productivity, capital formation and economic growth. In the context of the United Nations Sustainable Development Goals, entrepreneurship education is undergoing digital transformation. Technological advances and the emergence of Generation Z in the education system have led to the use of various digital tools with elements of artificial intelligence in the education process. This paper examines the impact of digital tools in entrepreneurship education on the entrepreneurial intentions of Generation Z as a significant economic driver based on experiments conducted in different countries of the European Union. A systematic literature review has been carried out on digital transformation in entrepreneurship education and its role in increasing entrepreneurial intentions, as well as an insight into generational theories and a description of the behavioural and perceptual characteristics of Generation Z. In the empirical part, a statistical data analysis has been conducted based on the results of an experiment performed in selected countries of the European Union, in which, the digital tool *KABADA* for teaching entrepreneurship to Generation Z was tested among business and non-business students. The results of the study show a significant influence of the use of digital tools in the teaching process on the entrepreneurial intentions of Generation Z, thereby confirming the findings which support the effectiveness of digitization-based entrepreneurship education in promoting entrepreneurial intentions and thus making an important contribution to economic development.
Keywords: entrepreneurship education, entrepreneurial intention, digital tool KABADA, artificial intelligence, Generation Z, regional differences.

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1. Introduction

Entrepreneurship education (EE) refers to all education and training activities aimed at developing the entrepreneurial intention (EI) of participants, including factors such as knowledge, desire and feasibility of entrepreneurial activity (Neves and Brito, 2020). As a result, entrepreneurial activities ensure the identification of market opportunities and the most effective allocation of resources.

Studies show that the relationship between EE and EI is influenced by several factors, like planned behaviour (Ajzen, 2020), which focuses on individual cognitive aspects such as the entrepreneur's attitude and self-efficacy (Ciptono *et al.,* 2023; Tarigan *et al.,* 2022).

So far, the studies show a gap in in-depth research into the application of digital tools specifically in EE (Jardim, 2021; Cassol *et al.*, 2022). In the digital age, automated software with machine learning and artificial intelligence (AI) is widely used in business, so it is recommended to use it in EE (Lesinskis *et al.*, 2021; Mavlutova *et al.*, 2020). CEE countries were dominated by the state-owned sector for about 50 years; however, nowadays, according to the Global Entrepreneurship Monitor adult population survey, CEE countries regularly rank high in terms of entrepreneurial activity. Thus, in 2023, Latvia and Estonia had the highest total early-stage entrepreneurial activity (TEA) rate, while Lithuania had the second highest registered business ownership (EBO) rate in 2023 among the European countries included in the study (GEM, 2023).

In recent years, the interest and inclination of Generation Z towards technology and digitalization has become an increasingly interesting topic in the analysis of factors that could promote economic growth due to increasing productivity, scholars are investigating how technology affects the way Generation Z interacts, collaborates and learns for economic development in a digital environment (Pinzaru *et al.*, 2022).

The study aims to investigate whether the use of the digital tool KABADA (whose title stands for *Knowledge Alliance of Business idea Assessment: Digital Approach*) with embedded AI elements in business plan development workshops increases the EI of Generation Z students and analyse the differences in impact between Southern European, Central, and Eastern European countries.

The originality of the study is also related to the authors' choice to form experimental groups from European regions with different mentalities and historically different political and economic systems.

Conducting the authors' quasi-experiment remotely, an unconventional approach in such studies can be considered a methodologically innovative strategy, which allowed to reduce the influence of the lecturer; the integration of AI and the study of its impact is another scientific novelty of this research. At the stage of preparing the quasi-experiment, similar studies on issues related to entrepreneurial intention in CEE and Southern European (SE) countries were not described in the scientific literature. At the time the authors conducted this study, it was not possible to find such a precedent in the scientific literature where researchers would conduct a quasi-experiment remotely, studying issues related to entrepreneurial intention in CEE and Southern European (SE) countries. The

originality of the study is also related to the authors' choice to form experimental groups from European regions with different mentalities and historically different political and economic systems.

The study's focus only on a specific digital tool KABADA could be considered a conditional limitation. Participants in the experiment assessed their EI immediately after the workshop, and the sustainability of EI over time could also be a limitation.

The paper is organized as follows: a literature review is conducted on EE and its impact on EI and various other factors that influence EI, considering the characteristics of Generation Z and the role of AI in modern education. The research methodology is then described. The experiment results are demonstrated, statistically analysed, and discussed, followed by a concluding section.

2. Literature Review

Since entrepreneurship has always been associated with creating new value, innovation, increased economic activity and competition, and the accumulation of capital, it is considered an essential driver of economic progress and prosperity. There has always been great interest in the question of how to promote entrepreneurship, how to stimulate the emergence of new entrepreneurs, and what kind of education needs to be offered.

As part of the study, a detailed systematic search of the literature on EE and its impact on EI was conducted, with results obtained from 1991 to August 2023. 470 studies were selected from the SCOPUS, WOS and EBSCO databases using the VOS viewer, Elsevier and Google Scholar search services. The analysis revealed that 124 of them point to a positive effect of EE on EI, while 32 of them question such a positive effect in various ways.

Research shows that educational institutions, as well as faculties engaged in entrepreneurial activities, play an important role in fostering entrepreneurship among college students through innovative programs and a research-oriented culture (Hassan *et al.*, 2020) (Le and Loan, 2022; Martínez-Gregorio *et al.*, 2021).

Empirical studies confirm the significant influence of intention on actual behaviour in the corporate context. EE programs can build an entrepreneurial mindset in students and encourage them to consider a career choice related to entrepreneurship (Jardim, 2021; Astiana *et al.*, 2022). Experts in the field point out that EE should start as early as possible for two reasons: first, it plays a crucial role in preparing young entrepreneurs and providing them with the necessary skills; secondly, as a globalized economic structure has been emerging, EE teaches entrepreneurial habits and work skills that can help young, talented people who want to start and run their own business.

As a result of the global financial crisis and the slow economic growth in the second decade of the century in the EU, a growing interest in EE has been observed. Several empirical studies have been conducted which not only investigated the impact on studying the intention to start a business, but also on student start-up rates by examining mediation effects, called for more quantitative research that simultaneously examines the role of

important mediators such as cognitive skills and knowledge, values and attitudes, inspiration, social networks, and other contextual aspects (Nabi *et al.*, 2017).

More specific factors that foster EI and their influence have been examined by Thomas (2023), who suggests that individuals' attitudes are determined by exogenous influences such as character traits, competencies and situational variables, such as time constraints and task difficulty, whereas others are related both to factors of the internal environment of potential entrepreneurs, such as family and demographic characteristics and various factors of the external environment.

EE has evolved significantly by integrating digital tools, enhancing learning experiences, fostering innovation and equipping budding entrepreneurs with essential skills (Sitaridis and Kitsios, 2024). Nowadays, there are several e-learning platforms, business simulations and gamification tools, idea generation and brainstorming tools and many other instruments related to entrepreneurial education. *Liveplan, Wave, Quickbooks, Lucidchart* and *Sketch* could be mentioned among the most important digital tools for business planning today (Yang *et al.*, 2022). Interactive tools make learning more engaging, whereas online tools and resources in EE provide immediate feedback to students to improve their ideas, and digital platforms allow educators to reach larger audiences and manage courses more effectively. The emergence of AI can also influence EI, especially among Generation Z, who understand and use AI solutions intensively. However, to fully realize the benefits of AI, associated challenges – such as privacy, accessibility and ethical considerations – must be addressed (Chen *et al.*, 2024). As technology advances, the synergy between AI and EE is expected to increase.

Research suggests that EE provides better knowledge and skills (Thomas and Wulf, 2021), discipline, motivation, the ability to adapt to new situations and opportunities for new ventures. Increases in knowledge and skills promote perceived behavioural control, which is also a precursor to EI (Ajzen, 1991). To promote business activity, universities have increasingly organized various EE programs in recent years (Kusio and Fiore, 2020), and most program participants are aspiring potential entrepreneurs and entrepreneurs who, after starting a business, feel that they lack appropriate knowledge and skills (Ciptono *et al.*, 2023).

The objective of the empirical study is Generation Z students in various degree programs from seven countries in CEE and SE. The authors were able to conclude that a statistically significant positive effect from the use of digital tool(s) can only be observed in the SE countries.

Generation Z is actively enrolling in higher education and creating the potential for economic development. One of the most important characteristics of Generation Z is their dependence on smartphones and the internet so that they have hot topics that connect the offline and online worlds (Fromm and Read, 2018). For this reason, Generation Z is often described as technologically savvy, globally connected, and flexible (Dobrowolski *et al.*, 2022).

Lukic-Nikolic and Lazarevic (2023) point out certain characteristics common to Generation Z in the labour market, such as the expectation to work with the latest technological

tools. Generation Z gets maximised when they know that their ideas, suggestions, projects and input are valued, and they are particularly performance oriented. This generation has a strong desire for continuous professional development and growth opportunities. Although Generation Z is known as a truly digital generation, O'Boyle *et al.* (2023) claim that 75 per cent of them prefer to receive face-to-face feedback.

Generation Z has a strong EI as they are no longer oriented towards traditional jobs in various organizations (Djafarova and Foots, 2022). Generation Z strongly intends to work in a new work culture environment, embracing new management approaches, innovation and new ways of interacting with their colleagues (Wasilczuk and Richert-Kazmierska, 2020). It is also characterized by a high level of proactivity (especially to satisfy their own needs), it is innovative and dares to take risks (Wasilczuk and Richert-Kazmierska, 2020). Purmono (2023) believes that Generation Z must strive to increase entrepreneurial intent through education and skills development in entrepreneurship, management and business research and work in a supportive environment. This generation is characterized as more self-confident, independent and motivated than the previous ones; its representatives are intuitively innovative, highly productive, goal-oriented and realistic, which shows that they are enterprising (Chillakuri, 2020).

With the rapid development of AI and the entry of Generation Z, it is necessary to gradually transform the traditional EE methods into new ones that are more innovative, practical and inclusive (Li *et al.*, 2022). Introduction of AI to the market requires specialised software and hardware tools, applications and programming languages. AI must be human-centred, safe, monitorable and explainable, as well as reproducible and objective.

Various categories of digital tools with AI elements have emerged in recent years and are being commonly used in EE. AI-driven platforms can tailor educational content to students' individual needs, learning styles, and the pace of learning (Bell and Bell, 2023). The *Squirrel AI* tool uses adaptive learning algorithms to customize lessons based on student performance. In contrast, the *Smart Sparrow* tool offers adaptive e-learning platforms which adjust the content in real time. The *Knewton* platform would be an example that customizes the content delivery based on student interactions and understanding. Meanwhile, *Carnegie Learning* offers AI-driven math tutoring that can also be used for quantitative topics in economics. AI enhances economic simulation games by making the scenarios more realistic (Chen *et al.*, 2022).

Several elements of AI are integrated into the KABADA tool, and the intelligent advice that KABADA provides when developing a business plan is based on AI. Several components support it. The KABADA tool uses virtual servers running AI software developed with the *Python* programming language and Bayesian networks to structure business plans.

Based on the literature review, the following hypotheses can be put forward:

- H1: The use of the digital tool KABADA in the EE workshop has a positive impact on the feeling of interest in becoming an entrepreneur in Generation Z.
- H2: The use of the digital tool KABADA in the EE workshop positively influences Generation Z's feeling of inspiration when they imagine themselves becoming entrepreneurs.

- H3: The use of the digital tool KABADA in the EE workshop positively impacts Generation Z's agreement with the idea that entrepreneurship could fulfil their lives.
- H4: The use of the digital tool KABADA in the EE workshop has a positive influence on Generation Z's interest in entrepreneurship.
- H5: The use of the digital tool KABADA in the EE workshop positively influences the consideration of founding a company or participating in a company within the next five years.
- H6: The use of the digital tool KABADA in the EE workshop has a positive impact on the self-assessment of entrepreneurial skills: "It would be easy for me to start a business".
- H7: The use of the digital tool KABADA in the EE workshop has a positive impact on the self-assessment of entrepreneurial skills: "If I started my own entrepreneurial project, I would have a high probability of success".

3. Data and Methodology

KABADA is an AI-powered digital tool designed to support entrepreneurship education by providing guidance on business planning and decision-making, facilitating the development and evaluation of business ideas, helping to develop business models and assess their feasibility by using a data-driven approach. The tool was launched in 2022 and has been relatively widely used in business education since then, especially in several European countries such as Portugal, Italy, Spain, Latvia, Lithuania, Czechia, and Slovakia. Outside Europe, the tool has been used by universities in Tunisia and Brazil. KABADA key functions and features are the following: business model canvas integration, real-time data and industry report analysis, risk analysis and mitigation, SWOT analysis, financial forecasting and feasibility analysis (Carvalho *et al.*, 2021).

With the objective to investigate how the use of the digital KABADA tool in EE influences the EI of Generation Z students, a quasi-experiment was conducted. The randomness of the selection of participants in the experiment in the study is determined by the random selection of student groups. The selection of student groups was carried out by independent partners at the respective universities. The independent variable was the educational workshop with the KABADA tool for the experimental group; the participants in the control group were offered training in a traditional workshop. Students were surveyed both before and after the workshop, repeating the questions to gauge response changes.

The sample of the survey consists of 441 respondents, who were students with different levels of study and backgrounds from several CEE (Latvia, Lithuania, Czechia, Slovakia) and several SE countries (Portugal, Italy, Spain). Most of the sample, specifically, 63 per cent, were undergraduates studying business.

Table 1 summarizes the information on the distribution of respondents by their age, gender, level of study and entrepreneurial experience before and after the workshop with the digital tool KABADA.

Table 1. Distribution of quasi-experiment respondents (n = 441) by age, gender, region, study level and experience in entrepreneurship

Variable	KABADA workshop	
	Before	**After**
Age		
< 22	39.1%	41.8%
22 – 25	35.8%	32.9%
> 25	25.1%	25.4%
Gender		
Male	49.8%	52.1%
Female	50.2%	47.9%
Region		
CEE	53.5%	53.1%
SE	46.5%	46.9%
Study level		
Master	22.5%	23.9%
Bachelor 3 & 4 years	27.7%	26.3%
Bachelor 1 & 2 years	48.3%	48.8%
College	1.5%	0.9%
Experience in entrepreneurship		
Extensive	3.2%	3.6%
Medium	18.5%	16.6%
Minor	33.9%	39.4%
None	44.4%	40.4%

Source: Calculated by authors based on survey data

Before conducting any tests on the formulated hypotheses, the following assumptions were tested (Verma and Abdel-Salam, 2019):

- There are no statistically significant differences in the distribution of the respondents by their age, gender, region, level of study and experience in entrepreneurship before and after teaching the workshop with the KABADA digital tool.
- Validity and reliability of the questionnaire.

Although there are possible differences in attitudes, behaviour, mentality, and culture between CEE and SE countries, the authors' study is focused on the observed relative changes in EE after the workshops, and therefore these differences in the starting position can be assumed to be of limited importance.

The number of respondents surveyed before and after the workshops differs slightly, due to some participants not completing the questionnaires after the workshop; however, statistical tests were performed to validate both samples (see Table 2).

To evaluate the differences in the distribution of the respondents by their age, gender, region, level of study and experience in entrepreneurship before and after teaching in

the workshop with the KABADA digital tool, the authors employed the χ^2 test using the following formula (Verma and Abdel-Salam, 2019):

$$\chi^2 = \sum_{i=1}^{k} \frac{(O_i - E_i)^2}{E_i} \quad (1)$$

where: O_i – observed frequency in the *i*-th group, E_i – expected frequency in the *i*-th group.

Table 2 summarizes the χ^2 statistics and p-values for the distribution of the respondents by their age, gender, level of study and experience in entrepreneurship before and after teaching with the KABADA tool.

Table 2. Chi-square statistics and p-values according to distribution of respondents by age, gender, study level and experience in entrepreneurship

Characteristics	**KABADA workshop before vs. after**	
	χ^2	***p*-value**
Age	0.511	0.775
Gender	0.252	0.616
Region	0.010	0.921
Study level	0.474	0.925
Experience in entrepreneurship	1.989	0.575

Source: Calculated by authors based on the survey data

As Table 2 shows, the p-values for all comparison groups are above 0.05. Thus, the differences in the distribution of respondents by age, gender, region, level of study and experience in entrepreneurship before and after the workshops are not statistically significant. The balance of different characteristics between the control and experimental groups is achieved, further investigation is possible.

In each session, participants were surveyed both before and after the seminar, questions were designed to determine the respondents' EI and related assessments of entrepreneurial knowledge, entrepreneurial interests and other factors. The assessment of changes in responses was one of the most important tasks of the study. In total, 18 questions were included in the pre-workshop questionnaire, and 33 questions in the post-workshop questionnaire. The most important questions of the questionnaire are reflected in the formulated hypotheses.

To test the formulated hypotheses, the following dependent variables were examined:

1. The feeling of being interested when imagining oneself becoming an entrepreneur (IIN);
2. Feeling inspired when imagining oneself becoming an entrepreneur (IIS);
3. Agreeing with the idea that entrepreneurship could fulfil one's life (FL);
4. Interest in entrepreneurship (IT);
5. Considering starting or participating in a business within the next 5 years (5Y);

6. It would be easy for me to start a business (EA);
7. If I started my own business, I would have a high probability of success (PS).

The reviewed literature and the empirical results are believed to provide a basis for the questionnaire validity. Furthermore, the questionnaire's internal consistency was validated by applying Cronbach's alpha, which exceeds the value of 0.779 and thus shows an appropriate level of reliability.

The metric for assessing the convergent validity of a construct is the average variance extracted (AVE) for all variables. The minimum acceptable AVE value is 0.50, which indicates the variance of the indicators that make up the construct (Taherdoost, 2016). The AVE values obtained (min. 0.689) are above the required minimum value of 0.50, thus showing an acceptable level of convergent validity.

Table 3 summarizes the descriptive statistics.

Table 3. Descriptive statistics for dependent variables before (B) and after (A) teaching with digital tool KABADA

Variable	Before (B) or after (A)	n	Mean	*SD*	*SE* (mean)	Median
IIN	B	248	5.226	1.521	0.097	5
	A	193	5.238	1.599	0.115	6
IIS	B	248	5.056	1.488	0.095	5
	A	193	5.104	1.503	0.108	5
FL	B	248	5.065	1.384	0.088	5
	A	193	5.150	1.378	0.099	5
IT	B	248	5.190	1.400	0.089	5
	A	193	5.285	1.439	0.104	5
5Y	B	248	4.399	1.865	0.118	4
	A	193	4.746	1.829	0.132	5
EA	B	248	2.996	1.410	0.090	3
	A	193	3.446	1.403	0.101	3
PS	B	248	3.770	1.545	0.098	4
	A	193	4.306	1.293	0.093	5

Source: Calculated by authors based on survey data

As Table 3 shows, the mean values of all dependent variables increased after (A) the lessons in the workshop with the digital tool KABADA compared to the corresponding mean values before (B) the workshop.

However, the standard deviations of the respondents' answers and the standard errors of the mean values are relatively large, and they differ before (B) and after (A) teaching with KABADA. For example, the coefficients of variation for the variables IIN, IIS and IT increase slightly after (A) teaching with KABADA. In contrast, the variables EA and PS decrease significantly, from 0.471 to 0.407, and from 0.410 to 0.300, respectively.

4. Results and Discussion

The Mann-Whitney-Wilcoxon test was chosen as the most appropriate option to test the hypotheses and to obtain evidence for the conclusion on the differences in the values of the dependent variables (Verma and Abdel-Salam, 2019).

Table 4 summarizes the statistics of the Wilcoxon-Mann-Whitney test (WMW), the p-values, and the 95 per cent confidence intervals.

Table 4. Wilcoxon-Man-Whitney test statistics, p-values and hypothesis test results

Variable	*WMW*-statistic	*Df*	*p*-value	Hypothesis test result
IIN	23518	439	0.750	H1 not supported
IIS	23502	439	0.741	H2 not supported
FL	22935	439	0.442	H3 not supported
IT	22802	439	0.383	H4 not supported
5Y	21370	439	0.051	H5 not supported
EA	19504	439	0.001	H6 supported
PS	18689	439	<0.001	H7 supported

Source: Calculated by authors based on survey data

As it can be seen in Table 4, the results of the test indicate statistically significant differences in 1) the entrepreneurial ability EA self-assessment after the workshop with the KABADA digital tool (WMW = 19504, $p < 0.001$); 2) the entrepreneurial ability PS self-assessment after the workshop with the KABADA digital tool (WMW = 18689, $p < 0.001$). Therefore, H6 and H7 are supported, and there is a statistically significant difference in the self-assessment of entrepreneurial skills after the workshop with KABADA compared to the self-assessment before. H5 cannot be confirmed with a confidence level of 95 per cent as the p-value is greater than 0.05, but the study provides evidence to support H5 with a confidence level of 94 per cent. The probability of error in terms of percentage values is only slightly above the norm of 5%, and thus it can be concluded with some caution that the use of KABADA in the EE workshop has a positive influence on the consideration of starting or participating in an entrepreneurial activity within the next 5 years.

Regarding hypotheses H1, H2, H3 and H4, the results of the Wilcoxon-Mann-Whitney test do not indicate statistically significant differences; therefore, the authors cannot validate them.

The practical significance of differences in the distributions of the dependent variables can be demonstrated by measures of the effect size. Table 5 below summarizes the Wilcoxon Effect size test statistics, the 1000 bootstrap 95% confidence intervals of the effect size-values, and the level of magnitude.

As it can be seen in Table 5, all the Wilcoxon effect size estimates are statistically significant at the 95% confidence level, thus indicating that, after EE workshops with the digital tool KABADA, the main dependent variables are higher than before. The strength

of the relationship is greater for the following items: PS (0.192), EA (0.162) and 5Y (0.093), related respectively to hypotheses H7, H6 and H5.

Table 5. Wilcoxon Effect size test statistics

Variable	Effect size	Lower CI	Upper CI	Magnitude
IIN	0.015	0.002	0.110	small
IIS	0.016	0.001	0.110	small
FL	0.037	0.002	0.130	small
IT	0.042	0.002	0.130	small
5Y	0.093	0.010	0.190	small
EA	0.162	0.070	0.250	small
PS	0.192	0.100	0.280	small

Source: Calculated by authors based on survey data

To investigate the possible reasons why some hypotheses are not supported, the authors conducted an in-depth analysis involving control variables 'experience' (EXP) and 'region' (REG). The following Table 6 summarizes the confirmatory factor analysis results.

Table 6. Factor analysis with control variables

Regression	Estimate	Std.Error	z-value	*p*-value
IIN ~ DT	0.009	0.141	0.065	0.948
IIN ~ EXP	0.356	0.085	4.197	<0.001
IIN ~ REG	-0.724	0.143	-5.074	<0.001
IIS ~ DT	0.039	0.138	0.286	0.775
IIS ~ EXP	0.400	0.083	4.814	<0.001
IIS ~ REG	-0.368	0.140	-2.636	0.008
FL ~ DT	0.080	0.126	0.637	0.524
FL ~ EXP	0.350	0.076	4.592	<0.001
FL ~ REG	-0.482	0.128	-3.768	<0.001
IT ~ DT	0.089	0.127	0.701	0.483
IT ~ EXP	0.416	0.077	5.420	<0.001
IT ~ REG	-0.576	0.129	-4.468	<0.001
5Y ~ DT	0.337	0.165	2.042	0.041
5Y ~ EXP	0.593	0.100	5.951	<0.001
5Y ~ REG	-0.720	0.167	-4.302	<0.001
EA ~ DT	0.434	0.126	3.441	0.001
EA ~ EXP	0.577	0.076	7.567	<0.001
EA ~ REG	-0.063	0.128	-0.488	0.626
PS ~ DT	0.525	0.132	3.988	<0.001
PS ~ EXP	0.467	0.079	5.876	<0.001
PS ~ REG	-0.237	0.134	-1.776	0.076

Source: Calculated by authors based on survey data

For the items that are significantly influenced by socio-cultural factors, such as "feelings when imagining being an entrepreneur" (IIN, EIS, FL, IT), the regional affiliation and experience of the respondents have a greater impact on the dependent variable, while in the areas related to "entrepreneurial capacity" (EA, PS), the estimates are higher and statistically significant after teaching with KABADA.

Empirical results indicate that digital tools, such as KABADA, positively influence the self-assessment of entrepreneurial skills, and EE workshops with KABADA improve students' confidence in their ability to start a business and their perceived likelihood of success. These findings are consistent with Ajzen's theory of planned behaviour (Ajzen, 1991; Chen et al., 2024). The insufficient evidence to support the hypotheses stems from the relatively high standard deviation values, and thus it can be concluded that the effect of teaching with KABADA on the analysed dependent variables is not linear. Further research is needed on the experiences of training the participants and the impact of knowledge and intercultural differences on EI (Biclesanu et al., 2023; Hammoda, 2024).

However, the study did not find a statistically significant effect on the entrepreneurial interest, inspiration, or life fulfilment related to entrepreneurship, suggesting that while digital tools facilitate skill development, a more holistic approach which includes mentoring, experiential learning, and cultural factors is needed to foster entrepreneurial thinking (Nabi et al., 2017; Thomas, 2023).

SE countries showed lower initial EE levels; hence, the stronger impact of KABADA suggests that digital tools may be particularly beneficial in contexts where the traditional EE methods are less developed (Pinzaru et al., 2022; Linan and Fayolle, 2015).

In the context of economic policy development, Generation Z in the digital world is a complex and dynamic issue which requires an in-depth study of the characteristics and principles of the next generation of professionals (Aleksic and Nedelko, 2022). The current study goes along with this evidence.

Furthermore, the study focuses on KABADA, which limits its generalizability to other digital tools. A broader range of AI-driven digital tools is included, which could help determine whether the observed effects are specific to KABADA, or they are actually indicative of a broader trend (Sitaridis and Kitsios, 2024).

5. Conclusion

Since digitalization is associated with a higher efficiency of various processes and productivity and sustainable development, the application of digital tools in EE is an important contribution to comprehensive economic and societal goals. The exploration of digital learning technologies to develop and strengthen students' EI is of strategic importance for securing and sustaining economic activity and development.

There is no consensus in the current academic research that EE has a positive effect on EI, despite the major contributions of Ajzen's theory of planned behaviour. HEIs teachers must account for the students' wishes and needs pertaining to their psychological characteristics and choose the appropriate teaching methods to satisfy them.

The arrival of Generation Z, known as 'digital natives', is all about the use of the digital technology and social platforms. E-learning platforms, business simulation and gamification tools, and ideation and brainstorming tools related to EE, such as *Liveplan*, *Wave*, *Quickbooks*, *Lucidchart*, and *Sketch*, are essential for business planning today. AI-driven platforms can tailor educational content to students' individual needs, learning styles and pace. Tools like *Squirrel AI* and *Smart Sparrow* offer adaptive e-learning, whereas *Knewton* and *Carnegie Learning* provide one-on-one training. AI improves business simulation games, thus making scenarios more realistic and encouraging the development of new businesses.

KABADA with built-in AI algorithms in the EE workshop has a positive effect on Generation Z EI, and the EE workshop with the digital tool KABADA has a positive effect on the approval of the idea that entrepreneurship could fulfil one's life. The tool provides students with practical business knowledge, helps improve their decision-making skills and develops critical thinking, promoting digital and data-driven entrepreneurship, preparing students for business development in the era of digital transformation and AI, as well as reducing dependence on the lecturer, allowing students to independently explore business models and their viability. These are important findings of the study that go beyond analysing the direct impact on EI but point to a highly important aspect related to both the feelings during the learning process and the attitude towards entrepreneurship.

The experiment's results, which indicate that KABADA positively affects EI in Generation Z at different levels of study and in different degree programs, allow the authors to recommend that HEIs lecturers should use such digital tools across a wide range of EE. Despite the general confirmation, KABADA has a positive effect on the EI of Generation Z, significant differences can be observed between the impact in CEE countries and SA countries, as a statistically significant positive effect is observed only in SE countries. At the same time, the positive effect in the SE countries is achieved at a relatively low initial level of EE.

The study's results allow for a positive assessment of the use of AI in digital educational tools for Generation Z EE to promote business and thus achieve economic development goals. The methodology and the selected sample were used to ensure representativeness and demonstrate its external validity so that it can be applied to a wider population. This proves that the use of a digital tool is effective regardless of the selected target group of students.

Considering the limitations of the study, the authors recommend conducting further research on this topic and extending and deepening the study in different sections in order to examine gender differences, to include a wider range of regions and countries, different generations, including representatives of the youngest part of Generation Z. It is important to study how various digital tools, including those based on generative AI, affect Generation Z's EI, while using regression analysis as one of the empirical research methods. The diversity of the sample should be expanded to improve generalizability, and the long-term impact of the KABADA tool could be assessed in a follow-up study. By conducting the studies mentioned above, compiling and processing the results, the possibilities of generalizing the results obtained in this research to a broader population could be more accurately assessed.

References

Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Ajzen, I. (2020). The Theory of Planned Behavior: Frequently Asked Questions. *Human Behavior and Emerging Technologies*, 2(4), 314–24. https://doi.org/10.1002/hbe2.195

Alshammary, F. M., & Alhalafawy, W. S. (2023). Digital Platforms and the Improvement of Learning Outcomes: Evidence Extracted from Meta-Analysis. *Sustainability,* 15(2), 1305. https://doi.org/10.3390/su15021305.

Astiana, M., Malinda, M., Nurbasari, A., Margaretha, M. (2022). Entrepreneurship Education Increases Entrepreneurial Intention Among Undergraduate Students. *European Journal of Educational Research*, 11(2), 995–1008. https://doi.org/10.12973/eu-jer.11.2.995.

Bell, R., Bell, H. (2023). Entrepreneurship education in the era of generative artificial intelligence. *Entrep Educ*, 6, 229–244. https://doi.org/10.1007/s41959-023-00099-x.

Biclesanu, I., Savastano, M., Chinie, C., & Anagnoste, S. (2023). The role of business students' entrepreneurial intention and technology preparedness in the digital age. *Administrative Sciences*, 13(8), 177. https://doi.org/10.3390/ admsci13080177.

Carvalho, L., Mavlutova, I., Lesinskis, K., Dias, R. (2021). Entrepreneurial Perceptions of Students Regarding Business Professional Career: The Study on Gender Differences in Latvia. *Economics & Sociology*, 14(3), 220–41. https://doi.org/10.14254/2071-789X.2021/14-3/12.

Cassol, A., Tonial, G., Pelizza. H., Machado, V., Dalbosco, I. B., Trindade, S. (2022). Determinants of Entrepreneurial Intentions and the Moderation of Entrepreneurial Education: A Study of the Brazilian Context. *The International Journal of Management Education*, 20(3), 100716. https://doi.org/10.1016/j.ijme.2022.100716.

Chen, L., Ifenthaler, D., Yau, J.Y.-K. and Sun, W. (2024). Artificial intelligence in entrepreneurship education: a scopingreview. *Education + Training*, 66(6), 589-608. https://doi.org/10.1108/ET-05-2023-0169.

Chen, J., Chen, Y., Ou, R., Wang, J., & Chen, Q. (2022). How to use artificial intelligence to improve entrepreneurial attitude in business simulation games: Implications from a quasi-experiment. *Frontiers in Psychology*, 13, 856085. https://doi.org/10.3389/fpsyg.2022.856085.

Chillakuri, B. (2020). Understanding Generation Z Expectations for Effective Onboarding. *Journal of Organizational Change Management*, 33(7), 1277–96. https://doi.org/10.1108/JOCM-02-2020-0058.

Ciptono, W. S., Anggadwita, G., Indarti, N. (2023). Examining Prison Entrepreneurship Programs, Self-Efficacy and Entrepreneurial Resilience as Drivers for Prisoners' Entrepreneurial Intentions. *International Journal of Entrepreneurial Behavior & Research*, 29(2), 408–32. https://doi.org/10.1108/IJEBR-06-2022-0550.

Djafarova, E., Foots, S. (2022). Exploring Ethical Consumption of Generation Z: Theory of Planned Behaviour. *Young Consumers*, 23(3), 413–31. https://doi.org/10.1108/YC-10-2021-1405.

Dobrowolski, Z., Drozdowski, G., Panait, M. (2022). Understanding the Impact of Generation Z on Risk Management—A Preliminary Views on Values, Competencies, and Ethics of the Generation Z in Public Administration. *International Journal of Environmental Research and Public Health*, 19(7), 3868. https://doi.org/10.3390/ijerph19073868.

Fromm, J., Read, A. (2018). *Marketing to Gen Z: The Rules for Reaching This Vast--and Very Different--Generation of Influencers*. AMACOM.

GEM (Global Entrepreneurship Monitor). (2023). *Global Entrepreneurship Monitor 2023/2024 Global Report: 25 Years and Growing.* London: GEM.

Hammoda, B. (2024). The impact of educational technologies on entrepreneurial competencies: A systematic review of empirical evidence. *Knowledge Management & E-Learning*, 16(2), 309–333. https://doi.org/10.34105/j.kmel.2024.16.015.

Hassan, A., Saleem, I., Anwar, I., Hussain, S.A. (2020). Entrepreneurial Intention of Indian University Students: The Role of Opportunity Recognition and Entrepreneurship Education. *Education + Training*, 62(7/8), 843–61. https://doi.org/10.1108/ET-02-2020-0033.

Jardim, J. (2021). Entrepreneurial Skills to Be Successful in the Global and Digital World: Proposal for a Frame of Reference for Entrepreneurial Education. *Education Sciences,* 11(7), 356. https://doi.org/10.3390/educsci11070356.

Kusio, T., Fiore, M. (2020). The Perception of Entrepreneurship Culture by Internal University Stakeholders. *European Business Review*, 32(3), 443–57. https://doi.org/10.1108/EBR-05-2019-0087.

Le, Q., H., Loan, N.T. (2022). Role of Entrepreneurial Competence, Entrepreneurial Education, Family Support and Entrepreneurship Policy in Forming Entrepreneurial Intention and Entrepreneurial Decision. *Pakistan Journal of Commerce and Social Sciences (PJCSS),* 16(1), 204–21.

Lesinskis, K., Mavlutova, I., Peiseniece, L. Hermanis, J., Peiseniece, E., Pokatayeva, O. (2021). Modern Business Teaching: The Stable Labor Market Provision for the Emerging Generations. *Studies of Applied Economics,* 39(5). https://doi.org/10.25115/eea.v39i5.5202.

Li, W., Xue, Z. Li, J., Hongkai, W. (2022). The Interior Environment Design for Entrepreneurship Education under the Virtual Reality and Artificial Intelligence-Based Learning Environment. *Frontiers in Psychology*, 13, 944060. https://doi.org/10.3389/fpsyg.2022.944060.

Linan, F., Fayolle, A. (2015). A Systematic Literature Review on Entrepreneurial Intentions: Citation, Thematic Analyses, and Research Agenda. *International Entrepreneurship and Management Journa*l, 11(4), 907–33. https://doi.org/10.1007/s11365-015-0356-5.

Lukic-Nikolic, J., Lazarevic, S. (2023). Digital Channels for Attraction and Hiring Generation Z: Research Results from Serbia. *Bizinfo Blace*, 14(1), 17–23. https://doi.org/10.5937/bizinfo2301017L.

Martinez-Gregorio, S., Badenes-Ribera, L., Oliver, A. (2021). Effect of Entrepreneurship Education on Entrepreneurship Intention and Related Outcomes in Educational Contexts: A Meta-Analysis. *The International Journal of Management Education*, 19(3), 100545. https://doi.org/10.1016/j.ijme.2021.100545.

Mavlutova, I., Lesinskis, K., Liogys, M., Hermanis, J. (2020). *The Role of Innovative Methods in Teaching Entrepreneurship in Higher Education: Multidisciplinary Approach*, 684–693. In Reliability and Statistics in Transportation and Communication, 117. Lecture Notes in Networks and Systems, edited by I. Kabashkin, I. Yatskiv, and O. Prentkovskis. Cham: Springer International Publishing.

Nabi, G., Linan, F., Fayolle, A., Krueger, N., Walmsley, A. (2017). The Impact of Entrepreneurship Education in Higher Education: A Systematic Review and Research Agenda. *Academy of Management Learning & Education*, 16(2), 277–99. https://doi.org/10.5465/amle.2015.0026.

Neves, S., Brito, C. (2020). Academic Entrepreneurship Intentions: A Systematic Literature Review. *Journal of Management Development,* 39(5), 645–704. https://doi.org/10.1108/JMD-11-2019-0451.

O'Boyle, C., Atack, J., Monahan., K. (n.d). *Generation Z Enters the Workforce. Deloitte Insights*. Retrieved October 16, 2023: https://www2.deloitte.com/content/www/uk/en/insights/focus/technology-and-the-future-of-work/generation-z-enters-workforce.html.

Pinzaru, F., Dima, A., M., Zbuchea, A., Veres, Z. (2022). Adopting Sustainability and Digital Transformation in Business in Romania: A Multifaceted Approach in the Context of the Just Transition. *Amfiteatru Economic Journal*, 24(59), 28-45. https://doi.org/10.24818/EA/2022/59/28.

Purmono, B., B. (2023). Entrepreneurial Intention among Generation Z Education Self Efficacy and Attitude. *Enrichment: Journal of Management,* 13(1), 16–31. https://doi.org/10.35335/enrichment.v13i1.1228.

Schroth, H. (2019). Are You Ready for Gen Z in the Workplace? *California Management Review*, 61(3), 5–18. https://doi.org/10.1177/0008125619841006.

Sitaridis, I. and Kitsios, F. (2024). Digital entrepreneurship and entrepreneurship education: a review of the literature. *International Journal of Entrepreneurial Behavior & Research*, 30(2/3), 277-304. https://doi.org/10.1108/IJEBR-01-2023-0053

Taherdoost, H. (2016). Validity and reliability of the research instrument; how to test the validation of a questionnaire/survey in a research. *International Journal of Academic Research in Management*, 5 (3), 28-36. https://doi.org/10.2139.

Tarigan, N., M., Doringin, F., Wahyu Budiana, M. (2022). Effect of Entrepreneurship Education and Entrepreneurial Motivation on ARO Gapopin's Student Interest in Entrepreneurship. *The Winners*, 23(1), 73–79. https://doi.org/10.21512/tw.v23i1.7275.

Thomas, O. (2023). Entrepreneurship Education: Which Educational Elements Influence Entrepreneurial Intention? *Industry and Higher Education,* 37(3), 328–44. https://doi.org/10.1177/09504222221121065.

Thomas, O., Wulf, T. (2021). Success Factors of Academic Entrepreneurship Education: A New Approach. *International Journal of Entrepreneurship and Small Business*, 43(4), 531. https://doi.org/10.1504/IJESB.2021.117346.

Verma, J. P., & Abdel-Salam, A. S. G. (2019). *Testing statistical assumptions in research*. John Wiley & Sons.

Yang, Q., Zhang, Y. and Lin, Y. (2022). Study on the Influence Mechanism of Virtual Simulation Game Learning Experience on Student Engagement and Entrepreneurial Skill Development. *Front. Psychol,* 12, 772157. https://doi.org/10.3389/fpsyg.2021.772157.

Wasilczuk, J., E., Richert-Kazmierska, A. (2020). What Potential Entrepreneurs from Generation Y and Z Lack-IEO and the Role of EE. *Education Sciences*, 10(11), 331. https://doi.org/10.3390/educsci10110331.