



The role of knowledge and interpersonal competences in the development of civic and public engagement and entrepreneurial intention

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Abstract

Entrepreneurship refers to the undertaking of obligations and responsibilities that not only require the necessary knowledge to apply interpersonal competences, but also respect justice and the freedoms of other stakeholders. The objective of the study is to analyse individual, spiritual, and rational knowledge as antecedents to fostering interpersonal competences and to show how these competences affect entrepreneurial intention with the mediating role of civic and public engagement. Data are cross-sectional and collected via stratified random sampling from knowledge workers in faculties with a business-centric focus (i.e., business administration, economics, management, and marketing), with a total sample size of 527 respondents. The variance-based structural equation modelling technique using Smart PLS 4 is used for analysis. The results show that individual, spiritual, and rational knowledge are significant predictors of interpersonal competences among knowledge workers. The study also establishes civic and public engagement as a mediator in the relationship between interpersonal competences and entrepreneurial intention.

Keywords Knowledge · Entrepreneurial intention (EI) · Civic and public engagement (CPE) · Interpersonal competences (IC) · Business processes

JEL codes A13 · D83 · D91 · J24 · L26

Introduction

In the present era, entrepreneurship plays an essential role in the development of economies, especially in a turbulent and continuously changing environment (Rudawska et al., 2021). In this context, entrepreneurial processes need to be studied in order to identify ways to support them. Entrepreneurial processes are two-step processes that include, in the first step, the intention to be involved in entrepreneurship and in the second step, the entrepreneurial actions and behaviours as explained by entrepreneurial intention models (Hueso et al., 2021). Entrepreneurial behaviours are the final purpose of the entrepreneurship activity and are regarded as those activities through which individuals notice the existence of an opportunity and build on it over a period of time (Bazkiaei et al., 2021). Entrepreneurial behaviours do not take place unless entrepreneurial intentions are manifested.

Giving credit to both extant and emerging research themes - as the entrepreneurial intention (EI) is dependent on a large number of antecedents (Kautonen et al., 2015), and researchers consider that the role of competences in the entrepreneurial process is embryonically understood and needs to receive more attention (Schlaegel et al., 2021) – the purpose of this paper is to look at the antecedents that relate to the social interaction abilities of individuals as influencers of entrepreneurial intention. In this sense, the exploration of interconnected knowledge dimensions and interpersonal competences stands out as an organic step to achieving the established goal.

In this light, interpersonal competences (IC) consist of many components: knowledge about a given activity or profession, the abilities necessary to accomplish the task, and an appropriate attitude within the organisational setting. As concluded by Goleman (1998), at the core of this competence are two abilities: empathy, which entails interpreting the emotions of others, and social skills, which permit dealing with these emotions with finesse. Even though almost all social interactions display rational knowledge, the capacity for cooperation between people is enhanced by the ability to employ intuition and shared values (Lantu et al., 2022; Margaça et al., 2020; Nonaka & Zhu, 2012).

Transferable social skills (such as communication with others, presentation, and leadership) that are associated with interpersonal skills are also seen as an important category among employability skills (Nicolescu & Nicolescu, 2019). Interpersonal skills are important, not only in job-related contexts (for employees and managers), but also in other professional contexts (for instance entrepreneurial activity) (Wulani et al., 2019) and in civic activities (Arvanitidis, 2017). Wulani et al. (2019) introduced the concept of entrepreneurial competences that include interpersonal competences, while Arvanitidis (2017) identified how - among the civic engagement determinants that manifest at individual level - social values such as altruism, trust and sociability reflect tolerance, sympathy, and cooperation, and suggested that all these values will increase civic engagement.

It should be noted that, given the lack of consensus on the predictors of entrepreneurial intention, this study argues that entrepreneurial intention not only occurs at the individual level, when someone is capable of doing something well (Alfaro-García et al., 2022; Bazkiaei et al., 2021; Schlaegel & Koenig, 2014), but possibly also at the social level. If we want someone to make a civic and public commitment to

entrepreneurship, society has to provide the necessary resources for a start-up (Liñán & Fayolle, 2015; Zhao et al., 2010).

Consistent with Byrne et al. (2020), in the present study, a citizen's association with society is termed as civic and public engagement (CPE). Cegarra-Navarro et al. (2012) found that civic and public engagement positively influenced knowledge sharing and local affairs through technologies, while Cegarra-Navarro et al. (2014) concluded that citizen engagement in government initiatives had a positive effect, as it improved the general assimilation of new technologies and remedied skills shortages. Since civic and public engagement ties play a vital role in knowledge sharing in different contexts (Warren et al., 2014; Byrne et al., 2020), integrating interpersonal competences into public procurement may emerge as a valuable catalyst and contribute to entrepreneurial intention (Cegarra-Navarro et al., 2023).

Building on this rationale and aiming to provide new insights in response to the existing research gaps, the present paper analyses multifaceted relationships among several pivotal constructs ranging from individual knowledge to entrepreneurial intention. Individual knowledge is measured through three main types of knowledge (i.e., rational, emotional, and spiritual), which are objectivized as premises for developing interpersonal competences (Bratianu & Bejinaru, 2020; Bratianu et al., 2021), and which, in turn, are seen as antecedents of both entrepreneurial intention and CPE. Further, CPE is envisaged as a possible influencer of entrepreneurial intention, whereas knowledge and interpersonal competences are both seen as precursors of two types of initiatives: (a) a business-oriented initiative leading to entrepreneurial intention and action, and (b) a civic-oriented initiative leading to CPE. The two types of initiatives can also influence each other, in that civic and public engagement influences both entrepreneurial intention in general and social entrepreneurship intention, possibly resulting in social entrepreneurship (Claeyé et al., 2022).

To test these relationships, a questionnaire-based survey of 527 students was conducted between June and September 2021. The research instrument was intended to scrutinise all the envisaged issues (constructs and relationships) in the case of a specific sample (i.e., respondents coming from educational fields – economics, business administration, management, and marketing - with a business-centric focus), advancing an integrative nomological network with substantial phenomenological and contextual implications. The proposed hypotheses were investigated using structural equation modelling, more specifically through the PLS-SEM technique.

The paper is organized as follows. First, the literature review and the development of hypotheses are fully addressed. Second, the methodological basis of the empirical research is described, assessing the measuring model. Third, the evaluation of the structural model is introduced, and the conclusions discussed. The paper finally considers the conclusions, implications, and limitations of the research, along with possibilities for future research.

Literature review and hypotheses development

Developing interpersonal competences with knowledge dynamics

Competences are seen as the characteristics of people who achieve higher than average performance in an occupation or role, including particular knowledge, abilities, and behaviours (Matić, 2022). Among the general competences, interpersonal competences are examined in the literature from a job-related perspective (Lancaric et al., 2021; Denney et al., 2020). These include creativity, critical thinking, and problem-solving, along with enhanced collaboration, the ability to act ethically and socially responsibly with others (McGunagle & Zizka, 2020), leadership, and the ability to foster and administer interpersonal relationships (Ravinder & Kollikkathara, 2017), social participation and interaction with diverse cultures at a global level (Dean & East, 2019).

The importance of interpersonal skills was emphasised by Denney et al. (2020) in their analysis of different studies, indicating that 85% of the success of individuals in the workplace was accounted for by their interpersonal skills, as opposed to their technical skills. The authors also synthesised from the literature a pool of interpersonal skills grouped into different categories including: engaging in stakeholder management (management competences), building and maintaining effective relationships (leadership competences), resolving stakeholder conflict (conflict resolution competences), appropriate use of influencing skills (professional competences), and maintaining lines of communication, tailoring communication, ensuring quality of information, and actively listening (communication competences).

Focusing on the knowledge dimensions, Bhatt (2002) approached knowledge as the total amount of information possessed by an individual. Even though knowledge tends to be substantially biased by subjectivity, emphasis is placed on those pieces of information characterised by a high level of objectivity and rationality, and by value-driven inputs (Bratianu & Bejinaru, 2020; Bratianu et al., 2021). Giving credit to Nonaka and Takeuchi (2019) and Zohar and Marshall (2004), Bratianu et al. (2021) discussed knowledge dynamics, the driving force of any decision-making process, and the reason behind the balanced production of rational, emotional, and spiritual knowledge based on ethical ideals. When this equilibrium is achieved, interpersonal competences are naturally activated, as they occur as an emergent quality of the social context and express the capacity to comprehend another person's thinking processes and behaviour. In line with Lozano et al. (2017) and Lantu et al. (2022), interpersonal competences emerge as the shared goals and ideals of a group, revolving around the capacity of individuals to acquire the characteristics necessary for harmonious social integration and effective contribution.

According to Cegarra-Sánchez et al. (2022), when engaging in social activities or organisational decision-making processes, individuals benefit from a triadic knowledge wellspring which encompasses rationales, emotions, and values. This three-dimensional knowledge is subject to a dynamic integration leading to a complex outcome from individual, organizational, and social perspectives. Such approach was previously extensively discussed by Bratianu et al. (2021) in the knowledge dynamics framework, in which each form of knowledge has its own norms and expression

but co-occurs to engender positive results. Moreover, whenever individuals collaborate, a process of combining individual knowledge takes place and is conducive to higher-order knowledge, that is, organizational, interorganizational, and social knowledge, and, implicitly, to interpersonal competences (Vătămănescu et al., 2015, 2020, 2023a, b).

In a holistic approach, competences are characterised in terms of knowledge, abilities, skills, and attitudes demonstrated in the context of a carefully selected set of actual professional tasks that are of an adequate level of generality (Hager & Goncz, 1996). According to Bass and Riggio (2005), Winkielman et al. (2013) and Nayak et al. (2021), interpersonal competences exemplify an integrated contribution of cognitive, emotional, and spiritual knowledge to reach a desired professional outcome. They imply the threefold knowledge regarding how to accomplish the task through the application of reason, intuition, and values, simultaneously developing the capacity to foster relationships with others in an organizational or social setting.

According to Kahneman (2013) and Russell (2009), rational knowledge is the product of rational thought and enables the (explicit) expression of our ideas. Most often, it is deemed objective and scientific, and is depicted as logical knowledge allowing the communication of factual issues (Baron, 2000). Most businesses and decision-making processes are founded on rational knowledge that emerges as a pertinent means to making and communicating decisions, to establishing norms and rules, to complete agreements, thus dominating organizational life (Bratianu et al., 2021).

Complementary to rational knowledge, emotional knowledge has risen as a new source of organizational dynamics as it brings to the fore the significance of intuition in the decision-making processes. This standpoint was supported by various authors (Salas et al., 2010; Sinclair & Ashkanasy, 2005; Bratianu et al., 2021) who credit emotional knowledge as the outcome of our emotions and feelings. In this respect, the emotional universe is essentially an act performed in our body, ranging from facial expressions and postures to changes in the cornea and inner world, while emotions are complex ideas of what happens in our body and mind when we feel (Damasio, 2003). Processed by our unconscious brain, emotional knowledge is crucial for socialisation and the transfer of tacit knowledge (Kahneman, 2013). Furthermore, emotional knowledge is closely linked to emotional intelligence, a pivotal prerequisite for interpersonal relationships and competences, as Mayer et al. (2004) also highlighted.

The third dimension of knowledge – as Bratianu et al. (2021) have operationalized – is spiritual knowledge which springs from our contemplation on the meaning of life, the purpose of our existence, our work, and moral ideals. The human spirit must process the importance and value of the world around us, of the environment, of events, of the actions and life of others (Barret, 2010; Branson, 2011). Spiritual knowledge comprises the ideals we acquire throughout our lives through our families, schools, communities, colleges, and teamwork. As Schein (2004) and Flammer (2013) observed, sharing values with other team members and employees of an organization contributes to the establishment of the organizational culture, interpersonal interactions and competences, and the implicit decision-making framework. In fact, spiritual knowledge allows us to understand the importance of fundamental values

and long-term purpose of our lives, the relevance of values and objectives in our lives, the strategies and thought processes, which are of vital importance to intelligent businesses (Nonaka & Takeuchi, 2019).

Even though the importance of individual knowledge cannot be denied, its transformative process into social knowledge is one which creates actual social value (Nonaka & Takeuchi, 1995; Bratianu & Vătămănescu, 2017). This also covers the emergence of interpersonal competences denoting the inherent social skills conducive to the formation of stable and fruitful relationships (McConnell, 2018). Interpersonal competences are fostered by social contexts needing all the knowledge dimensions to catalyse the understanding of otherness regarding mindset and behaviour. They are driving factors for the assumption of shared goals and values and favour social co-integration and accommodation at a higher level (Vătămănescu et al., 2018a, b).

Based on these arguments, it can be inferred that:

H1 Rational knowledge has a positive influence on interpersonal competences.

H2 Emotional knowledge has a positive influence on interpersonal competences.

H3 Spiritual knowledge has a positive influence on interpersonal competences.

Linking interpersonal competences with entrepreneurial intention through civic and public engagement

Entrepreneurship intention is described as a state of mind that focuses attention and action on the objective to be achieved (Bird, 1988; Rudawska et al., 2021); in the present case, the goal is the entrepreneurship. Entrepreneurial intention is also seen as essential for understanding the entrepreneurial process (Elfving et al., 2009). According to planned behaviour theory applied to the entrepreneurial context, action is conditional on intention (Liñán & Fayolle, 2015; Alfaro-García et al., 2022). At the same time, individuals who have entrepreneurial intentions demonstrate higher probability of starting their own businesses (Bazkiaei et al., 2021). Therefore, entrepreneurial intention is regarded as one of the best predictors of entrepreneurial activities (Kautonen et al., 2015) and of future entrepreneurship (Pérez-Macías et al., 2022). The argument is that, even if they could become entrepreneurs, people only start being involved in entrepreneurial activities if they have the intention to do so. Therefore, entrepreneurship relies on the intention of individuals to start new businesses and become entrepreneurs (Hapenciuc et al., 2015; Păduraru et al., 2016). This is the first step in the entrepreneurial process.

According to the decomposed theory of planned behaviour (DTPB) (Taylor & Todd, 1995) applied in an entrepreneurship context, there are many antecedents to entrepreneurial intention. Several examples can be identified: personal variables, entrepreneurial education, context, and institutional variables (Pérez-Macías et al., 2022). The personal level factors include variables that range from cognitive variables (Liñán et al., 2011) to psychological variables (Padilla-Meléndez et al., 2014),

socio-demographic variables (Haase et al., 2012), personal motivation (Šebjan et al., 2016), and others.

The variety of factors attempting to explain entrepreneurial intention stem from the absence of consensus in the literature on the key influences of entrepreneurial intentions (Schlaegel & Koenig, 2014; Pérez-Macías et al., 2022) and the need to study the phenomenon from different perspectives (Alfaro-García et al., 2022). However, among the numerous and various factors that influence entrepreneurial intention, socially oriented and interpersonal competences are also included, such as social stability (Păunescu et al., 2018), social skills (Markman & Baron, 2003), participation in social networking (Mahmood et al., 2019), the existence of social ties (Salamzadeh & Kirby, 2017), development of social capital (Fernández-Pérez et al., 2019; Liñán & Santos, 2007), intellectual capital (Stratone, 2023; Bratianu et al., 2022), emotional intelligence (Schlaegel et al., 2021; Zampetakis et al., 2009), and knowledge sharing (Shrafat, 2018).

Emotional intelligence is recognized as an important personal ability that is connected with entrepreneurship. Zampetakis et al. (2009) discovered that emotional intelligence has a high impact on entrepreneurial intention and entrepreneurial success, as controlling others' emotions, creating commitment, motivating others, being empathic, and having strong social skills all contribute to entrepreneurial success (Cross & Travaglione, 2003). Knowledge sharing via knowledge donation and knowledge collection is another ability that improves the skills of all categories of people: employees, managers, and also entrepreneurs, improving both the personal and the organizational capabilities of learning from one another, especially in a small and medium-sized organizational context (Shrafat, 2018).

Having the necessary competences for a new undertaking is highly influential due to their direct and indirect influence on 'EI' development (Pérez-Macías et al., 2022). For example, Zhao et al. (2010) found that being extroverted and socially skilled had a direct positive influence on entrepreneurial intention. Similarly, Phipps and Prieto (2015) found that having political and social skills (such as being influential and sincere) directly and favourably influenced the creation of entrepreneurial orientation. Other studies identified indirect influences of these variables on entrepreneurial intention through self-efficacy or motivation (García-Rodríguez et al., 2017). However, the lack of such skills and competences can act as a barrier and slow down entrepreneurial intention (Pérez-Macías et al., 2022). It is acknowledged that it is very important for entrepreneurs to interact with different people, such as employees, customers, business partners and investors (Bazkiaei et al., 2021), and that communicating with others allows for inspiration.

Therefore, it can be stated that interpersonal skills and competences represent one category of competences that need to be considered in the entrepreneurial context (Schlaegel et al., 2021). Acknowledging these aspects, we posit that:

H4 Interpersonal competences positively influence entrepreneurial intention.

Based on the above, an entrepreneur not only needs to treasure the necessary competences to understand the nature of corporate success, but also needs to connect with society to find efficient solutions to new challenges. In this vein, participation

in social networking is seen as being essential for the entrepreneurial process (both intention and action), since the individual can gain information about how to set up and how run a business (Mahmood et al., 2019) by participating in various networks; the ability to identify business opportunities (Fernández-Pérez et al., 2019; Hallen & Eisenhardt, 2012) and can get support for the expansion and growth of the venture (Owusu et al., 2022) is also increased. Social network participation, however, requires certain levels of connectivity skills (Farooq & Radovic-Markovic, 2017) for interaction with both formal and informal communities.

Similarly, developing social capital, acquired through different types of relationships built over time (Lin, 2003), depends on the capacity of an individual to interact with people with similar profiles, and also with those from different backgrounds (Pérez-Macías et al., 2022). Many authors believe that social capital is a variable with a strong and direct impact on entrepreneurial intention (Liñán & Santos, 2007; Neira et al., 2017; Pérez-Macías et al., 2020). Public engagement, civic engagement, and citizenship are looked at as a way of building safer and more prosperous societies in collaboration with other key players, such as local and regional authorities (Revez et al., 2022).

Adler and Goggin (2005) and Mohr Carney et al. (2023) viewed civic engagement as a measure of citizen's active participation in the life of a community, aiming to improve conditions for others and get involved in the community's future. At the same time, Arvanitidis (2017) defined civic engagement as an immediate answer to public issues via both individual and collective participation in democratic organisms. Porumbescu et al. (2020) presented citizen engagement as a multifaceted construct that includes various behaviours that are interrelated to each other, such as participation in political debate, volunteering, learning about community issues, and protesting. Additionally, Cegarra-Navarro et al. (2021) saw citizen engagement as the participation of people in governmental decisions, as exemplified in the context of the Covid-19 health crisis and associated measures. Therefore, civic engagement includes various aspects of citizenship, including electoral participation, organizational participation, voluntary participation, and collective action (Warren et al., 2014).

On the other hand, Fischer (2000) considered that public engagement reflects situations in which citizens as individuals, and communities as groups deliberate, participate, collaborate, intervene, and oppose issues that are of concern to them. Public engagement is also seen to be multi-layered and to comprise more categories of actions, such as participating in public communication, public consultation, public deliberation, public decision-making, and public activism (Michali & Eleftherakis, 2022).

As evidenced by the literature, there is a strong overlap of descriptions of civic engagement and public engagement, illustrating a high level of fluidity, vagueness, and plurality of the concepts (Revez et al., 2022). Lately, Byrne et al. (2020) integrated civic engagement and public engagement into one concept, namely civic and public engagement (CPE from now on), acknowledging that the two are closely inter-related, and that good citizens have high civic morals and public involvement skills. This concept was recently referred to as civic and political engagement by Chaskin et al. (2021), when analysing young people's citizenship in three European cities.

The combined approach, namely civic and public engagement, is used in the present paper to illustrate the individual and group activities that address concurrently public and civic issues (Warren et al., 2014).

Interpersonal competences are associated with the development of novel social relationships, contributing to the understanding of social concerns (Hatala et al., 2017) while participating in the settlement of complicated issues in a given society. Societal problems are often the subject of interest of civically and publicly involved individuals. Civic and public engagement addresses major issues in the community (such as the economy, ecology, social relations, politics, family life, health, and others) and people involved in such activities require certain skills and competences (Kahne & Sporte, 2008; Fitzgerald & Primavera, 2013). As civic and public engagement includes concern and actions for the common good and for the collective well-being, it is usually carried out with others, therefore requiring collective and cooperative action (Arvanitidis, 2017) based on existing communication and cooperation skills, and recognized as the necessary characteristics for civic engagement and political participation (Gil de Zuniga et al., 2012). Social capital, consisting of interpersonal trust, interest in public affairs and engagement, is seen to strengthen communal and civic associations (Nur-Tegin, 2021), empowering the link with democracy. Some authors (Chan et al., 2017; Byrne et al., 2020) emphasized the development of various generic skills among students, of which interpersonal skills might contribute to building community and citizenship knowledge, favouring the civic and public engagement of youth in community issues. The same idea is supported by the fact that the participation of young people in formal deliberate forums, for example, by using their social and communication skills, allows them to engage in civic, public, and political debate (Chaskin et al., 2021) and actions. Likewise, at a more general level, it is acknowledged that people with interpersonal competences have an increased probability of being involved in different activities relating to civic and public engagement (Kahne & Sporte, 2008; Warner, 2020).

On the basis of the above-mentioned argument, the following hypothesis is proposed:

H5 Interpersonal competences positively influence civic and public engagement.

It has been seen in the previous sections that individuals can orient their intentions and actions and can invest their time in two major categories of enterprise: civic-oriented ones and business-oriented ones. The question is whether the two categories of initiatives influence each other in an individual's behaviour? Assuming that the entrepreneurial endeavour is the ultimate individual initiative, it is of interest to analyse whether civic and public engagement influences entrepreneurial intention. Being civically and publicly engaged may be considered another form of entrepreneurial activity with a different purpose (Arvanitidis, 2017) to the economic one. Similar to how attitudes towards entrepreneurship positively influence entrepreneurial intention (Bazkiaei et al., 2021), the present paper considers how civic and public engagement (seen as entrepreneurial initiatives) (Revez et al., 2022) influence entrepreneurial intention.

Even though numerous predicting variables have been considered in the literature in relation to entrepreneurial intention (Hueso et al., 2021; Pérez-Macías et al., 2022), there are authors who consider that there is a need for more research on contextual perspectives and approaches for the conceptualization of the development of EI (Schlaegel & Koenig, 2014; Fernández-Pérez et al., 2019); likewise on the social context that considers shared vision and a sense of identification with the group as influencers of entrepreneurial intention (Pérez-Macías et al., 2022). Answering such calls, the present paper focuses on an aspect not previously considered, namely how civic and public engagement influences entrepreneurial intention.

In this direction, Sansone et al. (2021) illustrated how the participation of students in extra-curricular entrepreneurial activities (being members of student-led organizations; participating in numerous different social, cultural, civic events and projects; participating in exchange programmes, forming an international mindset by interacting with people from other cultures) increased their entrepreneurial intention and fostered their entrepreneurial culture.

In the same vein, social entrepreneurship intention has been identified as emergent (Liñán & Fayolle, 2015), representing a main topic of research in the field of entrepreneurial intention (Alfaro-García et al., 2022). Social entrepreneurs try to find innovative solutions to social problems and pursue social objectives (Ngoc Tuan & Pham, 2022). In this context, social entrepreneurship has two tasks: creating social and economic value contributing to change, and thus creating social value based on business principles (Zahra et al., 2009). Even though the literature distinguishes between business entrepreneurs and social entrepreneurs, according to their mission and the ways they invest their profits (Younis et al., 2021), it can still be considered that an individual's civic and public engagement (and his perceived social norms) is a prerequisite for social entrepreneurial intention (Claeyé et al., 2022), and also for entrepreneurial intention in general, via participation in political and social events (Pérez-Macías et al., 2022).

These considerations lead us to present our last hypotheses:

H6 Civic and public engagement positively influences entrepreneurial intention.

Having consolidated all the previous theoretical arguments, we may also infer the role of civic and public engagement as a mediator between interpersonal competences and entrepreneurial intention, that is:

H7 Civic and public engagement partially mediates the relationship between interpersonal competences and entrepreneurial intention.

As shown in Fig. 1, interpersonal competences not only help knowledge workers combine emotional, rational, and spiritual knowledge but also encourage entrepreneurial intention directly and indirectly via Civic and Public Engagement (CPE). While H_4 represents the direct effect of IC on EI, H_5 , H_6 , and H_7 consider that CPE partially mediates the relationship between IC and EI.

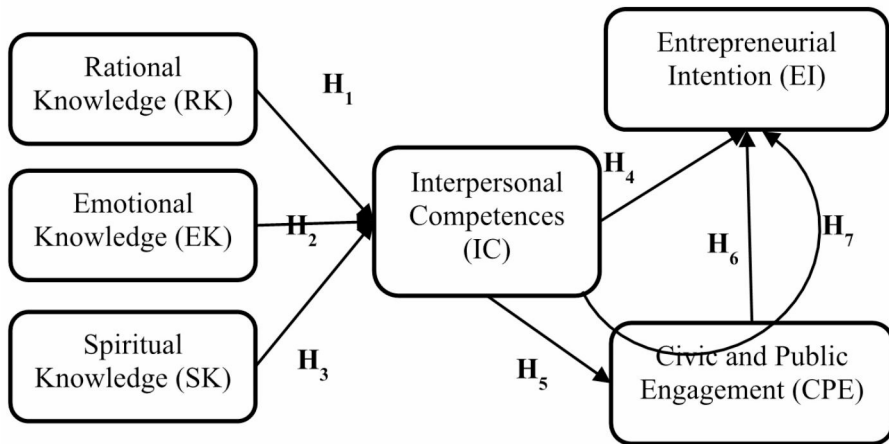


Fig. 1 Theoretical model of generating and fostering entrepreneurial competences by means of civic and public engagement

Method

Sampling and data collection

Knowledge workers are those who generate value for organizations through their knowledge (Toth et al., 2020). In this study, they were students with interpersonal competences, who were also capable of solving complex problems efficiently, and with the ability to work autonomously. Business-related faculties were chosen as the population for the study. Data were collected with stratified random sampling among knowledge workers, with a total sample size of 527 respondents.

The empirical study was based on an online quantitative survey conducted between June and September 2021 during the COVID-19 pandemic. The questionnaire was distributed to students via email, discussion groups, and various social media networks, to attract as many participants as possible. Colleagues from different business-related fields of study also distributed the questionnaire to their students, thus supporting the relevance of empirical investigation and phenomenological analysis, given that it focuses on a specific student population. The authors relied on convenience sampling of 527 subjects who completed the questionnaire. Table 1 illustrates the socio-demographical characteristics of the respondents.

Questionnaire design and measures

The questionnaire was operationalized according to the previously presented literature. All statements were measured using five-point Likert scales. The authors considered six constructs: rational, emotional, and spiritual knowledge, interpersonal competences, civic and public engagement, and entrepreneurial intention. All constructs were considered to be of a reflective nature (Sarstedt et al., 2017). The scales are presented in Table 2.

Table 1 Socio-demographic characteristics of the respondents

Demographics (N=527)		Frequency	Relative Frequency %
Gender	Male	369	70.02
	Female	158	29.98
University	Babeş-Bolyai University	389	73.8
	SNSPA Bucharest	81	15.37
	Other universities	57	10.82
Level of education	Undergraduate Student	174	33.02
	Graduate Student	328	62.24
	Others (PhD Student / Postdoc)	25	4.7
Field of Study	Management	201	38.14
	Business Administration	135	25.62
	Marketing	65	12.33
	Economics	30	5.69
	Business Informatics	30	5.69
	Other fields (Accounting, Finance, Statistics)	66	12.53

Results

Evaluation of the measurement model

The theoretical model and its corresponding hypotheses (Fig. 1) were tested with SmartPLS 3.0. (Ringle et al., 2015) using structural equation modelling (SEM). This data analysis technique was chosen because it eases the investigation of relationships between latent constructs, which are assessed through different variables (items) (Hair et al., 2019).

The validity and internal consistency of data were measured based on item loadings, average variance extracted (AVE), reliability indicators and discriminant validity (Table 3). As depicted in Table 2, all item loadings meet the minimum threshold of 0.70 (the minimum value is 0.727 for the CPE4 item), meaning that the variables have convergence validity (Hair et al., 2010). Cronbach's α helped establish the reliability of the constructs, all values being above 0.7 (Henseler & Sarstedt, 2013). As the average variance extracted (see Table 2) exceeds 0.5, the model is adequate (Chin, 1998). With values above 0.7 the Composite Reliability (CR) proves the reliability of the constructs (Hair et al., 2010).

The next step was to evaluate the collinearity of the variables in the measurement model by computing the value inflation factors (VIF), which must be under 5 (Sarstedt et al., 2017). With a VIF of 3.499 for EI2, there is no multicollinearity in the data set. Further, using bootstrap procedures to test hypotheses and relationships between latent constructions, it is possible to accept all hypotheses with significant positive relationships based on T statistics (see Fig. 2).

Table 2 Scale reliability for the constructs in the model

Item	Measure	Loading	Cronbach's Alpha	AVE	CR
Rational Knowledge (RK) adapted from Bratianu and Bejinaru (2020)					
RK1	I make decisions based on facts and data	0.824	0.786	0.607	0.861
RK2	My thinking is dominated by rationality	0.840			
RK3	I always look for objective and logical arguments	0.845			
Emotional Knowledge (EK) adapted from Bratianu and Bejinaru (2020)					
EK1	My perceptions help me to find good solutions to different problems	0.770	0.786	0.607	0.861
EK2	I usually trust my feelings when faced with problems	0.810			
EK3	I trust my emotions when faced with new challenges	0.792			
EK4	Emotional intelligence has often been helpful in my life	0.744			
Spiritual Knowledge (SK) adapted from Bratianu and Bejinaru (2020)					
SK1	Having strong social values has helped me in my life	0.765	0.702	0.627	0.834
SK2	I am open to establishing sustainable agreements with friends who share the same cultural values	0.779			
SK3	A good teacher contributes to doing something good for people	0.744			
Interpersonal Competences (IC) adapted from Wulani et al. (2019)					
IC1	I establish good relationships with my teachers	0.765	0.802	0.558	0.863
IC2	I have a strong will to keep going	0.796			
IC3	I have knowledge and information about what happens in society	0.721			
IC4	I manage my life with confidence	0.729			
IC5	You can trust me	0.721			
Entrepreneurial Intentions (EI) adapted from Mahmood et al. (2019)					
EI1	You are ready to do anything to be an entrepreneur	0.913	0.904	0.839	0.940
EI2	You will do your best to start and run your own business	0.931			
EI3	You have seriously thought about starting a business	0.903			
Civil and Public Engagement (CPE) adapted from Byrne et al. (2020)					
CPE1	A good student has the responsibility of applying their knowledge to create positive global change	0.816	0.824	0.587	0.876
CPE2	Students have the responsibility to provide their knowledge and skills to improve the quality of life in local communities	0.798			
CPE3	Learning to connect the content of my courses with the problems of the real-world community is essential to become a good professional	0.751			
CPE4	I appreciate that professionals who give their knowledge altruistically; it is not always about making money	0.727			
CPE5	The professionals in my union play a vital role in identifying and solving problems of public interest	0.734			

Factor loading > 0.7; Cronbach's Alpha > 0.7; Average variance extracted (AVE) > 0.5; Composite reliability > 0.7.

Table 3 Discriminant validity analyses

Fornell-Larcker*	Con-struct					Hetertrait-Monotrait**						
	CPE	EK	EI	IC	RK	SK	CPE	EK	EI	IC	RK	SK
0.766												
0.400	0.779						0.487					
0.316	0.258	0.821					0.361	0.299				
0.590	0.513	0.368	0.747				0.724	0.634	0.432			
0.302	0.280	0.174	0.399	0.837			0.371	0.344	0.203	0.503		
0.582	0.483	0.207	0.645	0.343	0.792	0.792	0.759	0.640	0.257	0.856	0.455	

Note: CPE: Civil and Public Engagement; EK: Emotional Knowledge; EI: Entrepreneurial Intentions; IC: Entrepreneurial Intentions; IC: Interpersonal Competences; RK: Rational Knowledge; SK: Spiritual Knowledge

*Bolded diagonal values of the square root of AVE should be higher than off-diagonal correlations depicted below the diagonal line

**All values must be under 0.9 (Henseler et al., 2014) to avoid constructs having conceptual similarity

Evaluation of the structural model

The first step in the analysis of the structural model refers to the assessment of the collinearity level between the constructs. In this case, the highest inflation factor in the inner model is 1.533 (IC \diamond EI). This proves that the constructs are not collinear. With a saturated square root mean residual (SRMR) of 0.064 (<0.08) and an estimated SRMR of 0.072 (<0.08), the goodness of fit of the model is acceptable. Rational, emotional, and spiritual knowledge explain 49.5% of the variance in interpersonal competences ($R^2=0.495$), while interpersonal competences explain 34.8% in the civic and public engagement of students ($R^2=0.348$). Interpersonal competences along with the civic and public engagement explain 15% of the entrepreneurial intentions ($R^2=0.150$), displaying a low to moderate prediction power of the structural model.

Table 4 contains the direct and indirect effects computed in SmartPLS.

Hypothesis 1 (H_1) suggested that rational knowledge has a positive effect on interpersonal competences. The results ($\beta=0.170$; $T=4.523$; $p<0.001$) confirm that rational knowledge has a significant positive influence on interpersonal skills, so H_1 can be accepted. Hypothesis 2 (H_2) assumed that emotional knowledge has a positive effect on interpersonal abilities. The results ($\beta=0.238$; $T=6.110$; $p<0.001$) show a strong positive impact on the second concept and so H_2 was accepted. Hypothesis 3 (H_3) presumed that spiritual knowledge has a positive influence on interpersonal competences. The results ($\beta=0.472$; $T=10.854$; $p<0.001$) highlight the very strong positive and significant influence of this type of knowledge on interpersonal competences, thus H_3 can be confirmed.

Moving further, Hypothesis 4 (H_4) posits that interpersonal competences positively influence entrepreneurial orientation. Given the results ($\beta=0.278$; $T=5.227$; $p<0.001$), the fourth suggested relationship was also accepted because it showed a strong positive and significant influence. Hypothesis 5 (H_5) considered that interpersonal competences positively influence civic and public engagement. The results ($\beta=0.590$; $T=13.559$; $p<0.001$) show that the relationship between constructs is very strong, positive, and significant, hence supporting H_5 . Hypothesis 6 (H_6) supposed that civic and public engagement positively influences entrepreneurial intention. The results ($\beta=0.152$; $T=2.931$; $p<0.01$) confirm that the influence is positive and significant, so the sixth hypothesis was shown to be correct.

Hypothesis 7 (H_7) assumed the partial mediation effect between civic and public engagement in the relationship between interpersonal competences and entrepreneurial intention. The results ($\beta=0.090$; $T=2.766$; $p<0.01$) depict a low positive but significant relationship, and thus H_7 was confirmed by the analysis.

Discussion

As previously indicated, all the inferred relationships were supported by the study. The analysis brought forward the positive influences of all three dimensions of knowledge (i.e., rational, emotional, and spiritual) on the development of interpersonal competences, with the highest impact exerted by spiritual knowledge (i.e., as a

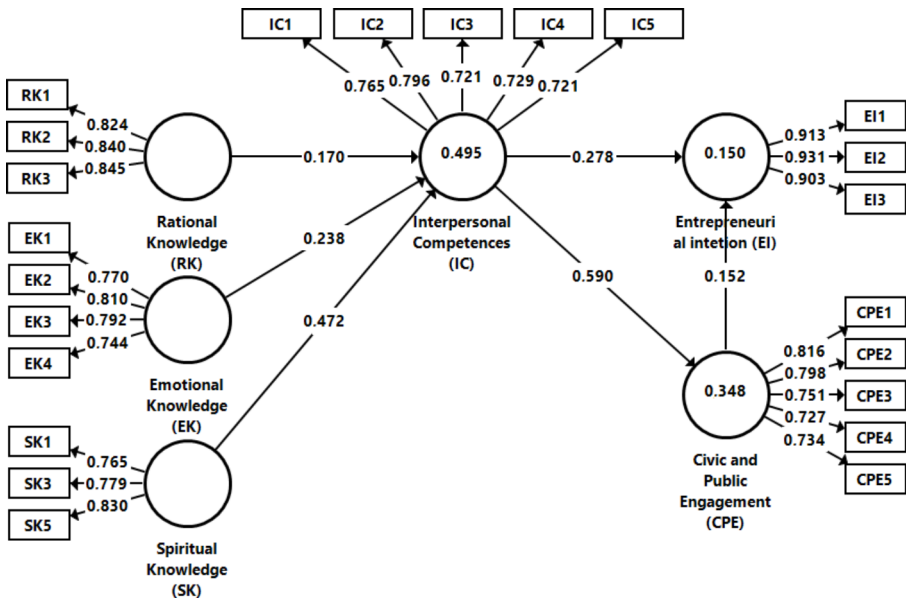


Fig. 2 Structural model

Table 4 The path coefficients of the structural equation model

Paths	Path Coefficients	Standard Deviation	T-Value	CI ¹	P-Value	Hypotheses
RK → IC	0.170	0.038	4.523	0.098...0.243	0.000**	H ₁ -Confirmed
EK → IC	0.238	0.039	6.110	0.161...0.312	0.000**	H ₂ -Confirmed
SK → IC	0.472	0.044	10.854	0.380...0.549	0.000**	H ₃ -Confirmed
IC → EI	0.278	0.053	5.227	0.169...0.381	0.000**	H ₄ -Confirmed
IC → CPE	0.590	0.043	13.559	0.500...0.665	0.000**	H ₅ -Confirmed
CPE → EI	0.152	0.052	2.931	0.031...0.242	0.004*	H ₆ -Confirmed
IC → CPE → EI	0.090	0.032	2.766	0.016...0.148	0.006*	H ₇ -Confirmed

Note: * $p < 0.01$; ** $p < 0.001$; CPE: Civil and Public Engagement; EK: Emotional Knowledge; EI: Entrepreneurial Intentions; IC: Interpersonal Competences; RK: Rational Knowledge; SK: Spiritual Knowledge.; ¹CI=Confidence Interval (2.5-97.5%)

value-driven type of knowledge), followed by emotional knowledge (as an intuition-driven type of knowledge).

In the first three hypotheses, the results give credit to the knowledge dynamics outlook promoted by Bratianu et al. (2021), with each form of knowledge having its own norms and expression but co-occurring to produce positive outcomes. Whenever individuals collaborate, a process of combining their individual knowledge occurs, leading to higher-order knowledge which fosters interpersonal competences (Vătămănescu et al., 2020, 2023a, b). As also advanced by Bass and Riggio (2005) and Winkielman et al. (2013), interpersonal competences emerge as an integrated contribution of reason, intuition, and values, while simultaneously fostering the ability to nurture relationships with others in an organizational or social setting.

Regarding Hypothesis H₄, the positive relationship between interpersonal competences and entrepreneurial orientation was also validated by the empirical evidence, thus supporting prior arguments in this direction (Fernández-Pérez et al., 2019; Liñán & Santos, 2007; Markman & Baron, 2003; Păunescu et al., 2018; Shrafat, 2018). Socially oriented and interpersonal competences, such as social stability, social skills, participation in social networking, and formation of social ties (Salamzadeh & Kirby, 2017) are all pivotal factors of social capital development which has a strong and direct influence on entrepreneurial intention (Liñán & Santos, 2007; Neira et al., 2017; Pérez-Macías et al., 2020).

The results also support Hypothesis H₅, interpersonal competences having a direct positive influence on civic and public engagement and a positive indirect effect on entrepreneurial intention via civic and public engagement. Given that civic and public engagement includes concerns and actions for the common good and the collective well-being, it is typically carried out in collaboration with others, necessitating collective and cooperative actions (as also stated by Arvanitidis, 2017). The existing communication and cooperation skills as a prerequisite of social capital catalyse co-participation and become a means of bolstering communal and civic associations (Gilde Zuniga et al., 2012; Nur-Tegin, 2021). These results are in line with prior developments (Chan et al., 2017; Byrne et al., 2020) emphasizing that the development of various generic skills among students, such as interpersonal skills, can contribute to the development of community and citizenship knowledge, which in turn promotes the civic and public engagement of youth in community issues.

With respect to the test of Hypothesis H₆, entrepreneurial intention is also positively influenced by civic and public engagement. Even though the influence is not very high, as previously demonstrated by Sansone et al. (2021), the participation of knowledge workers in external communities, as with students in extra-curricular activities such as membership of student-led organizations; participation in a variety of social, cultural, and civic events and projects; and participation in exchange programmes, forming an open mind set by interacting with people from multiple cultures, increases entrepreneurial intention and fosters an entrepreneurial culture. Therefore, civic, and public engagement springs as a proxy for entrepreneurial orientation, proving the permeability of different social processes and activities (Andronic et al., 2023) within human action.

Regarding the test of Hypothesis H₇, our results suggest that the effect of interpersonal competences on entrepreneurial intention is partially mediated through the presence of civic and public engagement, which means that CPE is one of the most relevant components in the construction of society (Gajdosikova et al., 2023; Zăroiu et al., 2022; Nagy et al., 2023). Through this engagement, society contributes to ensuring the adequacy of interpersonal competences and to the social and entrepreneurial responsibilities of knowledge workers (Cegarra-Navarro et al., 2012, 2014; Warren et al., 2014; Byrne et al., 2020). One possible explanation for these findings is that, by means of the CPE, knowledge workers may have some control over external communities (e.g., taking part in public affairs, voting rights, or accessing public services). In fact, knowledge workers can choose either not to take part in civic and public activities, or to take part in them. If they decide to participate, it is evident that they are opening a window to learn and upgrade their competences. For example, CPE

helps managers to understand the benefits of identifying relevant issues and focusing on long-term success for themselves and their communities. However, since we were testing a partial mediation model, sometimes knowledge workers chose not to participate, remaining faithful to their own competences (Hypothesis 5).

Conclusions

Summary of the findings

The present study has brought to the fore the underlying relationships between four main constructs, that is, knowledge, interpersonal competences, civic and public engagement, and entrepreneurial intention. All the considered hypotheses were confirmed in the case of the studied population, namely students coming from interconnected business-related fields of study (i.e., Management, Business Administration, Marketing, Economics, Business Informatics, Accounting, Finance, and Statistics).

The main assumption for focusing on such a specific sample envisaged the higher likeability and propensity of subjects from these domains to have an entrepreneurial orientation and, subsequently, intention. Moreover, the intra-sample similarities were meant to adopt a context-driven and phenomenological approach to the antecedents of civic and public engagement and entrepreneurial intention in the case of students with a presupposed economic/entrepreneurial profile.

Originality and implications of the research

From a theoretical perspective, the current scrutiny mainstreamed several noteworthy developments. Firstly, it highlighted the influence of different dimensions of knowledge on the formation of interpersonal competences, underscoring the prominent impact of spiritual knowledge (e.g., personal values and intuition) and emotional knowledge (e.g., positive emotions, feelings and perceptions on social trust, co-participation, and cooperation). Secondly, the evaluation of the structural model pointed to the important role for interpersonal competences in the consolidation of civic and public engagement and entrepreneurial intentions, thus linking two positions of social openness. Furthermore, the intimate relationship between the two constructs was also brought forward by the partial mediation effect of civic and public engagement in the relationship between interpersonal competences and entrepreneurial intentions. All these interconnections proved the simultaneous interaction and fluidity of various pro-social attitudes and actions of students from business-related fields of study, leading both to societal commitment and to entrepreneurial intention as a natural continuum.

From a managerial perspective, decision-makers, and policymakers from academia and from the wider business ecosystem should consider the importance of fostering social contexts for interaction and communication among the young population as a premise for building interpersonal and social trust, common action for the common good, responsibility for community welfare and public interest, and at the same time, an entrepreneurial vision and actual intention. As the evidence supported,

civic and public engagement and personal entrepreneurial intention are influenced by the same factor (i.e., interpersonal competences), while the former also proved to be a meaningful influencer of the latter.

Limitations and future research avenues

Despite the theoretical and practical implications, several limitations of the empirical endeavour should be assumed. On the one hand, the relationships between constructs were appraised in the case of a convenient student population, thus being indicative of a specific context describing young individuals from business-related faculties. Further studies might approach other types of samples, focusing on other socio-demographic profiles (i.e., older individuals, employed persons, etc.).

On the other hand, the research instrument comprised only self-reported measures, hence implying subjectivity, and the risk of bias. Nevertheless, given the focus and scope of the research, it would have been difficult to include objective measures for assessing any of the variables, with high relevance for the student population. In this regard, the extension of the research to other socio-demographic categories might avail the opportunity to consider additional measures.

Finally, given that the empirical research indicated a low to moderate prediction power of the structural model, replicating the proposed framework on different samples or in distinctive situations would round off the pertinence of the advanced model beyond context-driven factors.

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