

# Measuring the impact of digital entrepreneurship training on entrepreneurial intention: the mediating role of entrepreneurial competencies

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## Abstract

**Purpose** – The present study investigates the impact of digital entrepreneurial education and training and its impact on the digital entrepreneurial intention (EI) through the mediating character of entrepreneurial competence.

**Design/methodology/approach** – A total of 391 survey responses were collected from employees using convenient and snowball sampling methods.

**Findings** – Digital entrepreneurial education and training showed a positive influence on entrepreneurial competence and EI, with entrepreneurial competence mediating the relationship between digital entrepreneurial education and training practices and EI.

**Research limitations/implications** – This study is intended to assist the development of digital entrepreneurs. The implications of this study are also useful for governments, entrepreneurs, venture capitalists, angel investors and various international development institutions.

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**Originality/value** – The novelty of this study relates to exploring the relationship between digital entrepreneurial education and training, entrepreneurial competence and digital EI.

**Keywords** Digital entrepreneurial, Education, Training, Entrepreneurial intention, Entrepreneurial competence, Mediating effect, Entrepreneurial competencies

**Paper type** Research paper

## 1. Introduction

In the 21st century, entrepreneurship continues to play a significant role in the development of economies across the world, including India, one of the largest and growing economies. However, research shows the country's biggest concern has been a lack of comprehensive education and training (Garavan and Barra, 1994; Voogt and Roblin, 2012). Economic growth creates new opportunities and energy for faster monetary and social development (business-friendly communities) (Abdulraheem, 2011; Myovella *et al.*, 2020). Here, financial development contributes to overall progress related to increased investment, access to capital, efficient resource allocation, risk management, technology and innovation, poverty reduction and social welfare. That means, investing in education and training plays a key role in meeting the objectives of entrepreneurship and preparing prospects to become entrepreneurs in the future (Miço and Cungu, 2023; Cooney, 2012). Business venture preparation provides individuals with the capacity to detect business prospects, as well as the confidence, information and abilities to benefit from them. It shows us how to recognize opportunities, popularize an idea, oversee assets and begin a firm. This is compatible with existing learning theories, which hold that conceptual learning, which best promotes application and re-conceptualization, can only be obtained through experience and engagement (Henry *et al.*, 2017).

Education and training have an influence on the behavior of entrepreneurs (Simpson *et al.*, 2004; Ferreira *et al.*, 2012) but is still a matter of research in many areas, more specifically digital entrepreneurs as this is an emerging trend in India. Researchers (Simpson *et al.*, 2004; Ferreira *et al.*, 2012) have used the planned behavior theory (PBT), first proposed by Ajzen (1991), to understand the influence of education and training on participants. PBT proposes that human social interaction is planned, regulated, controlled and justified in such a way that the intended behavior's future consequences are considered (Ajzen and Fishbein, 2000). A wide spectrum of human behavior has been predicted using the underlying model, and thus this model offers a framework for analyzing how education and training programmes might successfully affect individuals' entrepreneurial intentions and risk-taking behavior such as start-ups (Adedeji *et al.*, 2020; Fayolle and Gailly, 2008).

Digital entrepreneurship is now the most popular form of entrepreneurship (Kraus *et al.*, 2019), and its importance is reflected in India's Ministry of Skill Development and Entrepreneurship's education policy, learning for all: Investment needs to be focused in people's knowledge and skills that can help to promote entrepreneurship and innovation (Kraus *et al.*, 2019). Within this context, the desire or willingness of employees to launch and manage a digital business endeavor is referred to as "digital entrepreneurial intention" (Tomy and Pardede, 2020). It entails a firm belief in the capability of digital platforms and technologies to produce creative and fruitful business prospects (Tomy and Pardede, 2020). An individual's perspective, skills and depth of knowledge that allow them to recognize possibilities, address problems and develop them over time are referred to as having entrepreneurial competence (Gianesini *et al.*, 2018). Entrepreneurial competency (EC), according to this study, includes both entrepreneurial skills and entrepreneurial understanding and passion. Pittaway and Cope (2007) assert that entrepreneurial competence entails taking the initiative, inventiveness, invention and the willingness to accept risks. The practice of teaching and developing the abilities and knowledge required for people to successfully establish and run a digital business

is referred to as digital entrepreneurship education (Permatasari and Anggadwita, 2019; Paliwal *et al.*, 2022; Jones *et al.*, 2021).

This study's main purpose is to determine the role of digital training programmes in the promotion of entrepreneurship, providing path-breaking insights for government, angel investors, venture capitalists and various entrepreneurial agencies about the digital entrepreneur ecosystem and how best to support digital entrepreneurship. Thus, the research questions are as follows:

- RQ1. How do various entrepreneurial education and training practices impact entrepreneurial competence and entrepreneurial intention?
- RQ2. How does entrepreneurial competence impact entrepreneurial intention among the employees?
- RQ3. What is the mediating role of "entrepreneurial competence" in the connection between "entrepreneurial education and training practices" and "entrepreneurial intention" among the employee associated?

India has experienced the emergence of a thriving start-up ecosystem during the past ten years (Krishna, 2018). By promoting an innovative culture, attracting investment and supporting start-ups with strong growth potential, encouraging entrepreneurial intents inside the information technology (IT) sector might benefit this ecosystem (Atiase *et al.*, 2020). Organizations can promote a culture of ongoing learning and skill development by encouraging entrepreneurial intents among IT industry personnel (Isenberg and Onyemah, 2016). Increased job satisfaction, higher levels of employee engagement and eventually better talent retention within the sector can result from this (Savastano *et al.*, 2022; Nagayya and Rao, 2017). Fostering entrepreneurial aspirations in the IT sector can help India maintain its competitive edge in the global market. It can improve technology, boost output and encourage an entrepreneurial culture in line with current global trends (Savastano *et al.*, 2022). It is crucial to keep in mind that when establishing methods to encourage entrepreneurial aspirations within the IT industry, the unique obstacles and opportunities within the Indian setting, including cultural characteristics, governmental legislation, infrastructure and access to resources, should be taken into account (Krishna, 2018). Overall, India can use its capabilities in the IT sector to generate economic growth, innovation and job creation while also presenting itself as a global leader in technology and entrepreneurship by encouraging entrepreneurial ambitions and offering the required assistance and education (Muthukannan *et al.*, 2020).

## 2. Literature review and hypothesis development

### 2.1 Digital entrepreneurship training and entrepreneurial intention

Digital entrepreneurship education refers to the teaching and learning of skills and knowledge necessary for individuals to successfully launch and operate a digital business (Permatasari and Anggadwita, 2019). It can be delivered through various channels, including online courses, mentorship programmes and entrepreneurship accelerators (Permatasari and Anggadwita, 2019). Many universities and colleges offer digital entrepreneurship courses or programmes as part of their business curricula. Additionally, there are many online resources available, such as Massive Open Online Courses (MOOCs) and online communities, which offer support and guidance to aspiring digital entrepreneurs. In the context of education and training, a growing corpus of studies is looking into the impact of digital technology on individual EI.

Empirical evidence relating to entrepreneurial training, specifically digital entrepreneurship, shows that the majority of training programmes are deficient in content and ineffective in methodology. This inefficiency may have a detrimental influence on attitudes and behavioral control toward entrepreneurship, and the educational content can fail

to stimulate entrepreneurial efforts and give real-life simulations (Maxwell *et al.*, 2018). In a study of ten semi-organized meetings with computerized business visionaries in France and the United Arab Emirates, researchers found that entrepreneurial alertness, agility and entrepreneurial characteristics influence intention (Dutot and Van Horne, 2015). The impact of innovation on pioneering aspirations and risk mindsets supports experiential entrepreneurial goals, proposing that ICTs help work on the relationship between innovation attitudes and risk (Bandera *et al.*, 2018). As per Zhang and Li (2018), internet reach, fixed telephones and cell gadgets immeasurably affect execution and the effect of time-matched experiential business enterprise learning on pioneering goals and risk-taking mindsets suggests that ICTs drive the relationship between innovative approaches and risk-taking mindsets (Bandera *et al.*, 2018). The variables that have an effect on entrepreneurial dispositions and their relationship to the virtual era are enormous topics of entrepreneurship study. The following hypothesis is derived from this reasoning.

*H1.* Digital entrepreneurship training positively influences entrepreneurial intention.

### *2.2 Digital entrepreneurial training and entrepreneurial competencies*

Entrepreneurship training has long been regarded as one of the most potent themes due to its function in bridging the space between idea and practice. As of late, the mixture of new computerized advancements (for example, online media, MOOCs, the internet of things, big data, 3D printing, etc.) that are impacting society around the world (Nambisan *et al.*, 2017) have emphasized the idea of entrepreneurship (Gawer and Cusumano, 2014) and impact on entrepreneurial activities. Ho *et al.* (2018) explore whether exercises including passive learning (e.g. study hall illustrations, gathering talks, and visits to firms) and those including more dynamic experiential learning work on developing innovative capabilities and adequacy differentially. Entrepreneurial competencies are increasingly being recognized as key vocational skills in navigating the 21st-century workplace (Uy *et al.*, 2015). As entrepreneurship is a hands-on subject, it is necessary to explore which aspects are helpful in business venture schooling (Pihie and Bagheri, 2011).

The development of authority, verbal influence and physiological circumstances can all assist in nurturing innovative self-viability and skill. “Actively engaged in behavior, cognition, action and experience learning” can impact entrepreneurial awareness (Bandura, 1977, p. 279). Assembly discussions, mentor advice, internships and contests are among the activities investigated in this study’s training programme. The purpose of this research is to see if the characteristics of entrepreneurship training, such as passive and practical/on-spot activities, account for the influence of training on EC. The following hypothesis is based on these arguments.

*H2.* Digital entrepreneurship training has a positive influence on entrepreneurial competencies.

### *2.3 Entrepreneurial competencies and digital entrepreneurial intention*

Entrepreneurial intentions can be determined by internal elements, such as experience, character, personality and abilities, as well as external factors that include social, political and economic factors (Bird, 1988; Rai *et al.*, 2017; Falck *et al.*, 2017). Digital EI refers to the desire or willingness of individuals to start and run a digital business venture (Tomy and Pardede, 2020). The factors that influence the digital EI include personal characteristics such as motivation, creativity, risk-taking propensity and prior entrepreneurial experience (Dutot and Van Horne, 2015). Other factors include external environmental factors, such as access to capital, availability of resources and support and the level of competition in the digital marketplace. Digital EI is becoming increasingly important in the modern business landscape as more and more industries are being disrupted by digital technologies (Mir *et al.*, 2022).

Entrepreneurs who are able to leverage digital platforms and technologies to create new business models and opportunities are likely to succeed in the long run (Mir *et al.*, 2022). Previous entrepreneurial research found several internal factors such as creativity, tolerance for risk, responsiveness to opportunities, leadership and ability (Soumyaja and Alexander, 2016; Obschonka and Stuetzer, 2017; Verma and Kumar, 2022). Others have highlighted the role of entrepreneurial passion (Bao *et al.*, 2017), creativity (Kadile and Biraglia, 2016), locus of control (Molino *et al.*, 2018) and self-adequacy (Mwiya *et al.*, 2019).

External factors include marital status, family and friend support, religion, culture, politics and the support and infrastructure of institutions (Remeikiene *et al.*, 2013; Molino *et al.*, 2018; Indarti and Kristiansen, 2003). Meanwhile, Bird (1995) described entrepreneurial competence as “underlying traits such as general and particular awareness, goals, attributes, self-concepts, social duties, and expertise that result in risk-taking, survival, and/or development”. Tehseen and Ramayah (2015) and Lackeus (2014) extended this perspective by including the point of views and etiquette that are important for creating and maintaining corporate success. The following hypothesis is based on these arguments.

*H3.* Entrepreneurial competence has a positive influence on entrepreneurial intention.

#### *2.4 Digital entrepreneurship training, individual competency and entrepreneurial intention: mediation model*

Capability is characterized as the ability to effectively settle genuine issues and opportunities (Barth *et al.*, 2007). According to Uku and Marge (2017), entrepreneurship improves society not just by itself but also through entrepreneurial individuals. Entrepreneurial competence refers to an individual’s mindset, abilities and deep understanding that enable them to spot opportunities, solve challenges and grow them over time (Gianesini *et al.*, 2018). According to this study, EC encompasses both entrepreneurial skills and entrepreneurial understanding and passion.

The purpose of entrepreneurship education is to instill entrepreneurial awareness, thinking, cognitive skills, and abilities in individuals (Solevik, 2013; Jones and English, 2004). Previous research has highlighted that a dominant form of entrepreneurship teaching concentrates on the subject, where students learn about entrepreneurship but unfortunately mostly from a theoretical viewpoint (Lackeus, 2015). Nonetheless, business venture preparation that spotlights the improvement of enterprising abilities fundamentally affects members’ readiness to begin a firm (Uku and Marge, 2017). Entrepreneurship education can give scholarly data and share fruitful encounters, encouraging individuals pioneering abilities and progress, but practical ability development is critical for boosting overall competency and nurturing an inventive attitude (ibid). Employees who participated in entrepreneurship competitions experience direct involvement, which helps them to nurture future entrepreneurship projects. Several researchers, including Watson *et al.* (2018), Peng *et al.* (2012), demonstrated that business preparation and practice give pace, stage, offices, and gear, as well as adventure reserves, so individuals can prosper and develop their skills. As indicated by Hu and Xu (2015), the profound comprehension of an innovative mentality affects pioneering expectation, but enterprising ability affects enterprising aim. Consequently, this study proposes a final hypothesis:

*H4.* Entrepreneurial competence has a mediating effect between entrepreneurship education and training and entrepreneurial intention.

The four hypotheses constitute the framework of this study, as shown in Figure 1.

### **3. Research methodology**

The principal objective of this study was to research the connection between entrepreneurial education and training practices and its influence on entrepreneurial competence and EI among

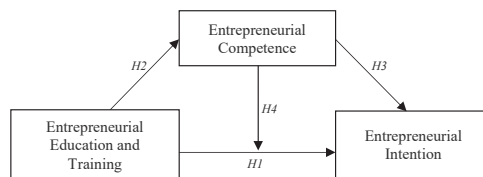
employees associated with IT and IT-enabled service organizations in Delhi and NCR in India. Sampling and data collection procedures, an operational measurement of the variables used in this study, as well as the statistical tests were used to assess the hypotheses. Therefore, gathering information from workers affiliated with IT businesses can offer valid information about the effects of digital entrepreneurship education and the function of IT in promoting entrepreneurship. A total of 27 items (questions) captured the three elements, namely digital entrepreneurship training (DET), EI and EC under investigation for data analysis. The study has one independent variable entrepreneurial education and training, which consists of four constructs: training environment (TE), skill motives, professional ethics and values (PEV) and project orientation and training). Two dependent variables (entrepreneurial competence and EI) are defined for entrepreneurial education and training. All items were measured on a five-point Likert scale from 1 to 5, with “1” representing strongly disagree and “5” representing strongly agree. The proposed framework of the study is exhibited in Figure 2. The study adhered to institutional procedures for ethics and permissions and was reviewed by the Ethical Board of the University of Delhi.

3.1 Data

The present study is being conducted on primary data. The survey instrument was used to collect the data, and a well-structured questionnaire was designed based on the previous research work (Gill, 1986; Zainal and Yong, 2020; Nambisan *et al.*, 2017).

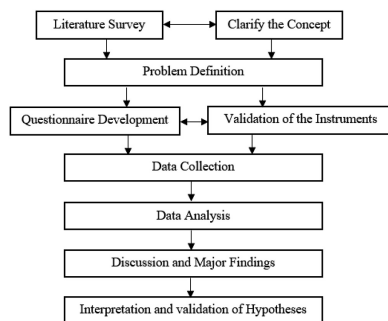
3.2 Sample and data collection

The sample was chosen using non-probability sampling, random sampling and snowball sampling. Initially, a questionnaire was mailed to 1064 employees (810 online and 254 offline) in Delhi and the NCR region, so it was a total of 1064 target population. Data were collected during 3 months’ times from August 2021 to October 2021. A total of 434 responses were received. In the research, 391 responses were found fit and taken for the study after the process of editing. Table 1 indicates the demographic characteristics of the respondents.



Source(s): Authors’ own

Figure 1. Theoretical model of this study



Source(s): Authors’ own

Figure 2. Proposed research framework of the study

	Description	Frequency	Percentage
Age	Less than 21 years	73	18.7
	22-30 years	124	31.7
	31-45 years	120	30.7
	46-60 years	74	18.9
	Others	3	0.8
Gender	Male	280	71.6
	Female	111	28.4
Education level	Up to matric level	26	6.6
	Up to under graduation	69	17.6
	Post-graduation	60	15.3
	Engineering and science	123	31.5
	Diploma/ITI and other certification courses	110	28.1
	Others	3	0.8
	Always available	238	60.9
Availability of the websites and their accessibility through organization	Restricted availability	87	22.3
	Not always available	66	16.9
	Always available	224	57.3
Whether organization promote its employee to go for digital entrepreneurial training and development	Yes	224	57.3
	No	167	42.7

**Table 1.**  
Sample profile of  
respondents (N = 391)

**Source(s):** Authors' own work

Initially, the questionnaire was validated by a group of academics and industry professionals to check content validity. Further pilot sampling on a small scale of 50 respondents was carried out to assure reliability.

#### 4. Data analysis and results

As per the information shown in Table 2, an attempt was made to know the nature of entrepreneurial education and training undertaken by the employees associated with IT and IT-enabled service organizations. Social media marketing was indicated by 231 respondents, hands-on courses (practical courses) like the Internet of Things were indicated by 203 respondents, digital marketing training was indicated by 185 respondents, 3D printing technology courses were indicated by 120 respondents and big data management was indicated by 79 respondents in the sample. The null hypothesis states that different entrepreneurial courses do not differ significantly across respondents' educational levels. The calculated value of the chi-square test at 36 DF (degree of freedom) and 5% level of significance is found to be 68.08, which is greater than the table value (55.76); hence, the null hypothesis is rejected, indicating that different entrepreneurial education and training courses differ significantly across the education level of respondents.

Table 3 presents the descriptive statistics (mean and standard deviation [S]) of the various factors of entrepreneurial education and training, entrepreneurial competence and EI. The results related to entrepreneurial education and training reveal that the "project-orientated training" factor received a maximum mean of 3.6087 and SD = 0.94615. The alpha ( $\alpha$ ) was found to be 0.804, composite reliability (CR) was 0.727 and average variance explained (AVE) was 0.496789. The next important factor of entrepreneurial education and training designated by employees was PEV with mean = 3.5209 and SD = 0.85672. Reliability of this factor ( $\alpha$ ) was 0.739, CR was 0.804 and AVE was 0.588. Other factors include TE with mean = 3.5045 and SD = 0.87054. Reliability of this factor ( $\alpha$ ) was 0.660, CR was 0.818 and AVE was 0.603. Skill motive received a mean of 3.3229 and an SD of 0.77592. Reliability ( $\alpha$ ) was 0.832, CR was 0.887 and AVE was 0.663. Construct entrepreneurial competence received a mean of 3.6116 and an SD of 0.53055. This factor's reliability ( $\alpha$ ) was found to be

Education level-wise classification of respondents	Count	Training courses					Total	Final responses
		Digital marketing training	Social media marketing	Hand-on courses like the Internet of Things	MOOCs	3D printing technology courses		
Up to matric level	11	16	13	19	5	5	69	26
Up to graduation	34	38	40	42	21	15	190	69
Post-graduation	28	38	32	38	17	12	165	60
Engineering and science	64	73	64	73	48	22	344	123
Diploma/ITI and other certification courses	47	64	52	72	28	24	287	110
Others	1	2	2	2	1	1	9	3
<b>Total</b>	<b>185</b>	<b>231</b>	<b>203</b>	<b>246</b>	<b>120</b>	<b>79</b>	<b>1064</b>	<b>391</b>

Chi square test ( $\chi^2$ ) = 68.08477009 at 5% level of significance and 36 DF  
 Percentages and totals are based on responses  
**Source(s):** Authors' own work

**Table 2.**  
Entrepreneurial training course across the level of education of respondents: cross-table analysis



	Mean	Std. deviation
<i>Training environment</i> ( $\alpha = 0.660$ , CR = 0.818, AVE = 0.603)	3.5045	0.87054
“Through active involvement with external stakeholders, my institution prepares me for a digital profession”	3.5652	1.09320
“My institution offers me internet access and mobile broadband as utilities to help me establish a digital entrepreneurial environment”	3.1841	1.08456
“My organization is expanding chances for digital start-ups”	3.5934	1.04064
<i>Skill motive</i> ( $\alpha = 0.832$ , CR = 0.887, AVE = 0.663)	3.3229	0.77592
“Digital entrepreneurship training I received has enhanced my entrepreneurship skills”	3.6317	1.09891
“Digital entrepreneurship training I received has enhanced my communication skills”	3.6598	1.02752
“Digital entrepreneurship training I received has enhanced my teamwork skills”	3.4501	1.03624
“Digital entrepreneurship training prepares me for my future readiness”	3.2762	1.10960
<i>Professional ethics and values</i> ( $\alpha = 0.739$ , CR = 0.804, AVE = 0.588)	3.5209	0.85672
“Digital entrepreneurship training I received has enhanced my lifelong learning and information management ability”	3.4041	1.08149
“Digital entrepreneurship training I received has enhanced my critical thinking and problem-solving skills”	3.5090	1.01238
“Digital entrepreneurship training I received has enhanced my knowledge in moral, and professional ethics”	3.6496	1.08249
<i>Project orientated training</i> ( $\alpha = 0.804$ , CR = 0.727, AVE = 0.496)	3.6087	0.94615
“I started using digital tools to learn entrepreneurial skills such as business feasibility and market research as well as designing my own business plans”	3.6368	1.20089
“The digital entrepreneurship training I received has unlocked new opportunities for me in creating a new business model”	3.5601	1.11899
“Digital entrepreneurship training I received has helped me in the creation of new business models, innovations, and value in data-driven sectors”	3.6292	1.02435
<i>Measurement variable for entrepreneurial competence</i>		
<i>Entrepreneurial competence</i> ( $\alpha = 0.774$ , CR = 0.837, AVE = 0.432)	3.6116	0.53055
“I gain a lot of knowledge from my digital entrepreneurial training curriculum”	3.4604	0.83380
“I am competent in adapting new technology while doing digital entrepreneurial training”	3.5371	0.82774
“Digital I enjoy working in a situation involving competition with others”	3.6803	0.86978
“It is important for me to perform better than others on the task I feel that winning is important in both work and game”	3.8184	0.84141
“It annoys me when other people perform better than I do”	3.7468	0.85325
“I try harder than I am in completion with other people”	3.6138	0.80493
“I have prepared myself ready for future digital business challenges”	3.4246	0.64753
<i>Measurement variable for digital entrepreneurial intention</i>		
<i>Digital entrepreneurial intention</i> ( $\alpha = 0.887$ , CR = 0.912, AVE = 0.600)	3.4355	0.49191
“I intend to create my own business”	3.4348	0.61621
“I will certainly establish my own business one day”	3.3913	0.62661
“I would rather be an internet entrepreneur than work for someone else”	3.3376	0.54875
“I want to start my own business”	3.3811	0.58226
“After completing my course, I plan to become a digital entrepreneur”	3.4425	0.66882
“I remain informed on the news of successful techie entrepreneurs”	3.4425	0.55112
“After I finish my training, I plan to pursue a career as a digital entrepreneur”	3.6189	0.84462
Valid n (list wise)		
<b>Source(s):</b> Authors' own work		

**Table 3.**  
Factor of digital marketing, entrepreneurial competence and entrepreneurial intention: a descriptive statistics ( $N = 391$ )

0.774, CR was 0.837 and AVE was 0.432. The variable outcome digital EI received a mean score of 3.4355 with an SD of 0.49191, with reliability ( $\alpha$ ) = 0.887, CR = 0.912 and AVE = 0.600.

#### 4.1 Measurement model evaluation

Harman's single-factor test (Podsakoff *et al.*, 2003) was used to see whether there were any difficulties with common method bias. Results indicate that the items employed in the study explain less than half of the variance; therefore, there was no difficulty with common method bias. The second major worry in any survey research is non-response bias; however, because most employees replied to us, the face-to-face technique of data collection greatly lowered the odds of non-response. Cronbach's reliability values of all factors were significantly more than the lowest acceptable level of 0.6 and near the preferred level of 0.7 (Jha *et al.*, 2022; Mittal *et al.*, 2023; Raj *et al.*, 2023; Verma *et al.*, 2022a, b) (See Table 3). The model's convergent validity was confirmed by AVEs ranging from 0.645 (behavioral intention) to 0.797 (perceived price value), indicating that each factor's items were satisfactorily associated with each other. The factor loading was also statistically significant and higher than or equal to 0.5, preferably higher than 0.7 (Hair *et al.*, 2017; Singh *et al.*, 2022a, b; Kumar *et al.*, 2023; Verma *et al.*, 2023). According to Table 3, all variables for every construct had shown loading factors higher than 0.5, and the AVE of each component must be greater than zero for discriminant validity (i.e. items in one factor desirably be marginally linked with items in other factors).

#### 4.2 Structural model and hypothesis testing

Variance inflation factor (VIF),  $R^2$  and standardized path coefficients were used to evaluate the fitness of a structural model (Hair *et al.*, 2019). All the values of VIFs exceeded 1.0, with the highest VIF of 2.095 lying in the suitable range of 3.0 (Table 4). The problem of multicollinearity was not detected in the study. Entrepreneurial education and training to EI had an  $R^2$  estimate of 0.778, which means the rest structural model factors explained 77.8% of the variation in EI. At the 0.01 level, all standardized path coefficients were proved statistically significant. Taken together, these criteria confirmed the structural model's goodness of fit (a statistical test) of the data. Additionally, path coefficients and  $p$ -values are shown in Table 5, for all the hypotheses proposed. Here, H1 states that "there are straight relationships between entrepreneurial education and training and EI". The standardized path coefficient entrepreneurial education and training to EI ( $\beta = 0.312$ ,  $p < 0.001$ ,  $t = 12.123$ ,  $p = 0.00$ , VIF = 2.095,  $R^2 = 0.778$ ) was insignificant.

In other words, entrepreneurial education and training have a significant effect on EI. Hence, research hypothesis H1 is accepted. Looking at the second hypothesis, H2, it is postulated that entrepreneurial education and training would positively affect entrepreneurial competence. This was supported by  $\beta = 0.723$ ,  $t = 15.007$ ,  $p = 0.00$ , VIF = 1.00 and  $R^2 = 0.522$ , hence supporting hypothesis 2. The third hypothesis, H3, posited that entrepreneurial competence leads to EI. This was confirmed by standardized path coefficients of entrepreneurial competence ( $\beta = 0.631$ ,  $t = 11.234$ ,  $p = 0.000$ ) on EI. The final measurements and structural model are shown in Figures 3 and 4, respectively.

#### 4.3 Mediating effect

The mediating effect of entrepreneurial competence assumes, first and foremost, a positive and significant relationship between entrepreneurial education and training with EI. A series of analyses must be run in order to test for the type of mediation in a model. Table 5 confirms that entrepreneurial competence is positively and significantly related to entrepreneurial education and training, as well as EI ( $p > 0.01$ ). As a result, H1, H2 and H3 are supported. The testing methodologies described by Preacher and Hayes (2008) were then used to evaluate the hypothesis of the mediating effect. According to these authors, the mediating effect requires a significant indirect impact and a confidence interval that does not include zero. Table 5 demonstrates that only specific indirect effects of entrepreneurial competence are significant and the confidence intervals do not include zero. Research findings show that H4

**Table 4.**  
Discriminate validity

	Entrepreneurial intention	Entrepreneurial competence	Entrepreneurial education and training	Professional ethics and values	Project orientation training	Skill motives	Training environment
Entrepreneurial intention	0.775						
Entrepreneurial competence	0.856	0.657					
Entrepreneurial education and training	0.768	0.723	0.418				
Professional ethics and values	0.006	0.061	0.073	0.767			
Project orientation training	0.102	0.070	0.144	0.555	0.705		
Skill motives	0.117	0.156	0.541	-0.039	-0.008	0.814	
Training environment	0.846	0.773	0.910	0.044	0.112	0.150	0.776

**Note(s):** Values which are shown in diagonal line are the square root of AVEs, and those on the diagonal lines are inter-construct correlations squared  
**Source(s):** Authors' own work

entrepreneurial competence mediates the relationship between entrepreneurial education and training and EI is positively significant (Table 6 and Figure 3); as a result, H4 is supported.

### 5. Discussion and findings

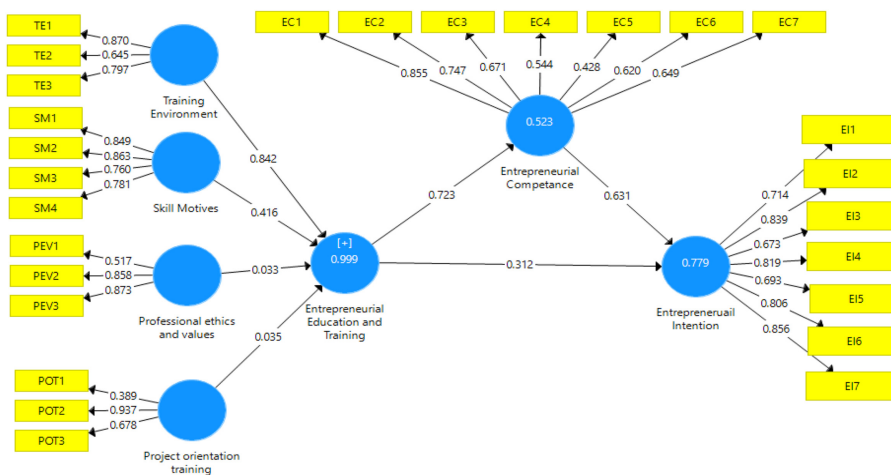
This study confirmed its hypotheses; hypotheses 1, 2 and 3 propose entrepreneurial education and training positively affect entrepreneurial competence and EI. It supports but extends findings by Kim and Park (2018) as well as Bhatti et al. (2021), which revealed that the TE and developing skill motive contribute significantly toward improving entrepreneurial education and training. In addition, it helps to build entrepreneurial capability and EI significantly as compared to PEV and project orientation training. Moreover, this study extends previous findings which were limited to secondary school entrepreneurial education (Moberg, 2014; Elert et al., 2015). This study’s research findings provide new understandings that will aid in the phenomenon of an inclusive entrepreneurship training and education philosophy (Ferreira et al., 2012; Martin et al., 2013).

According to our findings, entrepreneurial skills, motivation and positive attitudes can effectively be imparted to employees in organizations through entrepreneurship training programmes. As Morris et al. (2013) point out, self-motivated (dynamic) competencies could be learned and developed over a long time through experience, training and practice.

	$R^2$	Path coefficients	$t$ -value	$p$ -values	VIF	Result
Entrepreneurial education and training → entrepreneurial intention	0.778	0.312	12.123	0.000	2.095	Accepted
Entrepreneurial education and training → entrepreneurial competence	0.522	0.723	15.007	0.000	1.000	Accepted
Entrepreneurial competence → entrepreneurial intention	0.999	0.631	11.234	0.000	2.095	Accepted

Source(s): Calculated from primary data

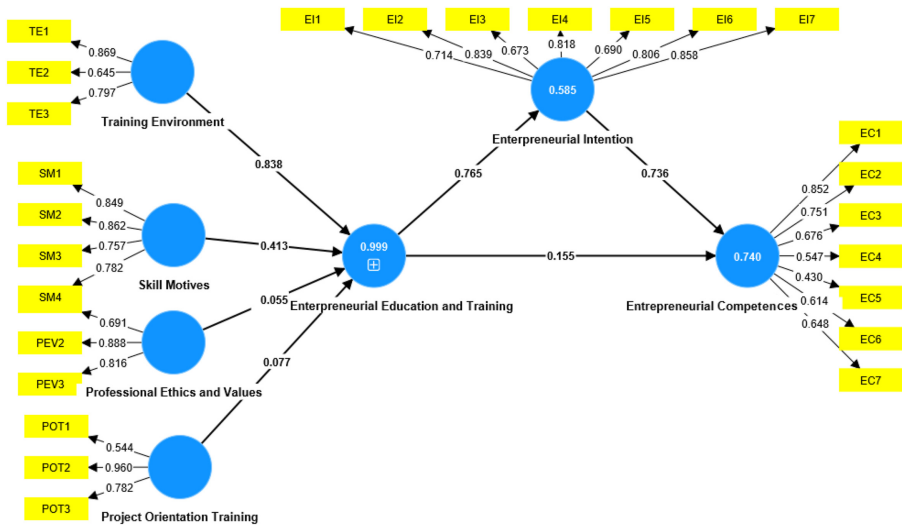
Table 5. Path coefficients and  $p$ -values



Source(s): Authors’ own

Figure 3. Structural equation model indicating the relation between entrepreneurial education and training, entrepreneurial competence and entrepreneurial intention with standardized path coefficients

**Figure 4.** Relationship between entrepreneurial education and training and entrepreneurial competence where entrepreneurial intention mediates with standardized path coefficients (it is shown as reviewers suggested to develop this relationship)



Source(s): Authors' own

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ( O/STDEV )	p values
Entrepreneurial competence → entrepreneurial intention	0.631	0.655	0.056	11.257	0.000
Entrepreneurial education and training → entrepreneurial intention	0.312	0.285	0.069	4.546	0.000
Entrepreneurial education and training → entrepreneurial competence	0.723	0.694	0.095	7.590	0.000

**Table 6.** Direct and indirect effect analysis

Source(s): Authors' own work

According to social cognitive theory, entrepreneurship training can raise employees' motivation and involvement as well as secondary school students' entrepreneurial awareness to a certain level through the use of active/hands-on activities (Kim and Park, 2018). Further, hands-on and passive activities in entrepreneurship instruction and training can boost the employees' entrepreneurial self-efficacy. Report writing and presentations, teamwork and internships might have helped in guiding and gaining skill mastery. Hands-on activities may increase their effectiveness since three essential mastery modeling elements are included in them. The effectiveness of a youth entrepreneurship training programme is heavily dependent on the activities which are provided in the process, and experiential learning is critical for developing more hands-on abilities such as entrepreneurial skills effectiveness, assessing and judging and scanning and seeking. External trips to firms and meetings with company executives may be useful in helping employees mold their views of entrepreneurship more realistically.

According to Soumyaja and Alexander (2016) and Obschonka and Stuetzer (2017), the elements such as creativity, tolerance for risk, responsiveness to opportunities, leadership

and ability are essential for entrepreneurs to succeed and grow their businesses. Entrepreneurs must think creatively and develop original concepts and approaches (Kadile and Biraglia, 2016). Their ability to differentiate their goods and services, find novel opportunities and outperform the competition is made possible by their creativity (Kadile and Biraglia, 2016), and this entails using original thought, accepting fresh viewpoints and refuting established wisdom. Risk-taking is a fundamental component of entrepreneurship (Obschonka and Stuetzer, 2017), and entrepreneurs are successful and at ease with uncertainty and so are not afraid to take calculated risks. Although they are aware that failure is a possibility, they see it as a teaching opportunity. Entrepreneurs make themselves risk-tolerant and better equipped to take risks, exploit opportunities and overcome obstacles (Soumyaja and Alexander, 2016). Entrepreneurs need to be skilled at spotting market opportunities, and to increase their chances of success, entrepreneurs must efficiently use the resources at their disposal (Obschonka and Stuetzer, 2017) such as money, people, networks, technology and other resources. Entrepreneurs can recognize resources and use them efficiently and are better able to scale their businesses and take advantage of possibilities. Despite the significance of these five elements, it is crucial to remember that entrepreneurship is a complicated and multidimensional sector. Entrepreneurial success is also greatly influenced by other elements, including tenacity, adaptability, market knowledge and passion for one's work. Additionally, outside variables including market dynamics, rivalry and legislative frameworks might affect results.

### *5.1 Theoretical and practical implications*

First of all, our study is one of the earliest studies to concentrate on the various entrepreneurial education and training practices and their impact on EI among the employee associated with industrial training institute (IT) and IT-enabled service organizations. Therefore, the contribution to the literature highlights the inclusion of entrepreneurial education and training and its efficacy in developing entrepreneurial competence and the mediating role of "entrepreneurial competence" in the relationship between "entrepreneurial education and training practices" and "entrepreneurial intention" among the employees associated with IT and IT-enabled service organizations.

This study also has utility for policymakers, industry experts and entrepreneurial agencies to design a better entrepreneurial ecosystem. The results of the current study demonstrate that individuals can acquire the skills, knowledge and attitudes needed for successful digital entrepreneurship through education in this area. This goal may result in the development of fresh digital businesses that support economic expansion and job creation. From a legislative standpoint, there is a rising understanding of the significance of fostering digital entrepreneurship education and its aim. The funding of digital entrepreneurship programmes in schools and universities, the establishment of incubators and accelerators for digital startups and the provision of tax incentives for digital entrepreneurs are just a few of the initiatives that governments and policymakers are investing in more and more. The significance of encouraging individuals' intention to engage in digital entrepreneurship is becoming increasingly clear to policymakers. This may entail giving aspiring digital entrepreneurs access to capital, mentorship and networking possibilities. Also, by lowering regulatory hurdles and facilitating access to resources like money and infrastructure, they can develop supportive policy settings that promote innovation and entrepreneurship. Here, digital entrepreneurship education and digital EI are crucial and have major consequences for both theory and policy. Policymakers and researchers can help build a thriving and dynamic digital entrepreneurship ecosystem that can stimulate economic growth and job creation by boosting digital entrepreneurship education and encouraging digital entrepreneurial ambition. Apart from this, governments may also make entrepreneurship education a

compulsory subject across all courses at higher education to get effective results and will also be helpful to all categories of students to acquire information and necessary skills about entrepreneurship. Angel investors, venture capitalists, banks and other financial institutions may also reap great benefits from this research in terms of assessing financial viability, investment opportunities and the future scope of entrepreneurship development.

Exploring the phenomenon of entrepreneurship and enterprise education can make a substantial contribution to the wider field of entrepreneurship. Numerous benefits can be attained by doing research in this field, supporting the need for and value of the study (Guerrero and Urbano, 2012). By offering fresh perspectives, theories and frameworks, entrepreneurship and enterprise education research can add to the body of knowledge already in existence (Shepherd and Patzelt, 2011). This study contributes to a greater theoretical understanding of how entrepreneurship education affects entrepreneurial behavior, intention and success by analyzing this phenomenon (Krueger and Carsrud, 1993). It also provides insights into the underlying mechanisms, procedures and elements that affect the growth and learning of entrepreneurs and extends the work of Fischer *et al.* (2018), who pinpoint best practices in entrepreneurial education, such as efficient teaching strategies, curriculum design, experiential learning methodologies and mentorship programmes. These results can serve as a roadmap for educators, decision-makers and programme designers as they create more effective and pertinent entrepreneurship education efforts. For practitioners and policymakers, it is essential to comprehend the link between entrepreneurship education and entrepreneurial outcomes (Brentnall *et al.*, 2018). Finally, our study can help evaluate the efficiency of entrepreneurship education in promoting EI, venture development, creativity and overall entrepreneurial success by examining this phenomenon (Duong *et al.*, 2022). This information can assist stakeholders in creating and implementing more focused educational interventions that are efficient and effective in enhancing entrepreneurial results at the individual, organizational and societal levels (Kabongo and Okpara, 2010). Investigating entrepreneurship and enterprise education can reveal the shortcomings and difficulties in current educational initiatives, spot obstacles to participation and achievement and provide solutions. By addressing the gaps in entrepreneurial education, our research can help build more diverse and inclusive business ecosystems. Policymakers, educators and practitioners working on entrepreneurship development may benefit from the research findings in entrepreneurship and enterprise education (Brentnall *et al.*, 2018).

## 6. Conclusions, limitations and future scope

This study explored the possibility of digital entrepreneurial education and training to encourage entrepreneurial competence and EI and how entrepreneurial competence mediates the relationship between digital entrepreneurial education and training practices and EI, particularly that entrepreneurial education and training positively affects entrepreneurial competence and EI. This study is intended to assist managers in producing more digital entrepreneurs in the digital era through the aid of entrepreneurial skills, motivation and positive attitudes for employees in the organizations.

There are two main limitations of this study, which provide directions for future studies. First, the findings and conclusions from our study may not be generalizable to diverse situations and are likely to be impacted by the study's sample being restricted to a particular geographic region, educational background or cultural or organizational setting. Here, the relationship between training and intention may also be influenced by elements like self-efficacy, perceived social support or entrepreneurial knowledge, which vary across settings and locations. Second, the study may concentrate on the immediate benefits of DET on EI and short-term outcomes, where it can be difficult to assess the long-term effects of such training on successful entrepreneurial behavior.

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