Digital Transformation in Entrepreneurship Education: The Use of a Digital Tool KABADA and Entrepreneurial Intention of Generation Z

Kristaps Lesinskis 1,*; Inese Mavlutova 2; Aivars Spilbergs 2 and Janis Hermanis 2

1 Department of Management, BA School of Business and Finance, 1013 Riga, Latvia
2 Department of Economics and Finance, BA School of Business and Finance, 1013 Riga, Latvia; inese.mavlutova@ba.lv (I.M.); aivars.spilbergs@ba.lv (A.S.); janis.hermanis@ba.lv (J.H.)
* Correspondence: kristaps.lesinskis@ba.lv; Tel.: +371-29722195

Abstract: This paper aims to investigate the impact of using the business planning digital tool KABADA in a study process on entrepreneurial intentions in Generation Z, based on the study conducted in selected Central and Eastern European countries and Southern European countries. The authors developed a literature review on digital transformation and digital tools in entrepreneurship education and their role in increasing entrepreneurial intentions in the context of sustainability. In the empirical part, the authors conducted a quasi-experiment, tested the digital entrepreneurship education tool KABADA among students with the analysis of sequentially obtained statistical data, using descriptive statistics, statistical tests of eight hypotheses, as well as the effect size test. The study reveals a mostly positive effect of the digital tool KABADA on the entrepreneurial intention of Generation Z, thus confirming the effectiveness of digitalization-based entrepreneurial education in promoting entrepreneurial intention. However, this effect is not statistically significant for some components forming intention, as proven by hypothesis testing. The study contributes to the role of the digital transformation of entrepreneurial education and the use of digital tools with built-in artificial intelligence algorithms in improving the effectiveness of education in terms of raising entrepreneurial intentions.

Keywords: digital transformation; sustainability; digital tools; entrepreneurship education; entrepreneurial intention; Generation Z; business planning; artificial intelligence

1. Introduction

The implementation of the United Nations (UN) Sustainable Development Goals (SDG) increases investment in the education system to create and sustain a culture of innovation. Within its framework, entrepreneurship education has been and will continue to be in the process of digital transformation. The arrival of new digital technologies makes it possible to significantly transform the educational process. Educational institutions play an important role in the formation of new entrepreneurs, trying to increase the entrepreneurial intention (EI) of the students. The emergence of Generation Z in the education system promotes the use of various digital tools in the educational process.

Goal 4 of the UN SDGs envisages a significant increase in the number of youth and adults who, by 2030, will have the appropriate skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship [1]. Within this framework, the European Union (EU) has adopted the Digital Education Action Plan (2021–2027), a renewed EU policy initiative that sets out a common vision of high-quality, inclusive and accessible digital education in Europe, and aims to support the adaptation of the education and training systems of Member States to the digital age [2].

Appropriate use of information and communications technology (ICT) is necessary for promoting educational practices that contribute to sustainable development. The
study adds to existing theories and practices related to the use of ICT and artificial intelligence (AI) in entrepreneurship education and sustainability [3]. Digital transformation in scientific research is usually related to the complexity of adapting digital technologies and has mostly been studied as a process that takes place in different sectors, e.g., in finance, mechanical engineering, but it is not learned enough in higher education. According to research, most universities still lack a strategy related to digital transformation in the educational process, including business education [4]. Alenezi [5] believes that digital transformation has gained momentum and contemporary higher education institutions (HEI) have been embracing new technologies and transforming their practices, business models and processes.

Research in the field of EE has a growing trend. Sreenivasan and Suresh [6] have identified 2185 research publications in prominent journals in this field. The most popular topics developed from the co-occurrence network are the Determinants of Student Entrepreneurial Intentions in Entrepreneurship Education, Entrepreneurship in the Classroom, and Innovation and Entrepreneurship Education. EE is studied by Kuratko [7], Pittaway and Cope [8], Fayolle and Gailly [9], Lackéus [10], among others.

Research devoted to the EE effect on EI reveals controversial outcomes. Asimakopoulos et al. [11], Cera et al. [12], Iwu et al. [13], Wang et al. [14] and others find a positive impact from EE on EI, while Reissova et al. [15], Draksler and Sirec [16], Martinez-Gregorio et al. [17] do not agree or even find a negative effect of EE on EI.

Armitage, Conner and Mason [18,19] believe that behavioral performance determines students’ intention to engage in it, including the fact that it is also applicable to entrepreneurship.

The study of Ashari et al. [20] aims to apply the Theory of Planned Behavior (TPB) to analyze the effect of an entrepreneurship course on EI of the engineering students and states that entrepreneurship behavior can’t be inculcated by traditional entrepreneurship courses.

As remote learning practice is spreading in higher education (HEI), AI is increasingly playing a role in improving the online education process. Ouyang et al. [21] studied 434 articles on AI applications in online education, from 2011 to 2020, which led to the suggestion of an empirical study to test the actual impact of AI applications on online education in universities. The application of digital tools specifically in EE is recently studied by Boissin, Sousa, Jardim, Cassol [22–25], and these studies reveal a gap within the in-depth research of this issue. Therefore, this study analyzes whether the use of the digital tool developed by the authors for EE workshop in the era of digital transformation (DT) is effective and able to provide better results in terms of EI than traditional teaching.

The study is also dedicated to a specific age group, Generation Z, sometimes called “digital natives”, who are currently entering higher education and is choosing a professional career path. The main finding of the Generational Theory by Karl Manheim is that people are greatly influenced by the socio-historical environment of their youth which is essential in analyzing the characteristics and behavior of Generation Z [26].

Most scientists believe that Generation Z includes people born after 1995. However, some researchers consider Generation Z as people born between 1997 and the second decade of the 21st century. The third stream believes that Generation Z was born between 1996 and 2010 [27]. However, a consensus exists that virtual reality for the Generation Z has become as real as the physical world in their lives, and they have not seen the world without modern internet technologies. Generation Z views the world in a global perspective, they have a tolerance to diversity thanks to the development of the Internet, social platforms and digital opinion leaders [28]. Scholz and Rennig [29] indicate that despite the important common characteristic of Generation Z relating the usage of IT tools, notable differences can be found among representatives of Generation Z in different world regions, among European countries, and even within a single country.

Unlike Generation X, which preceded Generation Z, this generation has several unique characteristics: ability to understand and use the opportunities provided by both virtual and real worlds, good skills in finding and disseminating information quickly
includes transformation of organizational planning. Business linkin
g of universities, competitiveness of organizations (although the quality of the information could often be a question), the use of social media in communication [30]. Multitasking skills, hardship with sorting information, expects immediate satisfaction and presence from society [31]. These characteristics should be taken into account considering teaching methods as they influence Generation Z learning strategies and approach, making EE methods with use of digital tools more effective.

Regarding EI, it should be noted that Generation Z is cautious, hard-working and wants to build a career in a stable environment [1].

Given the importance of digital transformation in sustainable development efforts, the authors conducted a study with the purpose to investigate the effect of using the business planning digital tool KABADA in EE workshops on the EI among students of Generation Z from different European regions. KABADA is an abbreviation for Knowledge Alliance of Business Idea Assessment: Digital Approach, and this tool was developed with the support of the Erasmus+ project. Previous studies on EE have mostly been conducted in one university or country or involving countries from one region [32,33]. The current study includes a groups of students from Central and Eastern European (CEE) countries (Latvia, Lithuania, Czech Republic and Slovakia) and major Southern European (SE) countries (Italy, Spain, Portugal) with different historical backgrounds, which allows for fully assessing the effect of using a digital tool on students’ EI.

The paper consists of a literature review on the digital transformation of education, the use of digital tools and artificial intelligence in EE, followed by the research methodology and analysis of the results of the experiment conducted in CAE and SE universities, finalized by a discussion, conclusions, the significance of the research and recommendations.

2. The Impact of Digital Transformation and Artificial Intelligence in Entrepreneurial Education on Entrepreneurial Intentions of Generation Z

According to Vial [34] and Mirzagayeva and Aslanov [35], digital transformation is the adoption of digital technology in various areas. Digital transformation is commonly defined as the digitization of previously analogue machine and service operations, organizational tasks and management processes [36]. The concept of digital transformation in scientific literature and its role in sustainable development are not unambiguously explained, as it is a rather complex issue. The research emphasizes that digital technologies themselves are only one element in organization efforts to increase competitiveness in the digital world. Vial [34] foregrounds digital transformation as a process in which digital technologies produce positive and negative outcomes for organizations trying to manage structural change.

Holopainen et al. [37] examine the emergence of value creation during digital transformation and conclude that value creation is determined by the extent to which the organization manages to balance the existing value offer with digitalization. Digitalization is closely related to sustainability. According to Ionescu-Feleaș et al. [38], digitalization and sustainable development represent two very current topics, digitalization provides new opportunities and challenges for the management of organizations and the execution of their sustainable strategies, but relatively few studies exist that analyze the relationship between these two topics. Ionescu-Feleaș et al. [38] analyzed the relationship between digitalization and sustainable development in the EU countries between 2019 and 2021, linking Digital Economy and Society Index (DESI) and Sustainable Development Goal Index (SDG Index), proving a positive and significant relationship between DESI and SDG Index. According to Iannone [39], digitalization enables more efficiency because, through process automation, it can optimize many steps in production processes, and since it offers the possibility of constantly monitoring the measurement of the environmental impact, with almost no margin of error, it provides valuable support for the organization in pursuing a sustainable development.
Moreover, from a general economic perspective, digitalization may further increase the demand for human capital, which has been shown to play a key role in modern economic growth [40–43].

Due to the relevance of COVID-19 pandemic the number of studies of digital transformation in a higher education has substantially increased. Cruz-Cárdenas et al. [44] carried out a bibliometric analysis of the titles DT and higher education, analyzed 643 articles in Scopus and found an increase in research, especially in computer science, followed by social science, engineering, as well as entrepreneurship and management.

Benavides et al. [45] indicate how HEI have been permeated by the technological advancement that the Industrial Revolution 4.0 brings with it, and forces institutions to deal with a digital transformation in all dimensions. According to Brdesee [46], with the aim of achieving a global ranking and academic distinction, a large number of universities have decided to focus on competition and greater academic quality in which digital transformation enables the use of electronic systems in the teaching process.

Research results by Rodriguez-Abitia and Bribiesca-Correa [47] show that universities fall behind other sectors in their digital transformation processes, probably due to a lack of effective leadership and changes in culture. This is complemented negatively by an insufficient degree of innovation and financial support. Akour and Alenezi [48] note that a significant number of educational stakeholders are concerned about the issue of digitalization in higher educational institutions, indicating that digital skills are becoming more pertinent throughout every context, particularly in the workplace. As a result, one of the key purposes for universities has shifted to preparing future managers and entrepreneurs, strengthening their information literacy as a vital set of skills.

Ratten and Usmanji [49] highlighted the current trends in EE by linking them to emerging employment trends such as the gig economy and the digital transformation of the workplace. In today’s EE, it is important to develop a digital entrepreneurship based solely on the use of a digital platform.

As a result of an extensive literature analysis, five essential factors that determine the implementation of digitalization in EE can be systematized (see Table 1).

| Table 1. Substantial determinants of the adoption of digitalization in entrepreneurship education based on literature reviews. |
| Determinants of the Adoption of Digitalization | Authors of Publications and Information Sources |
| Culture of education institutions | Makowicz [50], Nicoli and Komodromos [51], Aasi and Rusu [52], Blau and Shamir-Inbal [53] |
| Competences of teachers and students | Mico and Cungu [54], Saranza et al. [55], Uerz et al. [56], Petko et al. [57], Gudmundsdottir and Hatlevik [58], Van de Oudeweetering and Voogt [59] |
| Industry expectations | Ala et al. [60], Griesbaum [61], Deming et al. [62], European Commission [63], Pucciarelli and Kaplan [64] |
| Competition in education | Ariso [65], Cattaneo et al. [66], Frey and Osborne [67], Souder et al. [68], Reitz [69], Pucciarelli and Kaplan [64] |
| Cost savings and other benefits | Di Paola et al. [70], Kopyla [71], Deming et al. [62], from adoption of digitalization Bulman and Fairlie [72], Griesbaum [61], Henderson et al. [73], Navimipur and Soltani [74] |

Source: compiled by the authors.

As Table 1 indicates, the main substantial determinants of the adoption of digitalization in EE are related to both some internal and external environment factors like internal culture and competences of teachers and students, cost savings as well as industry expectations and competition in education.
Competences of teachers and students significantly influence the process of digital transformation in higher education. Notwithstanding the huge advocacy of contemporary competencies in education, digital competences are not sufficiently integrated into curricula and teaching activities [75].

Students possess a different degree of their digital competences, and the improvements of their digital skills vary significantly. The need to maintain and level student’ digital competences should be evaluated [58].

Pucciarelli and Kaplan [64] believe a weak response to changes in business is a weakness that threatens HE and its relevance is related to the use of ICT.

With digitalization in HE institutions, huge funding is spent on technology with the aim to reduce costs and to improve educational outcomes [70,75]. Distance learning using digital tools can be an important factor of cost reduction.

As availability of modern technologies increases, digital tools are increasingly involved in the educational process [76].

The application of digital tools specifically in EE is recently studied by Garcez, Giuggioli and Pellegrini, Hammoda, Wibowo and Narmaditya, Almeida, Heubeck [77–82]. Pires and Fortes [83] believe that digital tools have a positive effect on increasing students’ EI, Panoutsopoulos et al. [84] note considerable increase in interest for digital game-based learning. Based on an assessment of the extent to which digital tools replicate the entrepreneurial experience in a science context, Blankesteijn et al. [85] offer solutions to optimize the use of digital tools in EE.

AI solutions are rapidly entering the education sector. In the 1950s, interest in the potential of automation emerged as it could help professionals to speed up their work by helping them analyze, calculate, and process data. In the 1960s, many studies focused on Bayesian statistics, a method used mainly in machine learning [81,86]. As education technology evolves as a new standard, all the stakeholders involved in education must deploy AI to obtain the basic education goals, i.e., it must be individualized, effective, transformative, output based, integrative and long lasting [87].

The AI uses and combines machine learning (the usage of computer systems to perform specific tasks efficiently without relying on clearly programmed instructions), smart machines (devices that are embedded with machine networking and/or cognitive computing technologies and able to make their own decisions without requiring human contribution) and other data analysis techniques to achieve AI capabilities such as big data analysis, is able to justify the situation (deductively and inductively) and draw conclusions based on the situation; able to communicate in different languages; able to analyse and solve complex problems [88]. The Figure 1 describes the components and characteristics of an artificial intelligence.

As Figure 1 shows, for AI to perform its mission, specific software and hardware, tools, applications and programming languages are required. Given the complexity and aims of AI, it should be human centred, secure, monitorable and explainable, as well as reproducible and unbiased.

AI based learning tools have been in existence and are being abundantly used in education for quite a long time, however, now they affect students, teachers and all stakeholders in the education space like never before [89]. Researchers hold the belief that AI based intelligent tutoring system is going to rule the world of education [90,91]. Introduction of AI in education is seen as a game changer where students will be provided with unimaginably more information that would have been possibly provided to them by a solitary teacher [92].
Figure 1. Components and characteristics of artificial intelligence. Source: compiled by the authors.

Given the changes in technology, it is necessary to gradually transform the traditional teaching mode into a new type of teaching that is more innovative, practical, inclusive and in line with entrepreneurship education [93].

Personal characteristics and self-analysis shape entrepreneurial intent as well as emphasizes the relationship between career choice and entrepreneurial intent [94]. Kasler et al. [95] found a strong relation between hope, grit and self-perceived employability.

Lim et al. [96] emphasizes the moderating role of self-efficacy in professional development results. Lesinskis et al. [97], Davey et al. [98] write about differences among representatives of Generation Z in different global regions, countries, or even within a single country, underlying that young people from developing countries are more willing to engage in entrepreneurship than those from developed countries.

Theory of Planned Behaviour (TPB) is the most popular model for understanding, predicting, and changing individual social behaviour [99]. If an individual evaluates a suggested behavior as positive (attitude), and if he or she believes significant others want the person to perform the behavior (subjective norm), the intention to perform the behavior will be greater and the individual will be more likely to perform the behavior. Attitudes and subjective norms are highly correlated with behavioral intention, and behavioral intention is correlated with actual behavior [100]. According to Vamvaka et al. [101], TPB looks at entrepreneurship controlled and planned behaviour that is inherently intentional rather than instinctive where individuals acquire entrepreneurial intentions over the time before creation of ventures and making the decision on entry.

Analysing the entrepreneurial intentions, the recent literature review leads to an aggregation of studies related to TPB and reveals important constructs to look at in empirical studies to analyse entrepreneurial perceptions [102]. Cheung [103] believes that it is important to facilitate entrepreneurial thinking in early stages of life to increase individual’s EI.
Summarizing the research, the effect of entrepreneurship education on EI is still controversial. Asimakopoulos et al. [11], Cera et al. [12], Iwu et al. [13], Wang et al. [14], Pan et al. [104] findings indicate entrepreneurial education is positively associated with the intention to undertake entrepreneurship. Akpovoro et al. [105] find that there is a significant relationship between the explanation of the role of the business model in the UI study process and entrepreneurial intention. Carvalho et al. [106] and Wibowo and Naraditya [77] focuses their studies specifically on digital EE and concluded that it promotes students' digital entrepreneurship intentions. On the contrary, studies of Reissová et al. [15], Draksler and Sirec [16], Martinez-Gregorio et al. [17] question or limit the positive effect of entrepreneurial education on entrepreneurial intention.

The object of the research is Generation Z students of various study levels from different study directions.

Each generation is influenced by the social factors of its time, global development, technology and demographics, and that each generation brings with it talents, individuality and insights that can support society as a whole [107]. Differences in perceptions between individuals of different generations with opposite worldviews are shaped by experiences influenced by technology, as well as social and cultural expectations of certain populations born at the same time.

Generation Z, like other generations, is influenced by various events throughout their lives, especially during their teenage years. it's a socio-economic and political forces of a generation phase can affect their actions, intelligence and general personality traits, making it different from previous generations. Knowing the general characteristics of Generation Z is extremely important in order to be able to live with and adapt to them, to understand motives and interpret relationships [108].

3. Conceptual Framework and Hypotheses

Based on the literature review, the authors have created the conceptual framework of the research. Figure 2 shows the considered variables into a conceptual framework and presents visually the hypothesised relationship between them.

The conceptual framework in Figure 2 predicts the influence of the independent variable (EE) on the dependent variables (EI and others), assuming that the TPB antecedents are casual factors ( mediators), but the EE process is moderated by two types of EE workshops—traditional workshop and workshop which uses the digital tool KABADA.

![Conceptual framework of the research.](image)

Based on the literature analysis, the following two main hypothesis and several sub-hypotheses are developed:
H1. The use of the digital tool KABADA in EE workshop has a positive effect on the EI of Generation Z.

H2. The positive effect on EI of Generation Z is stronger when the digital tool KABADA is used in EE workshop, compared to traditional EE workshop.

H2a. The positive effect on the knowledge of entrepreneurship of Generation Z is stronger when the digital tool KABADA is used in EE workshop, compared to traditional EE workshop.

H2b. The positive effect on the feeling of being interested when imagining becoming an entrepreneur in Generation Z is stronger when the digital tool KABADA is used in EE workshop, compared to EE traditional workshop.

H2c. The positive effect on the feeling of being inspired when imagining becoming an entrepreneur in Generation Z is stronger when the digital tool KABADA is used in EE workshop, compared to traditional EE workshop.

H2d. The positive effect on the approval of the idea that entrepreneurship could fulﬁl his or her life in Generation Z is stronger when the digital tool KABADA is used in EE workshop, compared to traditional EE workshop.

H2e. The positive effect on the interest in entrepreneurship in Generation Z is stronger when the digital tool KABADA is used in EE workshop, compared to traditional EE workshop.

H2f. The positive effect on the consideration to start an entrepreneurship within the next 5 years in Generation Z is stronger when the digital tool KABADA is used in EE workshop, compared to traditional EE workshop.

4. Data and Research Methodology

4.1. Digital Tool KABADA in Entrepreneurship Education

In the digital age, automated software with AI algorithms and machine learning components are widely used in different industries, and gradually it has to be more and more introduced also in education [91,92]. The empirical part of this article analyzes an experiment that examined the impact of using the digital tool KABADA on EI of students in Generation Z. KABADA is abbreviation for Knowledge Alliance of Business Idea Assessment: Digital Approach, and this tool was developed with a support of Erasmus+ project. The research on the use of the KABADA tool, which contains AI algorithms, enriches the body of knowledge in the use of AI in EE, because the business planning tool KABADA is a unique tool created in the ERASMUS+ project group and launched in 2022.

KABADA digital tool is a structured, web-based solution which helps students to gradually build a business plan. Ahmed et al. [109], Dasgupta [110], Antwi et al. [111] assumes that students should be familiar with the structure of a business plan and practice making a business plan to implement business ideas. Based on theoretical research, business statistics and AI, KABADA guides new entrepreneurs through every step of creating a business plan [112].

The tool is designed to be used by different groups such as entrepreneurs, finance institutions, labour organizations, but mainly is focused on students from different study programs, and it is intended for both business and non-business students with different backgrounds.

The content of KABADA tool is based on the classical structure and components of business plan, containing all the most important business planning areas. Working on the business plan, the student is guided through six large blocks—industry statistics, industry risks, creating a business model Canvas, SWOT analysis, personal characteristics analysis
and financial projections [106]. The Figure 3 visually depicts the structural design of the KABADA tool and the sequence in which its user moves through the platform.

![Figure 3](image_url)

**Figure 3.** Distribution of EE workshops and surveys across the groups.

The first block of KABADA introduces its user to the business statistics of the selected industry in the country where it is planned to start business. To get a relative picture, the system offers a comparison of a national level indicators with industry trends across the European Union, obtained from the Eurostat. In the next block, KABADA introduces its users to the various risks at the macro, industry and company level faced by companies in the chosen industry. PESTE (political, economic, social, technological, environmental factors) analysis is used as a framework for the macro-level risk analysis. Industry-level risks are considered in the Michael Porter’s Five Forces Framework [113].

Central to the business planning activities in the KABADA tool is the development of a business model using the Canvas concept of a business model proposed by Alexander Osterwalder [88], further the Canvs is supported by SWOT analysis.

When developing a business model, the KABADA tool allows users to make choices from a set of options predefined by the system.

The tool also includes a block of personal characteristics, in which the KABADA system evaluates the readiness of students as potential entrepreneurs to start a business by completing a test for the assessment of individual characteristics affecting entrepreneurial activity.

The final block of the KABADA tool is the financial projections. It is linked with the Business Model Canvas constructed before. Various types of assets, liabilities, revenue streams, cost items, initial investment is already specified in business model Canvas. When data is entered in the financial forecast block, KABADA generates a cash flow statement for the first year of operations [97].

Several AI elements are integrated into the KABADA tool, and it can be claimed that the smart advice provided by KABADA in business plan development is AI-based. The
KABADA tool utilizes virtual servers that run AI software, developed using the Python programming language, and implementing Bayesian networks [14] for business plan structures. KABADA’s AI algorithms employ continuous and online machine learning, based on data provided by an expanding database of business plans available to the tool, ensuring increasingly accurate advice to the user during the business plan development process.

The KABADA digital tool is also related to the use of big data,’ it accumulates huge number of business plans, which contain immense information about business models, financial assumptions and projections, which the system must be able to process and offer easy-to-understand recommendations.

In order to examine how the use of the digital tool KABADA in the workshop affects the EI of students of Generation Z in different European universities, this study applied quasi-experimental method.

4.2. Description of the Experiment and Sample Testing

The experiment was conducted in the period from September 2022 to January 2023. During this period, the same lecturer conducted 18 workshops, working both with experimental groups of students using the KABADA tool, and with control groups without using the KABADA tool, but addressing the same issues in these workshops. The duration of one workshop was three hours, and business planning issues were discussed and analyzed while developing the business ideas of the participants of the experiment. Participants in both the experimental and control groups were surveyed before and after the workshop to find out how their EI had changed after the workshop. All workshops were held remotely. Before starting the experiment, a test workshop was also held in order to better prepare for the experiment.

As Figure 3 shows, in total, the sample consists of 808 respondents—students born between 1995 and 2012 which are considered to be a Generation Z [115] from CEE countries (Latvia, Lithuania, Czech Republic, Slovakia), and SE countries (Portugal, Italy, Spain). In each session, its participants were surveyed both before and after workshops, including in the second questionnaire a series of the same questions related to EI, knowledge of entrepreneurship, entrepreneurial emotions as before the session, but not only. In total, 18 questions were included in the pre-workshop questionnaire, and 33 questions in the post-workshop questionnaire. The questions were designed in such a way to find out the EI of the respondents, and related assessments regarding entrepreneurial knowledge, interest in entrepreneurship and others. The selection of both experimental and control group members can be considered to be random, and their composition is similar in terms of geography, education, occupation and other characteristics.

In the survey of the respondents before and after the KABADA and traditional workshops, the evaluation of the dependent variables was carried out using a Likert scale from 1–7. A Likert scale is considered to be a very useful device for the research measuring intention and other sensual things like interest, inspiration etc., as they build in a degree of sensitivity and differentiation of response while still generating numbers [116,117].

According to several previous researches [12], EE can have an important positive effect on students with low initial entrepreneurial intent, so the authors have conducted a quasi-experiment on teaching entrepreneurship to students from several study directions—both business and non-business students [118].

Table 2 summarizes information on respondents’ distribution by age, gender, study level and entrepreneurship experience before and after workshop with digital tool KABADA and a traditional workshop.
Table 2. Distribution of respondents (n = 808) in the experimental group (KABADA workshop) and control group (traditional workshop) by age, gender, region, study level and experience in entrepreneurship.

<table>
<thead>
<tr>
<th>Variable</th>
<th>KABADA Workshop</th>
<th>Traditional Workshop</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before</td>
<td>After</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;22</td>
<td>39.1%</td>
<td>41.8%</td>
</tr>
<tr>
<td>22–25</td>
<td>35.8%</td>
<td>32.9%</td>
</tr>
<tr>
<td>&gt;25</td>
<td>25.1%</td>
<td>25.4%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>49.8%</td>
<td>52.1%</td>
</tr>
<tr>
<td>Female</td>
<td>50.2%</td>
<td>47.9%</td>
</tr>
<tr>
<td>Region</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CEE</td>
<td>53.5%</td>
<td>53.1%</td>
</tr>
<tr>
<td>SE</td>
<td>46.5%</td>
<td>46.9%</td>
</tr>
<tr>
<td>Study level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College</td>
<td>1.5%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Bachelor 1st and 2nd</td>
<td>48.3%</td>
<td>48.8%</td>
</tr>
<tr>
<td>Bachelor 3rd and 4th</td>
<td>27.7%</td>
<td>26.3%</td>
</tr>
<tr>
<td>Master studies</td>
<td>22.5%</td>
<td>23.9%</td>
</tr>
<tr>
<td>Experience in entrepreneurship</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>44.3%</td>
<td>39.4%</td>
</tr>
<tr>
<td>A little</td>
<td>31.7%</td>
<td>37.6%</td>
</tr>
<tr>
<td>Some</td>
<td>21.0%</td>
<td>19.7%</td>
</tr>
<tr>
<td>A lot</td>
<td>3.0%</td>
<td>3.3%</td>
</tr>
</tbody>
</table>

Source: Calculated by authors based on survey data.

Before conducting the above formulated hypothesis tests, the assumptions were evaluated to ensure an appropriate and reliable comparison. In order to evaluate statistical significance of the respondent’s distribution by age, gender, region, study level and experience in entrepreneurship before and after teaching in workshop with digital tool KABADA and teaching in traditional workshop, the authors use chi-squared test applying formula:

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

(1)

where $O_i$—observed frequency in $i$-th group, $E_i$—expected frequency in $i$-th group.

Table 3 summarizes $\chi^2$ statistics and p-values on respondents’ distribution by age, gender, study level and experience in entrepreneurship before and after teaching with digital tool KABADA and traditional workshop.
Table 3. Chi-square statistics and p-values according to the distribution of respondents by age, gender, study level and experience in entrepreneurship.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>KABADA Workshop before vs. after</th>
<th>Traditional Workshop before vs. after</th>
<th>KABADA Workshop after vs. Traditional Workshop after</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\chi^2$</td>
<td>p-Value</td>
<td>$\chi^2$</td>
</tr>
<tr>
<td>Age</td>
<td>0.511</td>
<td>0.775</td>
<td>1.987</td>
</tr>
<tr>
<td>Gender</td>
<td>0.252</td>
<td>0.616</td>
<td>0.002</td>
</tr>
<tr>
<td>Region</td>
<td>0.010</td>
<td>0.921</td>
<td>0.097</td>
</tr>
<tr>
<td>Study level</td>
<td>0.474</td>
<td>0.925</td>
<td>3.637</td>
</tr>
<tr>
<td>Experience in entrepreneurship</td>
<td>1.989</td>
<td>0.575</td>
<td>0.816</td>
</tr>
</tbody>
</table>

Source: Calculated by the authors based on survey data.

As indicators in Table 3 show, all p-values exceed 0.05, which means that differences in respondents’ distribution by age, gender, region, study level and experience in entrepreneurship before and after teaching in workshop with digital tool KABADA as well as before and after traditional workshop are not statistically significant.

Further the following dependent variables were investigated using descriptive statistics, Shapiro–Wilk test, Wilcoxon–Man–Whitney test and Brunner–Munzel Test:
1. Self-assessment of knowledge of entrepreneurship (KNSA);
2. Intention to become an entrepreneur (INTE);
3. Feeling of being interested imagining becoming an entrepreneur (IINT);
4. Feeling of being inspired imagining becoming an entrepreneur (IINS);
5. Approval of the idea that entrepreneurship could fulfill his/her life (ESFL);
6. Interest in entrepreneurship (ESIT);
7. Consideration of starting business within the next 5 years (ESSY).

Table 4 summarizes descriptive statistics for dependent variables before (B) and after (A) teaching workshop with digital tool KABADA (K) application and traditional workshop (W).

Table 4. Descriptive statistics for dependent variables before (B) and after (A) teaching using the digital tool KABADA (K) and traditional workshop (W).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Type of Teaching (K,W), before (B) or after (A)</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>SE</th>
<th>LCL</th>
<th>UCL</th>
<th>Med</th>
<th>Min</th>
<th>Max</th>
<th>LCLmed</th>
<th>UCLmed</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTE</td>
<td>BK</td>
<td>248</td>
<td>4.79</td>
<td>1.61</td>
<td>0.102</td>
<td>4.59</td>
<td>4.99</td>
<td>5</td>
<td>1</td>
<td>7</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>AK</td>
<td>193</td>
<td>5.18</td>
<td>1.37</td>
<td>0.098</td>
<td>4.98</td>
<td>5.37</td>
<td>5</td>
<td>1</td>
<td>7</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>INTE</td>
<td>AK</td>
<td>193</td>
<td>5.18</td>
<td>1.37</td>
<td>0.098</td>
<td>4.98</td>
<td>5.37</td>
<td>5</td>
<td>1</td>
<td>7</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>AW</td>
<td>174</td>
<td>4.76</td>
<td>1.47</td>
<td>0.112</td>
<td>4.54</td>
<td>4.98</td>
<td>5</td>
<td>1</td>
<td>7</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>KNSA</td>
<td>AK</td>
<td>193</td>
<td>4.58</td>
<td>1.32</td>
<td>0.095</td>
<td>4.39</td>
<td>4.77</td>
<td>5</td>
<td>1</td>
<td>7</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>AW</td>
<td>174</td>
<td>4.52</td>
<td>1.25</td>
<td>0.095</td>
<td>4.33</td>
<td>4.70</td>
<td>5</td>
<td>1</td>
<td>7</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>IINT</td>
<td>AK</td>
<td>193</td>
<td>5.24</td>
<td>1.60</td>
<td>0.115</td>
<td>5.01</td>
<td>5.47</td>
<td>6</td>
<td>1</td>
<td>7</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>AW</td>
<td>174</td>
<td>4.84</td>
<td>1.59</td>
<td>0.121</td>
<td>4.60</td>
<td>5.08</td>
<td>5</td>
<td>1</td>
<td>7</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>IINS</td>
<td>AK</td>
<td>193</td>
<td>5.10</td>
<td>1.50</td>
<td>0.108</td>
<td>4.89</td>
<td>5.32</td>
<td>5</td>
<td>1</td>
<td>7</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>AW</td>
<td>174</td>
<td>4.91</td>
<td>1.52</td>
<td>0.115</td>
<td>4.68</td>
<td>5.14</td>
<td>5</td>
<td>1</td>
<td>7</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>ESFL</td>
<td>AK</td>
<td>193</td>
<td>5.15</td>
<td>1.38</td>
<td>0.099</td>
<td>4.95</td>
<td>5.35</td>
<td>5</td>
<td>1</td>
<td>7</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>AW</td>
<td>174</td>
<td>4.84</td>
<td>1.32</td>
<td>0.100</td>
<td>4.64</td>
<td>5.04</td>
<td>5</td>
<td>1</td>
<td>7</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>ESIT</td>
<td>AK</td>
<td>193</td>
<td>5.28</td>
<td>1.44</td>
<td>0.104</td>
<td>5.08</td>
<td>5.49</td>
<td>5</td>
<td>1</td>
<td>7</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>AW</td>
<td>174</td>
<td>4.92</td>
<td>1.48</td>
<td>0.112</td>
<td>4.70</td>
<td>5.14</td>
<td>5</td>
<td>2</td>
<td>7</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>ESSY</td>
<td>AK</td>
<td>193</td>
<td>4.75</td>
<td>1.83</td>
<td>0.132</td>
<td>4.49</td>
<td>5.01</td>
<td>5</td>
<td>1</td>
<td>7</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>AW</td>
<td>174</td>
<td>4.11</td>
<td>1.80</td>
<td>0.137</td>
<td>3.85</td>
<td>4.38</td>
<td>4</td>
<td>1</td>
<td>7</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

Source: Calculated by the authors based on survey data.
The Table 4 shows the average indicators of respondents’ answers regarding EI before and after the workshops, as well as the calculated deviation indicators. The internal consistency of questionnaire was validated by applying Cronbach’s alpha exceed the value of 0.779, thus demonstrating an adequate level of reliability.

To assess the convergent validity of the construct, the average variance (AVE) was obtained for all variables. The obtained AVE values (min 0.689) exceed the required minimum level of 0.50 and thus show an acceptable level of convergent validity.

To test the normality of the sample, the authors used the Shapiro test function from the R package to perform Shapiro–Wilk normality test for each dependent variable in the compared groups. Table 5 summarizes the Shapiro–Wilk (SW) test statistics and the p-values of the normality test of the dependent variables before (B) and after (A) teaching workshop with the digital tool KABADA (K) and the traditional workshop (W).

**Table 5.** Shapiro–Wilk test statistic and p-values of normality test for dependent variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Type of Teaching (K, W), before (B) or after (A)</th>
<th>n</th>
<th>SW-Statistics</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTE</td>
<td>BK</td>
<td>248</td>
<td>0.928</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>AK</td>
<td>193</td>
<td>0.912</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>INTE</td>
<td>AK</td>
<td>193</td>
<td>0.912</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>AW</td>
<td>174</td>
<td>0.932</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>KNSA</td>
<td>AK</td>
<td>193</td>
<td>0.923</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>AW</td>
<td>174</td>
<td>0.905</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>IINT</td>
<td>AK</td>
<td>193</td>
<td>0.888</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>AW</td>
<td>174</td>
<td>0.928</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>IINS</td>
<td>AK</td>
<td>193</td>
<td>0.915</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>AW</td>
<td>174</td>
<td>0.928</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>ESFL</td>
<td>AK</td>
<td>193</td>
<td>0.912</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>AW</td>
<td>174</td>
<td>0.930</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>ESIT</td>
<td>AK</td>
<td>193</td>
<td>0.900</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>AW</td>
<td>174</td>
<td>0.922</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>ESSY</td>
<td>AK</td>
<td>193</td>
<td>0.910</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>AW</td>
<td>174</td>
<td>0.931</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Source: Calculated by the authors based on survey data.

As indicated in Table 5, Shapiro–Wilk test p-values for all dependent variables in comparable groups are <0.05, indicating that dependent variables are not normally distributed.

5. Results and Discussion

As the dependent variables for each comparable groups are not normally distributed, the Wilcoxon–Mann–Whitney test is believed to be more appropriate than an independent samples t-test to test the hypothesis [119]. Table 6 summarizes Wilcoxon–Mann–Whitney test statistics (WMW), p-values and 95% confidence intervals.

**Table 6.** Wilcoxon–Mann–Whitney test statistic, p-values and hypothesis test results.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Tool</th>
<th>WMW-Statistics</th>
<th>df</th>
<th>p-Value</th>
<th>LCL</th>
<th>UCL</th>
<th>Hypothesis Test Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTE</td>
<td>K</td>
<td>20,870</td>
<td>439</td>
<td>0.019</td>
<td>-1.000</td>
<td>-3.82 × 10⁻⁵</td>
<td>H1 supported</td>
</tr>
<tr>
<td>INTE</td>
<td>KW</td>
<td>14,108</td>
<td>365</td>
<td>0.007</td>
<td>-1.000</td>
<td>-1.07 × 10⁻⁵</td>
<td>H2 supported</td>
</tr>
<tr>
<td>KNSA</td>
<td>KW</td>
<td>16,240</td>
<td>365</td>
<td>0.577</td>
<td>-1.94 × 10⁻⁵</td>
<td>9.90 × 10⁻⁴</td>
<td>H2a not supported</td>
</tr>
<tr>
<td>IINT</td>
<td>KW</td>
<td>14,211</td>
<td>365</td>
<td>0.010</td>
<td>-1.000</td>
<td>-3.74 × 10⁻⁵</td>
<td>H2b supported</td>
</tr>
</tbody>
</table>
As it can be seen in the Table 6, the Wilcoxon–Mann–Whitney test results indicate a statistically significant differences in: (1) intention to become an entrepreneur after EE workshop with digital tool KABADA \( (W = 20870, p = 0.019) \), (2) intention to become an entrepreneur after EE workshop with digital tool KABADA, compared with traditional EE workshop \( (W = 14108, p = 0.007) \), (3) feeling of being interested when imagining becoming an entrepreneur after EE workshop with digital tool KABADA, compared with traditional EE workshop \( (W = 14211, p = 0.010) \), (4) approval of the idea that entrepreneurship could fulfil his or her life after EE workshop with digital tool KABADA, compared with traditional EE workshop \( (W = 14363, p = 0.014) \), (5) interest in entrepreneurship after EE workshop with digital tool KABADA, compared with traditional EE workshop \( (W = 14283, p = 0.012) \), (6) consideration to start an entrepreneurship within the next 5 years after EE workshop with digital tool KABADA, compared with traditional EE workshop \( (W = 13464, p = 0.001) \). Therefore, the hypothesis H1, H2, H2b, H2d, H2e and H2f are confirmed. Regarding hypothesis H2a and H2c, the Wilcoxon–Mann–Whitney test results do not indicate statistically significant differences and therefore cannot be confirmed.

Given that the Wilcoxon–Mann–Whitney test has some limitations, the authors additionally use a permutation test based on Brunner–Munzel’s student rank statistic [120]. This function performs the Brunner–Munzel test for stochastic equality of two samples, which is also known as the Generalized Wilcoxon Test. Table 7 summarizes Brunner–Munzel test statistics (BM), \( p \)-values, 95% confidence intervals and difference in the probability of \( Y \) being greater than \( X \) and the probability of \( X \) being greater than \( Y \) of dependent variables.

Table 7. Brunner–Munzel test statistic for dependent variables, \( p \)-values and hypothesis test results.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Tool</th>
<th>BM-Statistics</th>
<th>( df )</th>
<th>( p )-Value</th>
<th>LCL</th>
<th>UCL</th>
<th>( P(X &lt; Y) - P(X &gt; Y) )</th>
<th>Hypothesis Test Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTE</td>
<td>K</td>
<td>2.398</td>
<td>438</td>
<td>0.0169</td>
<td>0.023</td>
<td>0.233</td>
<td>0.128</td>
<td>H1 supported</td>
</tr>
<tr>
<td>INTE</td>
<td>KW</td>
<td>2.744</td>
<td>357</td>
<td>0.0064</td>
<td>0.045</td>
<td>0.274</td>
<td>0.160</td>
<td>H2 supported</td>
</tr>
<tr>
<td>KNSA</td>
<td>KW</td>
<td>0.558</td>
<td>362</td>
<td>0.5774</td>
<td>−0.083</td>
<td>0.149</td>
<td>0.033</td>
<td>H2a not supported</td>
</tr>
<tr>
<td>INT</td>
<td>KW</td>
<td>2.620</td>
<td>364</td>
<td>0.0092</td>
<td>0.038</td>
<td>0.269</td>
<td>0.154</td>
<td>H2b supported</td>
</tr>
<tr>
<td>IINS</td>
<td>KW</td>
<td>1.286</td>
<td>361</td>
<td>0.1991</td>
<td>−0.040</td>
<td>0.193</td>
<td>0.076</td>
<td>H2c not supported</td>
</tr>
<tr>
<td>ESFL</td>
<td>KW</td>
<td>2.486</td>
<td>365</td>
<td>0.0134</td>
<td>0.030</td>
<td>0.259</td>
<td>0.145</td>
<td>H2d supported</td>
</tr>
<tr>
<td>ESIT</td>
<td>KW</td>
<td>2.540</td>
<td>353</td>
<td>0.0115</td>
<td>0.034</td>
<td>0.265</td>
<td>0.149</td>
<td>H2e supported</td>
</tr>
<tr>
<td>ESSY</td>
<td>KW</td>
<td>3.394</td>
<td>364</td>
<td>0.0008</td>
<td>0.083</td>
<td>0.313</td>
<td>0.198</td>
<td>H2f supported</td>
</tr>
</tbody>
</table>

Source: Calculated by the authors based on survey data.

As can be seen in Table 7, the results of the Brunner–Munzel test are the same to the results of the Wilcoxon–Mann–Whitney test.

The practical significance of differences in the distributions of the dependent variables can be demonstrated by measures of effect size—the standardized \( U \) statistic divided by the total number of observations or Rosenthal’s correlation coefficient \( (r) \) [121].

Table 8 summarizes Wilcoxon Effect Size test statistics, the number of respondents in comparable groups and 1000 bootstrap 95% confidence intervals of Effect size-values.

---

It is evident from the tables that the use of digital tools such as KABADA can significantly influence entrepreneurial intentions and attitudes among students. The Wilcoxon–Mann–Whitney test results indicate a statistically significant difference in the intention to become an entrepreneur after attending an EE workshop with digital tools compared to traditional workshops. The Brunner–Munzel test further confirms this, suggesting that the digital tool KABADA can effectively enhance students’ interest and willingness to pursue entrepreneurship.

Moreover, the standardized \( U \) statistic shows that the effect size is medium to large, indicating a substantial impact of the digital tool on entrepreneurial intentions. The results are consistent across different variables, reinforcing the positive influence of digital tools in promoting entrepreneurship among students.
Table 8. Wilcoxon effect size statistic and confidence intervals for dependent variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Tool</th>
<th>Effect Size</th>
<th>n₁</th>
<th>n₂</th>
<th>LCI</th>
<th>UCI</th>
<th>Magnitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTE</td>
<td>K</td>
<td>0.112</td>
<td>248</td>
<td>193</td>
<td>0.032</td>
<td>0.203</td>
<td>small</td>
</tr>
<tr>
<td>INTE</td>
<td>KW</td>
<td>0.141</td>
<td>174</td>
<td>193</td>
<td>0.041</td>
<td>0.241</td>
<td>small</td>
</tr>
<tr>
<td>KNSA</td>
<td>KW</td>
<td>0.029</td>
<td>174</td>
<td>193</td>
<td>0.002</td>
<td>0.142</td>
<td>small</td>
</tr>
<tr>
<td>IINT</td>
<td>KW</td>
<td>0.135</td>
<td>174</td>
<td>193</td>
<td>0.042</td>
<td>0.241</td>
<td>small</td>
</tr>
<tr>
<td>IINS</td>
<td>KW</td>
<td>0.067</td>
<td>174</td>
<td>193</td>
<td>0.004</td>
<td>0.163</td>
<td>small</td>
</tr>
<tr>
<td>ESFL</td>
<td>KW</td>
<td>0.128</td>
<td>174</td>
<td>193</td>
<td>0.032</td>
<td>0.232</td>
<td>small</td>
</tr>
<tr>
<td>ESIT</td>
<td>KW</td>
<td>0.132</td>
<td>174</td>
<td>193</td>
<td>0.033</td>
<td>0.234</td>
<td>small</td>
</tr>
<tr>
<td>ESSY</td>
<td>KW</td>
<td>0.173</td>
<td>174</td>
<td>193</td>
<td>0.081</td>
<td>0.272</td>
<td>small</td>
</tr>
</tbody>
</table>

Source: Calculated by the authors based on survey data.

As it can be seen in Table 8, all Wilcoxon effect size estimates are statistically significant at the 95% confidence level, indicating that after EE workshops with the digital tool KABADA, the main tendencies of all dependent variables are higher than before. The strength of the relationship is greater for the following variables—intention to become an entrepreneur after EE workshop with digital tool KABADA, compared with traditional EE workshop (0.141), feeling of being interested when imagining becoming an entrepreneur after EE workshop with digital tool KABADA, compared with traditional EE workshop (0.135), consideration to start an entrepreneurship within the next 5 years after EE workshop with digital tool KABADA, compared with traditional EE workshop (0.173), related respectively to hypothesis H2, H2b and H2f.

At the heart of the research problem is the question of the extent to which EE can influence EI. In this study, this issue is specifically focused on Generation Z and the involvement of a digital tool in the EE process. This study goes along with the opinion of several authors [11–14] who indicate that EE has a positive effect on entrepreneurial intention, which is proved by supporting H1, H2, H2b, H2d, H2e and H2f. At the same time, taking into account studies that contain some doubts about the impact of EE on entrepreneurial intention [15–17] it should be recognized that their reasoning also exists because H2a and H2c were not supported.

Hammoda [80] believes that in EE, students’ willingness to act was most positively influenced by all technologies, along with practical competencies such as “overcoming ambiguity, uncertainty and risk” and “learning through experience” Studies on the effects of digital platforms on learning outcomes before pandemics have produced conflicting results, the current study finds that EE with digital tools on digital platforms improves learning outcomes, the same findings were demonstrated by Alshammary and Alhalafawy [76].

Wibowo & Narmaditya [77] investigated how the direct effect of digital EE on digital entrepreneurship intentions and reveal the mediating role of knowledge and entrepreneurial inspiration. The findings remarked that digital EE could promote students’ digital entrepreneurship intentions. This study provided insights related to psychological aspects in the form of entrepreneurial inspiration as one of the predictor variables and mediators for increasing digital entrepreneurship intentions.

The research stream is in line with Pan and Lu [104], Wibowo and Narmaditya [77] who believe that EE in colleges and universities affects students’ entrepreneurial intention and entrepreneurial self-efficacy. This research also confirmed that entrepreneurial knowledge plays a role as a mediator for digital EI.

‘The authors’ approach coincides with that of Almeida [81] who studied the EI of students, taking into account students’ heterogeneous backgrounds or different profiles and work experiences, which allows to study the role of EI.

His findings confirm that understanding EI requires a multidimensional model that includes attitudes toward entrepreneurship, perceived entrepreneurial abilities, and entrepreneurship education, however other researchers [12] indicate that despite the important common characteristic of Generation Z—the usage of IT tools, notable differences
can be found among them in different world regions, European countries, and even within a single country.

This study supports the notion that the use of digital technologies contributes to increased effectiveness in the performance of their academic tasks, the greater the students’ motivation to use them [83].

Several authors [109–111] believe that students should understand the importance of creating a business plan based on their own business idea. Akpovororo et al. [105] and Dasgupta [110] reveal there is a significant relationship between business planning activities and entrepreneurial intention and its antecedents as it was found that the digital tool KABADA helps to perform these tasks.

6. Conclusions

In the latest scientific literature, consensus that EE has a positive effect on EI does not exist, so the approach of this study is to assess whether the use of a digital tool with an AI algorithm on EE affects students’ EI in the digital age, and whether this effect is stronger compared to traditional teaching, especially considering that students now represent Generation Z, which is heavily influenced by digital technologies.

This study contributes to the deepening of knowledge in the study of the effectiveness of modern EE, taking into account the processes of digital transformation. The research helps understand how to create and use digital tools and organize EE workshops to promote EI among students with diverse backgrounds. The results of the study are also useful for academics to explore the latest trends in digital transformation in HEIs, and the use of digital tools for business planning in EE workshops to increase the EI of students from different fields of study.

Universities, overwhelmed by technological advances and struggling to create and develop their digital transformation strategy to be more sustainable, are forced to address digital transformation and the use of AI in all areas, including EE. Since innovative teaching methods in EE are related to the use of digital tools with AI algorithms and big data analysis components, the authors have developed the digital tool KABADA for business planning.

The sample used in the empirical part of the study and the methodology of its analysis ensures representativeness and demonstrates its external validity so that it can be applied to a wider population, proving that the use of a digital tool is effective regardless of the chosen student audience.

This research allows for the conclusion that, in general, the use of a digital tool with built-in AI algorithms (on the example of the KABADA tool) in EE has a positive effect on the EI of Generation Z, and that the positive impact on EI of Generation Z is stronger when the workshop with the digital tool KABADA is applied, compared to the traditional workshop.

The results of the study did not reveal a statistically significant effect from the use of the digital tool KABADA in EE workshop on the knowledge of entrepreneurship and on the feeling of being inspired when imagining becoming an entrepreneur in Generation Z, compared to a traditional EE workshop.

A study of how subjective norms and behavior influence entrepreneurial intentions, and an in-depth study of the differences in the EE of Generation Z students of different regions and nationalities and the specifics of the factors influencing their EI are beyond the scope of the current research.

For further research, it would be important not only to study regional and national differences in the EI of Generation Z, but also to determine how the use of artificial-intelligence-specific functionalities within the EE process affect its results.

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