Transforming a Highly Tactile Entrepreneurship Course "Ideas to Innovation" to an Entirely Online Delivery Model: Lessons for Theory and Practice

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> People who regard themselves as highly efficacious act, think, and feel differently from those who perceive themselves as inefficacious. Self-percepts of efficacy thus contribute significantly to performance accomplishments rather than residing in the host organism simply as inert predictors of behaviors to come
> *Bandura (1984, p. 231)*

Abstract Recent changes in education due to COVID-19 required a shift from classroom to online delivery. This chapter illustrates how a highly complex training program, Ideas to Innovation (i2i), responded to this challenge. i2i is based on experiential learning including a variety of activities carried out both in large and small groups with the intention to raise delegates' entrepreneurial self-efficacy. In this case study, we illustrate the process by which the program was delivered online for the first time since its existence and how the online delivery of an entrepreneurial program contributed to participants raised level of entrepreneurial intent. We took a qualitative approach by conducting structured (written) and semi-structured interviews with participants. We triangulated the data with insights and reflections of the facilitators engaged in the online delivery. The findings indicate that even when i2i is delivered online, it raised participants' level of entrepreneurial intent. We also found that digital interaction and collaboration among participants and facilitators on various platforms promoted the development of an entrepreneurial mindset. By highlighting this change in delivery and design, we contribute to the ongoing debate

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R. Adams et al. (eds.), *Artificiality and Sustainability in Entrepreneurship*, FGF Studies in Small Business and Entrepreneurship,
https://doi.org/10.1007/978-3-031-11371-0_7

of digitally supported education for entrepreneurship and provide insights to redesign entrepreneurial training programs.

Keywords Entrepreneurship education · Entrepreneurship programme · Entrepreneurial self-efficacy · Entrepreneurial intention · Online learning

1 Introduction

Entrepreneurship is a significant behavior critical to economic and social development (Fayolle, 2018). Moreover, it might open "*the door to individual fulfilment, a feeling of freedom and gives room to consider personal aspirations, preferences, values, and objectives, whilst being the key to organizational and institutional transformation and regeneration*" (Fayolle, 2018, p. 8). Entrepreneurship also infuses a wide range of boundaries such as demographic, organizational, socio-economic, geographic, cultural, political, and others (Kuratko & Morris, 2018). Despite these positive outcomes of entrepreneurship, there is no one recipe, situation, or specific conditions that might make a successful entrepreneur (Pokidko et al., 2021). But neither is entrepreneurship an art, which is abstract, nor does success come only to gifted ones (Aulet et al., 2018; p. 4), meaning that entrepreneurship can be learned.

Entrepreneurship education is a relatively new discipline in comparison with law or medicine, finance, accounting, or organizational design (Aulet et al., 2018). The first entrepreneurship course was delivered in 1947 at Harvard Business School (Nabi et al., 2017). The course "New enterprises" was offered for returning veterans (Kauffman.org, 2013). Recently, entrepreneurship is one of the fastest-growing subjects in today's undergraduate (and graduate) curricula as pointed out by the Kauffman Foundation research report in 2008 (ibid.) with a mission to stimulate entrepreneurial thinking (Klofsten et al., 2021). Indeed, many universities provide majors, minors, certificates, and master's degrees, and some prestigious institutions offer PhD programs in the entrepreneurship domain (Kuratko & Morris, 2018). Moreover, entrepreneurial education programs can range from more theory-oriented to theory- and practice-oriented and cover a huge variety of pedagogical approaches.

Previous research on entrepreneurship education programs has focused mainly on a face-to-face format (Decker-Lange et al., 2020; Klofsten et al., 2021; Pokidko et al., 2021). Another line of research has analyzed the impact of entrepreneurship programs on participants' entrepreneurial self-efficacy (see a review by Newman et al. (2019)) or entrepreneurial education pedagogical methods and its effects on various impact indicators (a review by Nabi et al., 2017). However, due to the COVID-19 pandemic, entrepreneurial programs have been modified to online programs. Smith and Muldoon (2021) highlighted that COVID-19 infused challenges to entrepreneurial education that are more significant than in other business domains because entrepreneurial education is based on experiential education.

The online form poses many significant challenges, especially how to maintain attention and focus during the program. Being physically separated from all (group

of participants and educators), not only the type of delivery of entrepreneurship program is important, but some explicit instructions are essential as well. For instance, many students are reluctant to turn their cameras on (Romig & Alves, 2021), meaning that educators might be looking at the mix of blank and non-blank screens or only at blank screens, another aspect that participants cannot easily cultivate social relationships online with each other or with program educators that form intangible assets. Therefore, there is a need to have separate spaces for interactions and diverse social media platforms can substitute this need. All mentioned areas form the rationale for this chapter. The purpose of this chapter is to reveal lessons from taking a long-running entrepreneurship education called Enterprisers, originally designed as an intensive residential face-to-face course by faculty from the University of Cambridge and Massachusetts Institute of Technology (MIT). It was, in parallel, researched to understand and raise entrepreneurial self-efficacy among early-stage researchers. The current research set the context for entrepreneurial learning and teaching aimed at doctoral and postdoctoral level and reflect on the sudden pivot in delivery moving from a physical version to online delivery.

The current research might make an important contribution to the theory of planned behavior (TPB) (Ajzen, 2020) in the entrepreneurship education domain. These results provide empirical support that in emerging environments, there is a direct relationship between entrepreneurship program and entrepreneurship outcomes (entrepreneurship self-efficacy and entrepreneurship intention). Interestingly, the findings suggest that even a short sharp intervention such as an online i2i entrepreneurship program can have an influence on participants' entrepreneurship self-efficacy and entrepreneurial intentions. Finally, the understanding of traditional entrepreneurship education on entrepreneurship intentions remains limited, especially regarding issues such as the effect of education on participants' intentions and the effectiveness of various forms of education programs. Nevertheless, to our best knowledge, the current research is an exploratory and among the first attempts that alter our understanding of the effect of an online entrepreneurial education program on entrepreneurial outcomes (entrepreneurial self-efficacy and entrepreneurial intentions) during the COVID-19 period.

2 Literature Review

2.1 The Origins of Ideas to Innovation

Ideas to Innovation (i2i) was originally developed in 2002 as a bold experiment under the auspices of the Cambridge MIT Institute (CMI) to explore how the entrepreneurial spirit and innovative methods that had driven the success of MIT could be translated to UK universities. This original residential program aimed to develop entrepreneurial self-efficacy drawing on the psychological theories of Bandura (1977a, b, 1982, 1994). He put forward the theory that when people believe in themselves and their abilities, they are more likely to act. In colloquial terms this is

simply stated as "if you think you can do it—you are more likely to try." The ability of a previous i2i program (title—Enterprisers) to raise the level of self-efficacy has been researched and published by Barakat et al. (2014).

Originally called CMI Connections, the program aimed to bring graduates together to explore new opportunities. It had already been modified from an MIT course called LeaderShape—which was aimed at building leadership qualities among engineering students. It became apparent quite early on in the life of Connections that the real aim was to foster and nurture an entrepreneurial mindset and provide the skills to enable action. Hence, the founding team evolved the course and called it Enterprisers. And from a general course on mindsets and skill sets, the course has become much more focused to stimulate postgraduates to explore the practicalities of entrepreneurship. This evolution is now run as Ideas to Innovation (i2i) from the Bettany Centre for Entrepreneurship at Cranfield University. Through the support of the EU and Kaunas University of Technology (KTU), KEEN, the program, has now spread to Lithuania and the Baltic region with the leadership and support of Kaunas Technical University.

Ideas to Innovation (i2i) is aimed at doctoral and postdoctoral students to unlock entrepreneurial and creative potential on an individual level. The program also encourages researchers to consider the social and economic relevance of their research and to develop skills and knowledge to commercialize research outcomes.

The structure of the physical face-to-face residential program is based on the following four sets of learning outcomes. Each day has a strap like so that it is easy for participants to understand the overall objectives of the day and to create a "user-friendly" atmosphere.

The program covers 4 days, and each day represents one key element: Moi (Day 1), Ideation (Day 2), Nuts and Bolts (Day 3), and Crystal Ball (Day 4). The Moi represents participants' motivations, values, and context. The second "Ideation" covers working with people to generate ideas. The third "Nuts and Bolts" indicates the essentials of making things happen. The fourth element "Crystal Ball" denotes making a statement and looking forward. There is a flow to the way the program is run as indicated in Fig. 1.

Day 1 *Moi* places the emphasis on understanding one's self and personal motivation, goals, values, and purpose. Putting it in the context of entrepreneurship if one is going to do something entrepreneurial, one needs to think big and beyond self. To support this development, the day ends with a cultural simulation.

Day 2 *Ideation* supports participants with the understanding of what an entrepreneur is and the creative process in which an idea emerges from. The aim is to introduce creative tools for participants and provide them with enjoyable experience and confidence in spotting and developing ideas for entrepreneurship.

Day 3 *Nuts and Bolts* explores the different ways to success including challenges along the entrepreneurial journey such as leadership, building teams, and acquisition of resources. The program also invites entrepreneurs to share their stories, emphasizing both successes and failures. Through this activity we provide a vicarious learning from role models. This is followed by informal networking

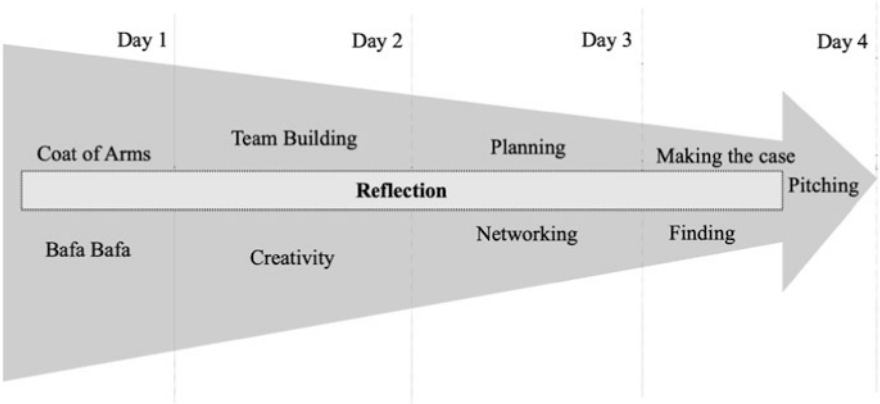

Fig. 1 Schematic of the 4-day residential model of i2i

where participants get to meet experienced entrepreneurs, professional service advisors, and industrialists and practice networking and presenting their ideas.

Day 4 *Crystal Ball* equips participants with the art of pitching and looks at how participants can maintain motivation and sustain their ideas and celebrate the experience. Creating a safe environment enables participants to become more open about their work and idea leading to meaningful conversations. The program adopts a light touch to activities and creates a fun atmosphere and nurtures a creative mindset.

In addition to introducing the delegates to the set of hard technical skills required for business venturing (e.g., budgeting, marketing, accounting), the program also promotes development of adequate entrepreneurial self-belief through experiential learning, opportunities to engage in entrepreneurial practice, information acquired from tutors and mentors, and the opportunities for participants to gauge their own entrepreneurial capabilities in a risk-free environment.

Reflection plays a crucial role in the training. Consistent with Cattaneo and Motta (2021), the experience of diverse activities during the entrepreneurship program is not enough; participants should need to reflect on their experiences. As Cattaneo and Motta (2021) argued, "reflection leads such transformation" (p. 186). Hence, every day of the training covers a specific time dedicated to reflection, either in small or large groups.

Within the overall flow, the physical residential program includes diverse activities (see Table 1) that keep the participants fully engaged. The 4 days are supported by periods of quiet time to enable the participants to reflect on their learning, about themselves, their ideas, and their own interactions with the other participants. A recent timetable of the residential model is provided in Table 1.

These learning elements that help to make this program impactful at an individual level are highly diverse and interactive. There are no pre-reading requirements as this

Table 1 A detailed program of the i2i

	Day 1	Day 2	Day 3	Day 4
8:45		Daily briefing	Daily briefing	Daily briefing
9:00	Registrations	Team roles activity	Market need and customer value proposition	Pitching
9:30				
10:00				
10:30		**Break**	**Break**	**Break**
11:00	Welcome and introductions	Debrief Belbin team roles	Big picture of your idea	Pitching to panel
11:30				
12:00		Setting up creativity process	Funding your first year	
12:30	**Lunch**	**Lunch**		**Lunch**
13:00			**Lunch**	
13:30	Getting to know you	Creativity—where are the opportunities?		Keeping the dream alive
14:00			Networking and pitching skills	
14:30				
15:00	**Break**	**Pit stop**	**Pit stop**	**Pit stop and departures**
15:30	Selecting the i2i journey	Creativity – towards an opportunity	Entrepreneurs' panel	
16:00	Your research impact			
16:30				
17:00		Pitch you opportunity	**Break and get ready**	
17:30	Reflections	Reflections		
18:00	**Break**	**Break**	Meeting with entrepreneurs and industry	
18:30	Dinner	Dinner		
19:00				
19:30	BaFa BaFa	Refine your ideas	Networking – building connections	
21:00	Selecting your projects			

is about being in the moment and taking action. The process switches between a plenary session when the large group may get some insights, talks, and instructions on what is required next and the small group-facilitated sessions, often with two facilitators co-hosting the discussions.

Physical Delivery The benefits of having face-to-face interactions and being "in the moment" are major benefits of a physical program. The informal breakouts, eating together, and joining in personal conversations are all side benefits that add value to the program.

The downside is that the program organizers ask delegates to give up **four** intensive days; travel and perhaps live away from family. And of course, the cost of hosting anywhere between 50 and 80 people is nontrivial. Therefore, achieving similar outcomes with shifting the program to an online mode could have been considered as a matter for a theoretical discussion just a while ago. However, it

became an empirical question with the introduction of social distancing and travel restrictions related to the COVID-19 challenge globally.

Online Delivery With all the changes around travel restrictions and social distancing being introduced, the educators were unsure how the loss of the tactile nature of learning method would impact on individuals and how to keep participants engaged and how to animate creativity sessions that were designed for face-to-face interaction. All the various technologies for remote working exist (e.g., Zoom, Microsoft Teams), but no one in the organization team had any prior experience of this method, so there was a steep learning curve for all. Liguori et al. (2021) have highlighted that the complex nature of learning objectives in entrepreneurial curricula becomes ever more complicated and challenging when delivered online. For instance, the main challenge might be to create an "experiential" classroom because many entrepreneurial programs are experiential in nature. Thus, the elements of entrepreneurship programs such as coworking environments, incubators, or other supporting physical infrastructure are not easily transferable to an online environment. Indeed, the results from tutors in the USA have indicated that the majority of tutors cannot maintain the same level of experiential learning in an online environment (Liguori et al., 2021). Hence, the main challenges appeared to be decreased direct interactions with students, network opportunities, logistical issues, etc. (Liguori et al., 2021). Meanwhile, Liguori and Winkler (2020) have suggested that while teaching entrepreneurship basics may be suited to teaching online, encouraging an entrepreneurial mindset might require nontraditional and even new approaches to online education. Specifically, the online format challenges entrepreneurship educators to remain agile and innovative throughout program delivery (Liguori & Winkler, 2020).

Bearing in mind the issues raised by scholars such as Liguori et al. and realizing that there were elements of the timetable that simply could not be delivered online, the design was changed to a 3-day model, down from 4 days.

2.2 Online Version

The **3-day program** offered activities for participants through rich discussions within large group sessions and small group activities with facilitators. Facilitators were recruited on the basis that each group needed an experienced facilitator and was accompanied by a new facilitator, thus growing the number of facilitators over time.

A key element to the change that had to be made was to move from the very tactile creativity sessions run in the residential model to using a collaboration online platform called Mural to enable brainstorming and creative activity and provide a shared space for participants (e.g., the business model framework development activity).

Day 1 is designed to reflect on delegates' personal values and motivation using the coat of arms activity applying creativity through the art of reflection. The main aim is to create a safe environment for participants by allowing time for personal

interaction and self-expression. Participants also had the opportunity to revisit their individual research and discuss the potential impact of their individual work on society and the environment. By delivering short focused sessions, the participants retained their attention to focus on the task and to express their ideas in a creative way.

Day 2 continued with the quick pace of activities to focus on the attributes and advantages of the ideas and to equip participants with the skills to carry out rapid evaluation of the market. We applied an interactive creativity session using blended visual and communication tools. Participants were introduced to the basics of business and how to apply it to their academic research. Through continuous short pitching activities, and changing the pace and focus of the activities, participants' attention was maintained throughout the day.

Day 3 The program supports the development of both soft skills for articulating an idea and business skills to increase participants' level of confidence in approaching an idea or research outcome by identifying key resources that are required to build a business case. To ensure that each participant received feedback, the program seeks to ensure that everyone has the opportunity to practice the art of pitching both on a one-to-one basis and to a big group.

2.3 The Impact of Entrepreneurial Education Programs

Countries wishing to grow and develop particularly recognize entrepreneurship as an imperative (Dias & McDermott, 2006). Across the free market economy, entrepreneurship is a significant source of innovation and a vital means to increase efficiency in resource allocation (Acs et al., 2014; Wong et al., 2005). In many societies, the desire to encourage university students into entrepreneurs is shared among policymakers and participants in higher education, including students themselves (Béchard & Grégoire, 2005; Dickson et al., 2008; Sanchez, 2013). However, business and entrepreneurship education has been shown to have little (Bae et al., 2014; Rideout & Gray, 2013) or in some cases even an adverse effect (Fayolle & Gailly, 2015) on an individual's entrepreneurial intentions. However, with the application of multidimensional tools for measuring entrepreneurial self-efficacy (McGee et al., 2009), it is established that entrepreneurial programs which address particular points in their curricula might have a different impact on students' perceived aptitude for entrepreneurship (Barakat et al., 2014).

Contemporary understanding of individuals' entrepreneurial intentions and predispositions to engage in entrepreneurship focuses on two broad sets of antecedents—personality traits (Carland et al., 1988; Nicolaou et al., 2008) and behaviors (Davidsson, 2006; Gartner, 1988). With rare exceptions (Lerner et al., 2018), scholars agree that entrepreneurial behaviors are neither spontaneous nor impulsive but represent an example of intentional (planned) behaviors that are influenced by situation and context. Extant research in the entrepreneurship field demonstrates that cognition- and intent-based models reflect the multifaceted antecedents for

perception-driven entrepreneurial behaviors (Van Gelderen et al., 2015; Kautonen et al., 2015; Krueger, 1993). The seminal conceptualization of the intentional entrepreneurial event model (EEM) from Shapero and Sokol (1982) claims that decisions for entrepreneurial behavior stem from attitudes—perceived desirability and feasibility. Later on Krueger (1993) suggested that these constructs in the EEM correspond to the attitudes, and the perceived behavioral control concepts explained the theory of planned behavior (TPB) (Ajzen, 1991), which is a well-referred intent model in social psychology. With the development of research on this framework, several scholars (Armitage & Conner, 2001) proposed that the control and feasibility elements in intentionality models can be sufficiently explained with the self-efficacy (Bandura, 1994) construct. Self-efficacy is a concept of the social learning theory (Bandura, 1977a, 1977b) that refers to an individual's self-perception of their own capabilities in performing specific tasks. There are four main ways in which individuals can develop their self-efficacy: first, by judging their own physiological and psychological state; second, by vicarious learning; third, by complying to social persuasion; and, fourth, by assessing their own performance in previous experience (Bandura, 1982).

Despite long-standing critique on business education in general (Datar et al., 2011; Rubin & Dierdorff, 2013) and its implications for entrepreneurship (Greer, 2010), substantial body of evidence (Béchard & Grégoire, 2005; Sanchez, 2013) indicates that entrepreneurial training delivered in business schools promotes students attitudes toward business venturing (Fayolle & Gailly, 2015) and enhances their general fitness for the entrepreneurial tasks (Åstebro & Thompson, 2011; Lazear, 2004). Also, individuals attending university programs outside of business schools are exposed to and can benefit from universities' close links to entrepreneurial ecosystems when they are engaged in making sense of possible future career developments and career changes (Rasmussen & Borch, 2010; Shane, 2004). Particularly the economic benefits of business venturing in universities can be expected in the case when researchers and doctorate students engage in entrepreneurial projects that involve commercialization of academic knowledge (Agarwal & Shah, 2014; Mosey et al., 2007; Ward & Ward, 2009). Those academic entrepreneurship projects can result in the patenting or licensing of research outcomes. To address the gap in the entrepreneurial skills among researchers and doctorate students outside business schools (Karlsson & Wigren, 2012), universities designed initiatives and projects that include short-term trainings in business-related disciplines offered to PhD students and academics whose research projects can be considered for commercialization (Atkinson & Pelfrey, 2010; Huyghe & Knockaert, 2015). Particularly popular proved to be programs designed with the application of Kolb's principles of experiential learning in teaching entrepreneurship skills (Kim & Fish, 2010; Taylor & Thorpe, 2004). These programs include lecture-like sessions interchanged with various practical activities followed by mentorship support from tutors and facilitators.

2.4 Measuring the Impact of Entrepreneurial Education Programs

A literature review on types of impact of entrepreneurial education reveals that the majority of studies have focused on a positive link between entrepreneurship education programs and subjective (e.g., personal change) and objective (e.g., business start-up activity) impact indicators (Nabi et al., 2017). Thus, the list of indicators can involve five levels: (1) current and going measures of the entrepreneurship program (e.g., interest and awareness), (2) pre-and post-program measures (i.e., knowledge, entrepreneurial intentions), (3) measures between 0 and 5 years post-program (e.g., number and type of start-ups), (4) 3–10 years post-program (e.g., survival of start-ups), and (5) 10 years plus post-program (e.g., contribution to society and economy) (Nabi et al., 2017).

Regarding the experiential nature of "i2i," the most common impact on participants might be entrepreneurial intentions based on Nabi et al. (2017), although the literature presents various ways to **measure entrepreneurial self-efficacy** (see more Newman et al., 2019). Meanwhile, the most widely used measurement contains four dimensions: searching, planning, marshaling, and implementing (McGee et al., 2009; Murugesan & Jayavelu, 2017; Newman et al., 2019). Those items measure individuals' perceived competencies in various entrepreneurial tasks (Murugesan & Jayavelu, 2017). For instance, the most recent study by Wei et al. (2020) has adopted only four items to measure entrepreneurial self-efficacy.

Meanwhile, a study by Santos and Liguori (2019) used ten items from McGee et al. (2009) scale that involves three entrepreneurial tasks: searching, planning, and marshaling. The most recent study by Wei et al. (2020) uses the entrepreneurial self-efficacy scale accompanied with 19 items, which are composed of 4 dimensions such as opportunity recognition efficacy, relationship efficacy, management efficacy, and risk tolerance efficacy. The opportunity recognition dimension contains four items, while the latter dimensions are accompanied with five items. The full scale is presented in Appendix 1 (see the second page).

2.5 Conceptual Framework Development

As shown in Fig. 2, the proposed conceptual framework is organized in the following manner. First, the original entrepreneurship i2i program (content and delivery format) was created and developed. Second, the entrepreneurship outcomes of the impact of entrepreneurship education program are adopted from Newman et al. (2019) and cover entrepreneurship self-efficacy and entrepreneurship intention. Third, the relationship between entrepreneurship outcomes on participants and the entrepreneurship i2i program is explained based on the TPB theory and self-efficacy by Bandura (1977a, b, 1982, 1994).

The TPB has been used intensively in research to explain and predict behavior in a multitude of behavioral domains (Ajzen, 1991, 2005, 2020), from physical activity

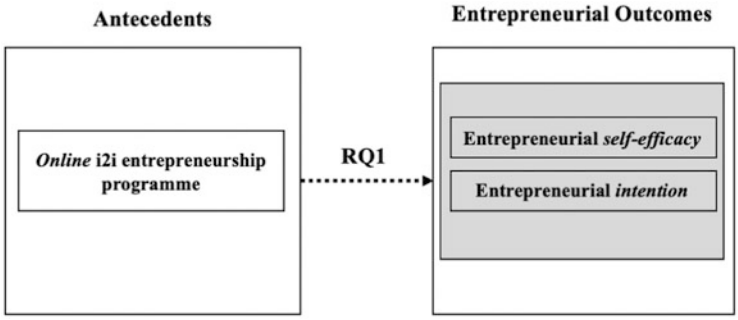

Fig. 2 The conceptual framework

to entrepreneurship. Meanwhile, the intention is determined by three factors: (1) attitude toward the behavior; (2) subjective norm; and (3) perceived control or self-efficacy (Tornikoski & Maalaoui, 2019). Specifically, the TPB has become influential in the entrepreneurship research domain during the past decade. It suggests that the entrepreneurial behavior is "*determined by the entrepreneurial intentions, which are themselves determined by three antecedents: (1) attitude towards starting-up; (2) subjective norm; and (3) perceived behavioral control*" (p. 508). Thus, recently, Ajzen (2020) has highlighted that TPB "*starts with an explicit definition of the behavior of interest in terms of its target, the action involved, the context in which it occurs, and the time frame*" (p. 314).

Based on this discussion, the relationship between online i2i entrepreneurship education and outcomes is grounded/framed by TPB theory and self-efficacy by Bandura (1977a, 1977b, 1982, 1994). Therefore, the online i2i program' (content and delivery format) is considered as an antecedent for entrepreneurial outcomes (entrepreneurial self-efficacy and entrepreneurial intention). Regarding the experiential nature of the *online* entrepreneurship program i2i, it covers more than 20 activities. The proposed model is presented in Fig. 2.

Consistent with results on a previous entrepreneurship i2i program (title—Enterprises) in face-to-face setting, the level of self-efficacy can be raised through the program (Barakat et al., 2014). In a similar vein, another research with secondary school students has shown that entrepreneurial training programs can enhance overall entrepreneurial outcomes (i.e., entrepreneurial self-efficacy and entrepreneurial alertness[1]).

Based on the discussion above, the impact of the experiential online i2i entrepreneurship program on participants includes two entrepreneurial outcomes: entrepreneurial self-efficacy and entrepreneurship intention. Taking together, the i2i online

[1] Alertness indicates an "opportunity" in entrepreneurship (Tang et al., 2012). The literature provides several approaches on entrepreneurship alertness either opportunities are discovered or they are created or even can cover three areas such as opportunity recognition, opportunity discovery, and opportunity creation (ibid.). Consistent with Tang et al. (2012), entrepreneurship alertness covers two areas such as opportunity discovery and creation.

program can alter entrepreneurial self-efficacy and lead to entrepreneurship intention. Hence, the research question is formulated:

RQ1 *What kind of outcomes (*i.e., *entrepreneurial self-efficacy, entrepreneurial intention) do impact the online entrepreneurship program i2i on participants?*

3 Methods

3.1 Research Approach

Based on research question, a qualitative research approach was applied. A single-case method was used. The case study enables us to a research answer "What" question and make an in-depth analysis of the phenomenon. Consistent with Chu and Ke (2017), the methodology is developed and shown in Table 2.

3.2 Data Collection

The data are collected through two types of interviews—structured written interviews with participants who attended the online program and semi-structured interviews with facilitators/tutors. Thus, written interviews for i2i delegates were collected via email. Some clarifications were organized through emails, social media (Facebook, WhatsApp), and telephone calls.

The interview guide for i2i program's participants was prepared based on the literature review (Table 8, Questionnaire; Appendix 1). Meanwhile, a protocol of semi-structured interviews for facilitators is available (Table 9; Appendix 2). The full picture of facilitators is provided in Table 10 (Appendix 3).

Participants consisted of doctoral students and postdocs from Lithuania. Consistent with Melyoki and Gielnik (2020), this research has applied a random approach to select research participants after i2i online training. All interviews were conducted in English. Consistent with Gadeikienė et al. (2021), the main criterion to finishing

Table 2 Research strategy and data collection methods

Research strategy	Data collection method	Data type/ context	Sample size sample	Date of data collection/period
Qualitative	Structured written interviews	Primary data	i2i participants[a]	May to June 2021
	Semi-structured interview	Primary data	i2i facilitators[b]	23–24 June on Zoom

[a]The number of delegates was nine. Two respondents did not answer all questions
[b]Two facilitators were involved. The analyzed period did not cover the full activity of group, but only the activity of 3 days

data collection was down to the researchers' decision whether new interviewees provide any new information toward the investigated phenomenon. The collected data represented the appropriate level of qualitative data that is sufficient for this case.

3.3 Data Analysis

To analyze the data of both interviews, a qualitative content analysis (thematic analysis) was applied. The coding process was carried out manually by assigning keywords, grouping codes, highlighting quotes, and then establishing themes from the codes. The coding process responses were carried out manually by assigning keywords, grouping codes, and highlighting quotes.

Tables 11, 12, 13, 14, and 15 present codes and the descriptions for Q4, Q5, Q6 (Appendix 4–6), and Q9–Q10 (Appendix 8) questions. Table 15 includes codes of the Q8 (see the first column). For the quantitative data (Q7), descriptive analysis was performed with SPSS.

The average duration of both facilitator's interviews was around 60 minutes (60 min 6 s) (FAS_01 = 54.03 min., FAS_02 = 67.17 min). Notably, the audio recordings were transcribed using the automatic transcription software "Happy Scribe" which has been widely used in previous research (Gadeikienė et al., 2021). In total, both files covered 19.529 words and 47 pages (FAS_01 = 7405 words; 17 pages, FAS_02 = 12,124 words; 30 pages).

4 Results

4.1 Main Results of Facilitator Interviews

Regarding facilitation experience with i2i programs, facilitator (FAS_01) has highlighted that she had "two times on-site and sometimes I think it was now online, I was like this. So altogether <...> four times." In a similar vein, another facilitator (FAS_02) has mentioned that she started to facilitate entrepreneurial programs in 2012, and the number of times is over ten times. Specifically, the i2i program was facilitated together with program co-founders entailed "<...> *anywhere between five and seven*" (FAS_02). Moreover, both facilitators have mentioned that they facilitate different formats of i2i (e.g., online, on-site). Table 3 summarizes the results of the data analysis of question related to facilitation experience in i2i program.

Table 3 Sample structure

Interviewee code	Demographic characteristics (i.e., gender)	Facilitator experience in i2i programs	Format of i2i programs
FAS_01	Female	4 times	Online, on-site
FAS_02	Female	~5–7 times	Online, on-site

4.1.1 i2i Online Program Content and Delivery

Regarding the length of the i2i program, both facilitators have argued that it was very intensive program. Nerveless, both on-site and online i2i programs always are structured in a very intensive way. Indeed, the online program was "*designed* [for three days] <. . .> *we had to think about this* <. . .>*And four days is good, but four days in a row already with online was difficult*" (FAS_02) to implement it. As facilitator has described the part of an agenda: "*the first day is very much about like introduction* <. . .> [and] *all about the team.* <. . .>*the second day* <. . .> [entails] *deep conversations and deep topics*" (FAS_01). Specifically, the second day covered various sessions such as a session about participants' research ideas, creativity, and opportunities to pitch and an interactive session with entrepreneurs. The final day was dedicated to the business model canvas, cash flow, and final preparation and pitching to the panel.

It is important to note that one of the facilitators has explained how the i2i online program was tailored to the potential needs of participants. As facilitator has explained that "<. . .> *everyone was a bit exhausted from quite intense first lockdown. Everything was on Zoom*" (FAS_02). Therefore, according to both facilitators' answers, some activities of i2i were removed (or shortened) from the i2i program because it was difficult to run online and, thus, required more time. For instance, the facilitator has mentioned the coat of arms activity (it entails personal values, strengths, life's motto, etc.) that it "*is absolutely a wonderful experience and I absolutely love it* <. . .> [but] *we might have needed a little bit more time*" (FAS_01) for that.

The program was designed to satisfy various participants' needs and, thus, took into account the **context very carefully** (i.e., online format). As facilitator noted that "<. . .>*we know that we need to cater for people who are introverted as well as extroverts*<. . .> *there's some time to have your personal space*"(FAS_02). Regarding the structure of a program, facilitator has highlighted that it was "<. . .>*very structured and very kind of precise*" (FAS_01). Additionally, **new activities** were added to the program, such as the cultural quiz which was adapted for the online version. A facilitator has mentioned that they "*decided to do a cultural quiz race. But during the full workshop [on-site i2i program], this is sort of a three-hour game* <. . .>. *We replace it with one-hour elements,* <. . .> *that was missing a little bit in the overall contents of the online [versus] eye to eye. But* <. . .>*I don't think we missed the impacts that we still thought we still gave*" (FAS_02).

The online i2i program involved a limited number of breaks (e.g., coffee break, lunch). The main reason was to gain participants' attention to the content and boost

their motivation level. As facilitator noted, "<...> *forty-five minutes and then you need a break. It's kind of like normally what the brain is capable to do.* <...>*You cannot do it differently, you cannot have too many breaks because then the people are kind of like drift off and losing the kind of, like, motivation* <...>" (FAS_01). In a similar vein, another facilitator has highlighted the importance of activities during the break that enables participants to relax mentally. For instance, activities can cover "<...> *passive or yoga, music or whatever* <...>" (FAS_02). Notably, based on data, additional breaks were organized in small rooms (i.e., break rooms) based on the situation.

Both facilitators have agreed on the importance of digital collaboration platforms such as a Mural.co where it was used to support i2i activities. The Mural platform provides a digital space where all participants can collaborate visually. As an example of facilitator's expression "<...>we had this big mural <...> where everybody was writing things and what they [participants] expected. <...> [it] *worked quite well, actually. I was surprised you could see all these* <...>*like zooming around and typing things*" (FAS_02). Additionally, a cash flow activity was organized on Mural.co platform.

In summary, facilitators have highlighted that the program was applied to an online context very carefully, and some new activities were offered for participants. Meanwhile, the time frame for some tasks was scheduled too short for participants, and it might be explained that the online environment requires some extra time from participants to understand a task and then work on it. Finally, the right amount of breaks should be designed in the program because participants should relax mentally from diverse digital platforms and return to activities with a fresh mind.

4.2 Main Results of i2i Participant Interviews

4.2.1 Demographic Profile Characteristics

In total, nine participants (42.85% from the full training) have finished a questionnaire. The sample contained a larger number of female participants (7; 77.77%). The average age was below 33 (M = 32.77) years old. The majority of participants (5; 55.55%) hold a PhD in various domains (e.g., chemical engineering, psychological and behavioral science, material science, psychiatry, pharmacy, mechanical engineering). Meanwhile, other participants had a master's degree, and one participant was involved in PhD studies.

Only three participants had a business background within the family (3; 33.33%), such as a self-employed mother or entrepreneur father and brothers. Specifically, one participant's family members were researchers and have recently started to run their business based on research. Interestingly, the majority of participants had no formal business education (6; 66.66%), while the other 3 participants had MBA and/or master's degree in management, informational technologies, and service management and practical experience in business over 10 years.

Table 4 Entrepreneurial experience of participants (Q4)

Types of experience	Explanation
Entrepreneurial experience/knowledge	Participant 1: "[. . .] I'ye recently co-founded a tech company, we're at the stage of validating the technology at a commercially relevant scale"
Working experience	Participant 2: "[. . .] *public and social sector initiatives and consulting*" Participant 4: "[. . .] I have experience with social initiatives" Participant 6: "[. . .] directly related with brands and business development. Also, from 2015, I am marketing consultant and [provide] consultations for startups and SMEs <. . .> it covers business strategies, marketing and communication strategies, green business development topics" Participant 8: "[. . .] I worked in the private sector briefly. After that, I entered PhD studies. I am currently involved in various projects which are not only scientific <. . .>"
Education	Participant 1: "[. . .] I'ye taken several short university courses on innovation and entrepreneurhip <.. > several courses on social entrepreneurship <. . .>" Participant 4: "[. . .] I participated in few seminars and workshops about entrepreneurship <. . .>"
Other	Participant 9: "[. . .] I did have an idea on how and where to start because my family member has a small company"

As for the entrepreneurial experience, there were identified diverse types of experience such as prior (or even current) entrepreneurial experience, entrepreneurial knowledge as a result of prior experience and education, and work experience in business or/and in the public sector. Therefore, it seems reasonable to distinguish entrepreneurial experience into entrepreneurial experience/knowledge, working experience, education, and others (Table 4). The latter represents participants' observations of their family member in their family circle. The results indicated that the majority of participants have working experience in the private sector, followed by some participants who had entrepreneurial knowledge from various education courses. Notably, only one participant has revealed entrepreneurial experience.

4.2.2 Confidence in Own Abilities to Solve Problems Related to a Business Idea

In this case, confidence explains how individuals feel about their abilities to solve problems related to a business idea. The results indicated that almost all i2i participants demonstrate high self-confidence (see Table 5). Additionally, some participants highlighted that their team plays an important role in solving various problems. Only a few participants expressed their doubts about specific knowledge of an area (i.e., marketing) or low personal efforts for idea development.

Table 5 Confidence in Own Abilities to Solve Problems Related to a Business Idea (Q5)

Confidence types	Explanation
High self-confidence	Participant 1: "[...] I am very conscious of the uncertainties surrounding tech R&D and the overall high risk of failure, I do not permit myself to get caught up in analysis paralysis. <...>" Participant 2: "[...] I believe I can solve problems related to my business idea, especially those that are more technical and on the implementation side <...>" Participant 5: "[...]I have scientific background needed for developing new products. Also, as a PhD student I have developed many professional competences that would help in business" Participant 6: "[...] I feel confident as I had variety of business issues situation during my work experience" Participant 7: "[...] The confidence level is [related to] the idea and the content of the idea <...>" Participant 8: "[...] I have competencies in selecting active compounds for products <...>. After doing a lot of research, I have experience in developing production technology and conducting research. My knowledge and skills are related to product development <.. > " Participant 9: "[...] I strongly believe I am capable to find scientific solutions to problems related to my business idea and I am fairly certain that I would be able to "sell" the solution <.. > "
Low confidence or self-doubt	Participant 3: "[...]I am not sure that for my idea I will have support from society and business. My doubts are the reason why I am not working hard with my ideas" Participant 7: "[...] I don't have much [knowledge] in development business idea, marketing areas"
Confidence in team	Participant 1: "[...] I am happy to have a team of diverse experts by my side <.. > . "
Other	Participant 4: "[...] I need to have a team, who will believe in my idea and then all problems will be solved" Participant 9: "[...] I do feel some uncertainties related to team—It might prove to be difficult to persuade certain specialists to join"

4.3 Effect of Online i2i Program on Entrepreneurial Outcomes: Self-Efficacy and Intention

Self-Efficacy Scale (Q7) The data shows in Fig. 3 that the average values of four dimensions rated by participants (opportunity recognition, relationship, management, risk tolerance) are pretty similar and vary from 5.08 to 5.53. Interestingly, the relationship dimension received the highest value – 5.53 – followed by the risk tolerance dimension (5.44). Meanwhile, the average values of opportunity recognition (5.19) and management dimensions (5.08) are almost equal and smaller than previous ones.

Regarding individual values (see Fig. 3), the data indicates that almost all participants recognize opportunities equally (the average values are above 4.5). Notably, the relation dimension values among participants are higher and are above 5, but

Fig. 3 The average values of four entrepreneurial self-efficacy dimensions (opportunity recognition, relationship, management, risk tolerance) based on Wei et al. (2020) ($N = 9$)

only one participant had the lowest average value (4.2). The management dimension also received relatively high average values (above 4.6). Interestingly, the majority of participants have indicated that they do manage risks (the average values are above 5.2), except for two participants (see Fig. 3). In sum, the results suggest that the online **i2i program has raised the participants'** entrepreneurial self-efficacy.

Entrepreneurial intention The majority of participants have mentioned that they were saving money (see Table 15; Appendix 9). Only one participant mentioned that he/she was trying to seek funding for a new venture. Four participants (4; 44.44%) did not save money. Moreover, two of them mentioned that they were investing.

4.3.1 Intention to Start a New Venture

Interestingly, almost all participants (7;77.77%) have argued that they would expect to start their own business in the near future (Table 6). More specifically, few participants have already started it. Only one participant was not thinking about his own venture, and one participant was not sure about it all. As the participant wrote "not very likely," but if the conditions would change, then the participant has argued that "<I would definitely consider it and try to create new projects <.. > " (Participant 2). In sum, the results showed that the majority of respondents were interested in their own ventures. Specifically, these results were aligned with self-efficacy values (see discussion above).

Table 6 Participant intention to start a new venture (Q8)

Intention to start a new venture	Explanation
Positive intention	Participant 1: "[...] I believe that I will be co-founding at least one more entrepreneurial venture <...>. Today, I'd place the probability at 75%" Participant 4: "[...] I have a plan to start my own business" Participant 5: "[...] I have established a start-up company and I hope to make a successful business in the next 5 years" Participant 6: "[...] 100% <...>I see myself as developing individual/custom projects and business ideas (as external consultant) related to my product I am creating at the moment" Participant 7: "[...] Very likely, I have started my venture <...> I am working already" Participant 8: "[...] I have thoughts on starting spin-off business" Participant 9: "[...] Most likely the work will be continued in the current family company, however there is a possibility that I will start my own venture. That would happen in case if the current plans will not be successful. The probability <...>~40%."
Not clear intention	Participant 3: "[...] Maybe, I am not sure <.. > I will look for a new one"

Table 7 Learning practices about a new venture (Q10)

Learning practices about a new venture	Explanation
Learning about a new venture *intensively*	Participant 1: "[...] I am constantly learning about new ventures and try to keep up to date with the field of entrepreneurship" Participant 5: "[...] after finishing i2i program I have participated in a longer and more specific course [life science] <...>" Participant 6: "[...] That why I am [doing] PhD" Participant 7: "[...] 1/7 of my time mostly on my weekends" Participant 8: "[...] In recent years, my home library has been replenished with businessmen biographies and business books. I listen to podcasts and tutorials on this topic"
Learning about a new venture *scarcely*	Participant 2: "[...] Not so much <.. > " Participant 4: "[...] At this moment not so much"
Other	Participant 9: "[...] Currently review of existing technologies and scientific research is being done. Also the prototype is being created and tested"

Note. Participant 3 expressed "Yes" for learning about a new venture but did not specify

Regarding learning about new ventures, most participants highlighted what they were doing, but their practices were different (Table 7). For instance, one participant was doing a PhD that helps to develop a business idea further. Meanwhile, one participant joined a specific course that was directly related to a business idea (e.g., life science domain) after the i2i entrepreneurship program. Furthermore, diverse types of sources were mentioned by participants, including books, podcasts,

and tutorials/courses. All these participants' answers showed that they were motivated to keep moving forward after the program and their intentions were manifested in a variety of ways.

Regarding the question that the i2i online program affects their **awareness to start a new venture**, most participants have noted that the online i2i program did impact their attitude toward new venture or enhanced their confidence level to think about it. For instance, one has noted that the live session with entrepreneurs has made an impact on decisions: "<...> *other [entrepreneurs] motivated me, and I started to think about my own business*" (Participant 04), while others have mentioned the positive impact of the online i2i program on new venture ideas "*i2i course certainly encouraged me to start a new venture* <...>" (Participant 09). Regarding the level of confidence, one participant has mentioned that "<...>*the positive feedback of other participants, lecturers and organizers encouraged and made me more confident*" (Participant 05). Additionally, one participant had self-doubts and has a business idea but still lacks the courage to take actions due to the lack of experience. Meanwhile, three participants were already made a decision about a new venture or wanted before the i2i course was organized.

Actions/Resources The next question was about what steps are needed to start a new venture. The delegates have highlighted diverse types of resources such as **specific knowledge, human resources, physical resources** (e.g., specific equipment), and **financial resources** (e.g., financial grants, personal finance). Several quotes support this: *"<...>I figured out what kind of people and things I need and I started to search for the right people" (Participant 4); "There is a lack of lab equipment in local market <...>*" (Participant 06) and "*I just need more money for the start <...>*" (Participant 09). The importance of knowledge has also been acknowledged *"<...> I have been learning about lean non-profits and social enterprises <...> I've been selected to <...> program <...>*."

5 Conclusions

The i2i program is designed to employ an experiential approach to entrepreneurship education. The program covers a variety of activities that include both large group (e.g., the spirit of an enterprise) and small group activities (e.g., understanding team role). The relationships between antecedents of entrepreneurial self-efficacy and entrepreneurial self-efficacy and entrepreneurial self-efficacy and entrepreneurial intentions were explored. The data about the online i2i was collected through two types of interviews – semi-structured interviews with facilitators/tutors and structured written interviews with online i2i participants.

The results of facilitators' interviews have highlighted the importance of tailored content to the online environment and its variety (activities). It was also highlighted

that the i2i content was tailored to the online format carefully and might satisfy various participant types and their needs, including introverts and extroverts. Importantly, the program's structure for online version i2i involved new activities that helped to maintain participants' attention and interest in the content. The analyzed program involved a virtual cultural quiz which was run for social interactions. Also, digital collaboration platforms such as Mural.co played a key role for participants' engagement within a specific activity, but the duration of activities (i.e., a cash flow) on the platform should be considered. The results show that not all participants can make a task for a shorter time.

Our findings reveal that the online i2i program equally enhances participants' entrepreneurship knowledge and boost their motivation to start their ventures. Also, the main results support those various activities of online i2i entrepreneurial program (e.g., successful entrepreneurs and mentors) supported with digital collaboration, and communication platforms can be a precursor or even a catalyst to enhance entrepreneurial intentions (i.e., to start their venture). Nevertheless, the results indicate that almost all i2i participants raised their level of self-confidence. Online pitching training has been identified as a key practical skill that is transferable to future experiences of presenting to a larger audience.

From a learning perspective, it would appear that the same overall content can be delivered online as in face to face as long as there are supporting tools and not just giving talks online. The supporting tools in this case included collaboration platforms, quizzes, ongoing events beyond the short 3-day program, and a final deliverable task set for the participants. It also relied heavily on the facilitators' role being transferable from the face to face to the online version, and it appears that the main element that held it altogether was the shared set of values and a common purpose of raising self-efficacy alongside entrepreneurial intent.

From a practical perspective, the main lessons are that the delivery team has to do a lot more preparation because the participants are either on or off—not just round the corner at a coffee break or lunch. To maintain the social interactions to build trust and empathy and not turn the whole enterprise into a task delivery remains the main challenge to this type of training and general intervention. We have a long way to go yet to better understand how this can be developed.

6 Theoretical Implications

This research has several theoretical implications. Its novelty is that the current research investigates the relationship between entrepreneurship program i2i on participants' entrepreneurship self-efficacy and entrepreneurial intentions. Meanwhile, the previous literature stresses the effect of entrepreneurship programs on participants' self-efficacy and entrepreneurship intention in a face-to-face or physical setting. In other words, entrepreneurship programs based on experiential learning

were organized in a face-to-face setting where many variables can be controlled. For instance, the interpersonal interaction between participants and even between participants and mentors can be detected and managed more easily in the face-to-face setting in comparison with the online version of the training when many participants do not use the function of a camera on.

Our proposed model provides a better understanding of the online entrepreneurship program, and how it impacts participants' entrepreneurship self-efficacy and entrepreneurial intentions, although the analyzed entrepreneurship program i2i is short and intensive and might not be sufficient to foster entrepreneurship intention equally for all participants. Therefore, follow-up events such as a pitch competition or even coaching sessions might be helpful to sustain entrepreneurship self-efficacy over the time that leads to entrepreneurship intention.

7 Limitations

The current study analyzes a simple cause-effect relationship model and avoids the general mediation model where entrepreneurial self-efficacy can be a mediator variable between an independent variable (i2i program) and a dependent variable (entrepreneurship intention). For this effect, a quantitative study with a more significant sample of entrepreneurship programs is recommended for future research. Meanwhile, this research has involved only two experienced facilitators of the i2i program. Future research studies might include the full list of an entrepreneurship program's facilitators.

The current research analyzes the relationship of the entrepreneurship program (experiential learning) on participants' self-efficacy and entrepreneurial intention. Indeed, program's participants can vary based on their abilities to start and run their business. Partially consistent with Krueger and Welpe's (2014) suggestions for social entrepreneurs, future research might investigate the relationship between online experiential learning of entrepreneurship programs, participants' abilities and the impact on entrepreneurial intention.

Finally, another future research avenue could cover a longer time frame of evaluation of the impact of entrepreneurship program on participants' entrepreneurship intention. Thus, based on the previous successful experience by the Enterprises program created by MIT and Cambridge universities, the current program was adapted for the online environment, and it can act as a catalyst for long-term impact on the economy (Kelly, 2005). Therefore, future research might include a long-term view on evaluating the impact of online entrepreneurship programs.

Appendix 1

Table 8 The development of questions for an interview protocol (*structured*)

Question types	Explanation/definition	Questions	Sources
Demographic profile characteristics			
Age, gender[a]	NA	Please indicate your age	Brändle et al. (2018)
Education background	Technical nontechnical	Please describe your education/family business background	Jena (2020)
Family background	Business background and nonbusiness background		
Availability of entrepreneurship experience	NA	Have you ever had entrepreneurial experience?	Developed based on Markowska and Wiklund (2020)
Entrepreneurial self-efficacy			
Self-efficacy	"<...> *assess beliefs that one can personally execute a given behavior*" (Krueger, Reilly, Carsrud, 2000; p. 419)	Describe about your motivation to start your own company	Adopted from Barakat et al. (2014)
		Describe about your confidence in your ability to solve problems related to your business idea	
		Could you provide an example where you have applied a fresh approach to problems?	
		What kind of resources are essential for you to star your own company?	
		Describe your abilities to choose suitable team members for your business	
Entrepreneurial self-efficacy[a]		Four dimensions (opportunity recognition efficacy, relationship efficacy, management efficacy, risk tolerance efficacy)	Wei et al. (2020)
Entrepreneurial intentions (outcome)			
Entrepreneurial intentions (outcome)	Entrepreneurial[a] intentions It defined as "*the intention of an individual to start a new business*"	Thinking of yourself, how true is it that you: • You are saving money to start a new venture?	Adopted from Newman et al., 2019; Thompson, 2009; Krueger Jr et al., 2000;

(continued)

Table 8 (continued)

Question types	Explanation/definition	Questions	Sources
	(Newman et al., 2019; p.410)	• Intend to set up a new venture in the future? Or estimate the probability you'll start your own business in the next 5 years? • Spend more time learning about new venture?	Santos & Liguori, 2019

[a] Gender data was included into a database

Questionnaire **Date and time:**
Interviewer/researcher: [removed] Respondent:

Introduction

This questionnaire is conducted within the scope of research on *online* **i2i events in Lithuania**. This research focuses on experiences of *i2i participants* during and after **i2i events** in Lithuania.

The findings of the research will be presented at the international **IEEE ICTE** 2021 conference and prepared a book chapter.

Getting Acquainted [1–3 Qs]
The Main Questions [4–7 Qs]
Entrepreneurial Intentions (Outcome) [8Q–10Qs]
Additional questions:

- Do you have any questions and/or remarks or are there any relevant points that we have not yet covered in this interview about i2i *online* event?

Important! If you do agree, please provide your responses in written form. *Anonymity will be guaranteed and all information possibly revealing your identity will be removed before publishing*.

Thank you very much for all your time☺ .

Name/surname.

Demographic Profile Characteristic

1. Your age:
2. Education background:
3. Family background (business background; nonbusiness background). Please describe your education/family business background.

The Main Questions

4. Have you ever had entrepreneurial experience?
5. Describe your confidence in your ability to solve problems related to your business idea.
6. What kind of resources are essential for you to start your own company?
7. Entrepreneurial self-efficacy (scale was adopted by Wei et al., 2020).

Using a seven-point rating scale (see below), please indicate how much do you agree or not agree with the following statements related to entrepreneurial self-efficacy.

1 = strongly disagree; 2 = disagree; 3 = somewhat disagree; 4 = neither agree nor disagree; 5 = somewhat agree; 6 = agree; 7 = strongly agree. Please indicate "+"

Note. A table of 19 original statements was used from the previous work by Wei et al. (2020)

Entrepreneurial Intentions (Outcome)

8. You are saving money to start a new venture?
9. Intend to set up a new venture in the future? Or estimate the probability you'll start your own business in the next 5 years?
10. Spend more time learning about new venture?

Additional Questions

- Do you have any questions and/or remarks or are there any relevant points that we have not yet covered in this questionnaire about i2i *online* event?

Appendix 2

Table 9 Guide for the *semi-structured* interviews

Interview part	Questions	Specific remarks of questions
1. Introduction	1.1 How many i2i programs did you facilitate?	– Facilitation experience of years
2. Main questions	2.1 Usually, the i2i program covers four intensive days. Could you reveal the main logic behind the 3 days program content for an online format?[a] 2.2 What are the benefits of the online i2i program vs. the physical (or offline) i2i program? 2.3 What do you think about breaks in this online? 2.4 What kind of differences could you identify in compared with the online i2i program vs. the physical (or offline) i2i program? 2.5 Based on data from the WhatsApp group "KEEN i2i facilitators" some tasks required more time than it was expected. Could you elaborate on these issues more from your own experience? 2.6 What kind of digital tools did you use for the online i2i and for what, and how did you select them? 2.7 What kind of dark challenges during the first i2i online in Lithuania could you recall?	Program structure: – Diverse activities (added or removed/tailored for online i2i) – Tactile sensation Concentration level (i.e., high, low) Break types[b]: – Lunch break – Coffee breaks i2i program: – Types (online, offline) – Different digital communication and collaboration tools Specific tasks of i2i program: – Cash flow – Business model canvas Digital tools: – Communication/interaction – Collaboration Challenges related to the online i2i: – Time management – Commitment level of participants—energy level of participants
3. Conclusion part	3.1 Would you like to add something important that we have missed during our discussion?	

[a]The program of 3 days was shown during the discussion with interviewees on the Zoom platform
[b]The breaks can range from 10 mins to 1 h

Appendix 3

Table 10 The online i2i program facilitator's description

Facilitator code[a]	Facilitator experience (e.g., experienced/non-experience)	Role during i2i
FAS_01	Experienced	Facilitator/tutor
FAS_02	Experienced	Facilitator/tutor
FAS_03	Experienced	Facilitator/tutor
FAS_04	Experienced	Facilitator
FAS_05	Experienced	Pop-in facilitator
FAS_06	Experienced	Facilitator
FAS_07	*Non-experience*	Facilitator
FAS_08	*Non-experience*	Facilitator
FAS_09	*Non-experience*	Facilitator
FAS_10	*Non-experience*	Pop-in facilitator
FAS_11	*Non-experience*	Pop-in facilitator

[a]All names/surnames were coded

Appendix 4

Table 11 The codes and the descriptions for the Q4

Code	Subcode	Description
Entrepreneurial experience	Entrepreneurial experience/knowledge	Such as prior entrepreneurial experience
	Working experience	Such as a number of years; a type of company (e.g., private); entrepreneurial initiatives, etc.
	Education	Such as special entrepreneurial studies; courses (e.g., innovation and entrepreneurship; i2i program); etc.

Appendix 5

Table 12 The codes and the descriptions for the Q5

Code	Subcode	Description
Confidence in own abilities to solve problems related to a business idea	High self-confidence	Such as a positive (personal) attitude about skills and abilities, trust in themselves, etc.
	Low self-confidence	Such as scared feelings, "negative" *feelings*, low confidence; feel incapable of doing things, etc.
	Confidence in team	Such as a positive attitude about skills and abilities towards a team, etc.

Appendix 6

Table 13 The codes and the descriptions for the Q6

Code	Subcode	Description
Resources to start a company	Human resources	Such as a team; networks; etc.
	Intellectual resources	Such as a specific knowledge, license, etc.
	Physical resources	Such as a company building/physical place; an equipment for lab; (etc.
	Financial resources	Such as financial resources, money, capital, etc.

Appendix 8

Table 14 The codes and the descriptions for Q9–Q10 questions

Code	Subcode	Description
Intention to set up a new venture or the probability to start it in the next 5 years	Positive intention	Such as I believe, I hope to make, I have thoughts, very likely, etc.
	Not clear intention	Such as I am not sure; maybe; etc.
Learning about a new venture Spend more time learning about new venture	Learning intensively	Such as constantly learning, books, podcasts, etc.
	Learning little	Such as not so much

Appendix 9

Table 15 Participant responses about saving money for a new venture (Q8)

Sources of money for a new venture	Explanation
Saving money	Participant 1: "[. . .]' [saving money] indirectly. I want to make sure that I have a fair amount of runway to cover my personal costs when engaging with a new venture <. . .>" Participant 3: "[saving money] yes" Participant 8: "[. . .]' I save on another bill so I can implement the idea. But money doesn't have the biggest impact, the most important thing is to find the right people to complement my abilities <. . .>" Participant 9: "[. . .]' there are plans to start another product/solution in current family company <. . .>I am unable to disclose any details"
Alternative to saving money (funding)	Participant 5: "[. . .]' applying for grants to have money for developing prototypes"

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