

# Conceptual Research Model for Studying Students' Entrepreneurial Competencies

**Tanja Zdolšek Draksler**

PhD student at the University of Maribor, Faculty of Economics and Business, Slovenia  
tanja.zdolsek@gmail.com

**Karin Širec**

University of Maribor, Faculty of Economics and Business, Slovenia  
karin.sirec@um.si

## Abstract

The literature review shows a lack of research on the impact of entrepreneurship education on entrepreneurial competencies in relation to entrepreneurial intentions. Further development of the field is needed, but, because of the shortage of suitable research models or because they only partially cover the complex area of entrepreneurial competencies, the purpose of this article is the formulation of a new, updated research model (based on the existing models). Thus, theoretical research of entrepreneurial competencies based on the competence study has been performed. Through in-depth analysis of existing entrepreneurial competencies research models, a congregated hybrid research model is proposed. A new conceptual research model for studying the impact of entrepreneurship education on entrepreneurial competencies in relation to entrepreneurial intentions has been developed. The model will serve for empirical testing of investigated phenomena. The original contribution is in the formulation of a unique research model and the construction of a customized measuring instrument for studying the phenomena of entrepreneurship education impact on entrepreneurial competencies and entrepreneurial intentions.

**Keywords:** competency theory, entrepreneurial competencies, entrepreneurial intentions, entrepreneurial behaviour, higher education, entrepreneurship education

## Introduction

The belief has spread that entrepreneurial motivation can be “embedded” and nurtured in the process of socialization and education. In this context, entrepreneurial competencies<sup>1</sup> necessary for entrepreneurship can, thus, be taught (Schøtt *et al.*, 2015, p. 9). Lackéus (2015, p. 14) is convinced that the main goal of entrepreneurship education is, in most cases, exactly the acquisition of entrepreneurial competencies. With this in mind, the OECD/EU (2017, p. 58; 2015, p. 57) data shows that most young people in European countries feel that they do not have

<sup>1</sup> For the term “entrepreneurial competencies,” synonyms appear in the literature, e.g., entrepreneurial skills, entrepreneurial abilities.

---

ORIGINAL SCIENTIFIC PAPER

---

RECEIVED: OCTOBER 2018

---

REVISED: NOVEMBER 2018

---

ACCEPTED: NOVEMBER 2018

---

DOI: 10.2478/ngoe-2018-0020

---

UDK: 658:378:001.891

---

JEL: L25, L26

---

**Citation:** Zdolšek Draksler, T., & Širec, K. (2018). Conceptual Research Model for Studying Students' Entrepreneurial Competencies. *Naše Gospodarstvo/Our Economy*, 64(4), 23-33. DOI: 10.2478/ngoe-2018-0020

---

---

**NG  
OE**

---

**NAŠE GOSPODARSTVO  
OUR ECONOMY**

---

Vol. 64 | No. 4 | 2018

---

pp. 23 – 33

---

enough knowledge and competence in order to start their own business. The most frequently quoted reasons why graduates are not engaged in entrepreneurship immediately after graduation is lack of adequate knowledge and self-confidence. Entrepreneurship education is therefore of extreme importance for promotion of entrepreneurship (European Commission, 2008, p. 23). Schøtt *et al.* (2015, p. 9) summarized Kvedaraite (2014), claiming that entrepreneurship is a method by which young people can improve their life opportunities and lifestyles; eventually, entrepreneurship contributes to reducing youth unemployment in general and overall stability.

Many researchers emphasize the need to raise entrepreneurial intentions among students (Verheul *et al.*, 2001; Heinonen & Poikkijoki, 2006; Rae *et al.*, 2011; Kyndt & Baert, 2015; Schøtt *et al.*, 2015). They also recognized the importance of governmental intervention into educational systems through which cultural norms that stimulate entrepreneurship could be encouraged. Verheul *et al.* (2001, p. 26, 34) are convinced that the greater the investment of a country in higher education, the higher is the level of newly established companies. Moreover, the already high level of general education can contribute to a higher level of entrepreneurship; thus, specific entrepreneurial education has an even greater impact (Schøtt *et al.*, 2015; Lackeus, 2015).

The European Commission's awareness of the importance of maintaining a knowledge-based society resulted in the adoption of the recommendation on key competences for lifelong learning in 2018. The main thread is the promotion of entrepreneurial and innovation-oriented thinking and related competencies. The idea is to help people acquire the basic competencies needed for work and life in the 21st century. One of the recommended eight key competencies is *entrepreneurship competence* (European Commission, 2018).

To the best of our knowledge, there are not many empirical researches of entrepreneurial competencies. Authors (Kyndt & Baert, 2015, p. 22; Sánchez, 2013, p. 448) draw attention to the need of empirical research, which studies the impact of entrepreneurship education on entrepreneurial competencies in connection with entrepreneurial intentions. Mitchelmore and Rowley (2010) are convinced that further development of the field is needed, both the theory of entrepreneurial competencies and research work with practical studies and development of measuring instruments. This is precisely the goal of this article, i.e., to contribute to the treasury of such research.

The current paper represents the continuation of the previous published article (Zdolšek & Širec, 2014), which addresses the topic of entrepreneurship education's impact on entrepreneurial intentions of students and is structured as a review of

empirical research. The objective of the previous article was the development of conceptual research model for studying the impact of entrepreneurship education on entrepreneurial intentions and entrepreneurial competencies. The current paper focuses on the entrepreneurial competencies and is structured as follows. After the introduction, we present the theoretical approaches to the competence study. Next, a theoretical overview of entrepreneurial competencies is presented. Based on our findings, we structured an updated conceptual research model for studying the impact of entrepreneurial education on the entrepreneurial competencies and entrepreneurial intentions. Additionally, we briefly present the measuring instrument of the proposed model.

### Theoretical Approaches to the Competence Study

The competency theory is based on the study of successful leaders. It reveals their behaviours, attitudes, and skills and presents them in the form of measurable characteristics. It explores ways to combine these units to create individuals who prove superior performance (Mitchelmore & Rowley, 2010, p. 97). Some authors use several terms as synonyms, i.e., competencies, skills, expertise, abilities, etc. In general, competencies are divided into the competencies of individuals and into competencies of organizations. We are interested in the competencies of individuals.

The theory of studying entrepreneurial behaviour is often divided into focusing on personality traits (McClelland, 1987) or on the competence of individuals through the competency approach (Boyatzis, 1982). While studying personality traits addresses profiling successful individuals, the competency approach identifies the competencies of individuals, which is the point of our interest. The competency approach is often used in management performance research and has been in use since Boyatzis (1982) published a study of American managers and their competencies (1982) (Man *et al.*, 2002, p. 126). McClelland (1973) says that competencies are crucial to the success or failure of an individual—not formal education, which is most often mentioned. Boyatzis (1982) links competencies with emotional, social, and cognitive intelligence and claims these are the basic characteristics of a person, which result in effective performance or career efficiency. Boyatzis adds that competencies are reflected in an individual's behaviour.

The literature review shows that, for competencies, there is no universal definition. Man *et al.* (2002) used the competency approach by examining the capabilities of key actors in organizations. Brophy and Kiely (2002, p. 165) point out that possessing competencies does not necessarily mean that an

individual is also capable. The authors continue that competencies can be displayed or proven only through the behaviour and actions of the individual (Man *et al.*, 2002, p. 133).

In the literature, we note that some authors associate competencies with personal characteristics of the individual (Bratton & Gold, 2003), some with knowledge (Bohlander & Snell, 2004; McClelland, 1998), and others equate competencies with behaviours (Aragon & Johnson, 2002). Bacigalupo *et al.* (2016, p. 20) and Man *et al.* (2002) defined competencies as a set of knowledge, skills, and relations. Bird (1995) defined competencies as behavioural and observable characteristics. On the other hand, the authors are united in that an individual is not born with competencies but acquires and develops them over time. Competencies are therefore variable and learnable, which allows intervention in terms of choice and teaching (Man *et al.*, 2002, p. 133; Mitchelmore & Rowley, 2010, p. 96).

## An Overview of Entrepreneurial Competencies

The basis of entrepreneurial competencies is presented from the theory of managerial competencies (Mitchelmore & Rowley, 2010, p. 99). Boyatzis (1982) pointed out the connection between entrepreneurial competencies and managerial competencies. Various authors began to research managerial competencies in the 1960s and 1970s, continuing in the 1980s (McClelland, 1961, 1973; Boyatzis, 1982), while research on entrepreneurial competencies appeared later, in the 1980s and 1990s. Since then, we have witnessed research that compares managerial and entrepreneurial competencies (Chandler & Hanks, 1994). Most authors, who are doing research on entrepreneurial competencies, build their work on the competency approach.

Chandler and Jansen (1992) asked which skills are essential for successful entrepreneurial action. They suggested that the core of entrepreneurial competencies represents the ability to identify entrepreneurial opportunities. Otherwise, the authors combined individual competencies with respect to three basic roles, which they believed are important for a successful entrepreneur to take on: entrepreneurial, managerial, and professional–technical roles.

Bird (1995) claimed that competencies are related to entrepreneurial behaviour and are learnable. Bird also claimed that the characteristics of an individual are fixed and defined as inaccessible, as we cannot learn them. Factors that can influence the development of entrepreneurial competencies and should therefore be taken into account are education, work experience, and entrepreneurial experience (Bird, 1995, p. 21).

Comparison of the necessary competencies of managers and entrepreneurs is not uniform. Busenitz and Barney (1997, p. 15, 23) compared managers and entrepreneurs in decision-making processes (more precisely, overconfidence). The authors further claimed that these two groups think differently.

Kiggundu (2002) purported that the necessary entrepreneurial competencies possessed the following attributes: relationships, values, beliefs, knowledge, skills, abilities, personality, wisdom, professionalism (social, technical, managerial), mentality, and behaviour. The listed qualities are also necessary for successful and sustainable entrepreneurship.

Some consider that entrepreneurial competencies are necessary for starting a business, while the development of a company requires managerial competencies. Others point out that entrepreneurship requires competencies in both areas. Entrepreneurial competencies are defined as the overall ability of an entrepreneur to perform work (Man *et al.*, 2002). On the other hand, the authors agreed that the entrepreneurial context is focused on the individual, while the managerial context focuses on the organization (Mitchelmore & Rowley, 2010, p. 97).

Entrepreneurial competencies based on Sánchez (2013, p. 450) represent specific personal characteristics: self-efficacy, proactivity, and risk-taking capability. Lans *et al.* (2014) drew attention to five generic competencies, which are often referred to as the basis of entrepreneurial competence: (1) opportunity competence, (2) social competence, (3) business competence, (4) industry-specific competence, (5) entrepreneurial self-efficacy. Lackéus (2015) defined entrepreneurial competencies as having the knowledge, skills, and attitudes that influence the willingness and ability of entrepreneurial engagement.

Kyndt and Baert (2015, p. 22) stated: “Entrepreneurship competencies predict future entrepreneurial activity.” Preliminary research has shown that entrepreneurs and their competencies are central to the success of SMEs. It is important to identify entrepreneurial competencies because, only in such a way, can organizations, businesses, and higher education institutions influence their development (Kyndt & Baert, 2015, p. 13).

The older generation grew up in a time when experiences, especially the working experience in a company, was considered as a way of acquiring entrepreneurial competencies and subsequently served for entering the world of entrepreneurship. It was not typical that entrepreneurial competencies could be learned without practical work in a company. Today's young generation is growing up in the age of education philosophy, and, because entrepreneurial

competencies are learnable, education and training for entrepreneurship are proposed as a good way to acquire competencies. This is supposed to be the basis for entry into entrepreneurship. New and emerging entrepreneurs are therefore often younger than those of previous generations (Schøtt *et al.*, 2015, p. 10).

## Theoretical Models Used

We have selected several models of entrepreneurial competencies, based on which we will build the conceptual research model. The first model is from Man (2001) and Man *et al.* (2002), the second from Kyndt and Baert (2015), and the third model is from Moberg *et al.* (2014).

Man *et al.* (2002, p. 124–126) defined entrepreneurial competencies as a collective ability of an entrepreneur to successfully perform his/her work. The authors claim these are higher-level features that include personality traits, skills, and knowledge. The model of entrepreneurial competencies by Man (2001) and Man *et al.* (2002) is composed from eight competence constructs (Table 1): (1) opportunity competencies, (2) relationship competencies, (3) conceptual competencies, (4) organizing competencies, (5) strategic competencies and (6) commitment competencies, (7) learning competencies and (8) personal strength competencies. The authors pointed out the need for an entrepreneur to find a balance between different competencies.

Kyndt and Baert (2015) cited 12 competence constructs (Table 2): (1) perseverance, (2) planning for the future, (3)

**Table 1.** Eight Competence Areas According to Man (2001) and Man *et al.* (2002)

Competence Area	Behavioural Focus	Literature Source
Opportunity competencies	Competencies related to recognizing and developing market opportunities through various means	Bartlett and Ghoshall (1997), Baum (1994), Chandler and Jansen (1992), Gasse (1997), McClelland (1987), Mitton (1989), Snell and Lau (1994).
Relationship competencies	Competencies related to person-to-person or individual-to-group-based interactions, e.g., building a context of cooperation and trust, using contacts and connections, persuasive ability, communication and interpersonal skill	Bartlett and Ghoshall (1997), Bird (1995), Chandler and Jansen (1992), Durkan <i>et al.</i> (1993), Gasse (1997), Lau <i>et al.</i> (1999), McClelland (1987), Mitton (1989).
Conceptual competencies	Competencies related to different conceptual abilities, which are reflected in the behaviours of the entrepreneur, e.g., decision skills, absorbing and understanding complex information, and risk-taking, and innovativeness	Bartlett and Ghoshall (1997), Baum (1994), Bird (1995), Chandler and Jansen (1992), Durkan <i>et al.</i> (1993), Gasse (1997), Hunt (1998), Lau <i>et al.</i> (1999), McClelland (1987), Mitton (1989), Snell and Lau (1994).
Organizing and leading competencies	Competencies related to the organization of different internal and external human, physical, financial and technological resources, including team-building, leading employees, training, and controlling	Adam and Chell (1993), Bartlett and Ghoshall (1997), Baum (1994), Chandler and Jansen (1992), Durkan <i>et al.</i> (1993), Gasse (1997), Hunt (1998), Lau <i>et al.</i> (1999), McClelland (1987), Mitton (1989), Snell and Lau (1994).
Strategic competencies	Competencies related to setting, evaluating and implementing the strategies of the firm	Adam and Chell (1993), Bartlett and Ghoshall (1997), Bird (1995), Durkan <i>et al.</i> (1993), Gasse (1997), Lau <i>et al.</i> (1999), McClelland (1987), Mitton (1989), Snell and Lau (1994).
Commitment competencies	Competencies that drive the entrepreneur to move ahead with the business	Bartlett and Ghoshall (1997), Chandler and Jansen (1992), Durkan <i>et al.</i> (1993), Hunt (1998), Lau <i>et al.</i> (1999), McClelland (1987), Mitton (1989).
Learning competencies	Competencies in connection with being in constant search for new information, openness to new information, ability to learn from different sources, proactive learning.	Man (2001), Snell and Lau (1994), Thompson <i>et al.</i> (1996), Deakins and Freel (1998)
Personal strength competencies	Competencies regarding the ability to maintain a high level of energy, self-motivating to maintain an optimal level of activeness, responding to constructive criticism, maintaining a positive attitude, scheduling tasks according to time management, identifying own strengths and weaknesses, and matching them with opportunities and threats.	Man (2001)

Sources: (Man, 2001, p. 304–305; Man *et al.*, 2002, p. 132)

insight into the market, (4) orientation toward learning, (5) seeing opportunities, (6) awareness of potential returns on investment, (7) decisiveness, (8) independence, (9) self-knowledge, (10) building networks, (11) ability to persuade, (12) social and environmentally conscious conduct.

Moberg *et al.* (2014) defined entrepreneurial competencies as entrepreneurial skills (creativity, planning, financial literacy, resource management, risk management and team work), entrepreneurial mindset (self-efficacy, control, self-esteem), entrepreneurial knowledge, connectedness to education and to career ambitions. We will take over only a part of the model from Moberg *et al.*, namely, the one that relates to entrepreneurial knowledge and creativity.

## Proposed Conceptual Research Model

Presented theoretical models have been adopted completely (first model from Man (2001) and Man *et al.* (2002); the second model from Kyndt and Baert (2015)) and partially (third model from Moberg *et al.* (2014)). Here, it is necessary to add that the existing models had to be modified for the purpose of creating a model that studies the impact of entrepreneurship education on entrepreneurial competencies and entrepreneurial intentions of higher education students. Because some of the competence constructs completely or partially overlap with each other, we merged them and obtained the final 17 competence constructs (Table 3). The updated conceptual research model, which is the continuation that follows from the past article (Zdolšek

**Table 2.** Twelve Competence Areas According to Kyndt and Baert (2015)

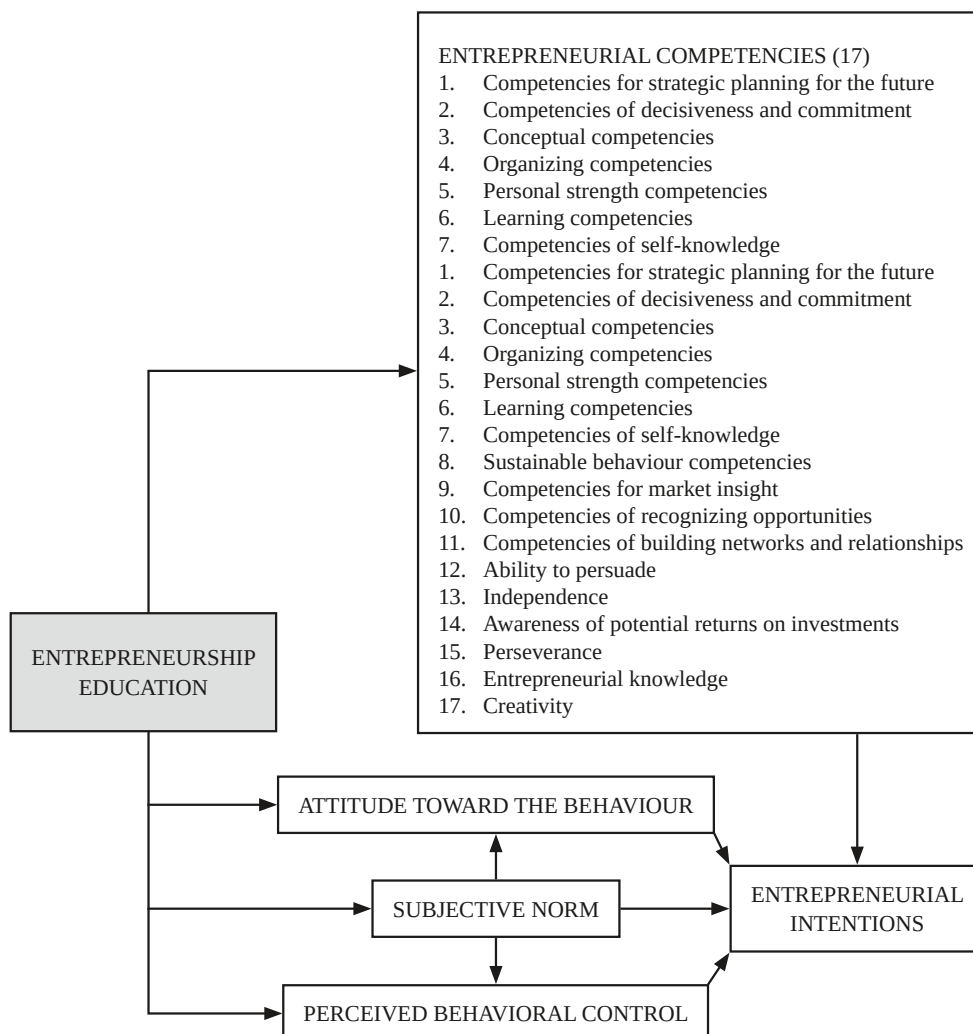
Competence area	Behavioural Focus	Literature Source
Perseverance	Competencies related to the ability of risks handling and confronting with possible consequences, persistence to achieve goals.	Kyndt and Baert (2015), McClelland (1987), Markman and Baron (2003), Valtonen (2007), Rauch and Frese (2007)
Planning for the future	Competencies in relation to risk-reduction efforts when planning for the future. It includes a vision of medium and long-term goals. It is also about transforming the vision into real (work) planning.	Kyndt and Baert (2015), Brinckmann and drugi (2010), Chwolka and Raith (2012), Karlsson and Honig (2009)
Insight into the market	Knowing the market, giving the entrepreneur the basis for assessing potential risks, as well as identifying competition and analysing the own position on the market.	Chwolka and Raith (2012), De Clercq <i>et al.</i> (2012), Man <i>et al.</i> (2002), Wagener <i>et al.</i> (2010)
Orientation towards learning	Ability and desire for new challenges and getting to know novelties, such as technical and economic changes and innovations. It is about finding new knowledge and skills, in the desire for its own development.	Lans <i>et al.</i> (2005), (2008)
Seeing opportunities	Competencies for identifying and exploiting opportunities.	Gras and Mendoza-Abarca (2014), Man <i>et al.</i> (2002), Markman and Baron (2003), Philips and Tracey (2007), Rezaei-Zadeh <i>et al.</i> (2014), Tumasjan and Braun (2012)
Awareness of potential returns on investment	Awareness of potential returns, i.e., the ability to measure the strengths and weaknesses of financial decisions.	Man <i>et al.</i> (2002)
Decisiveness	Competencies in making clear decisions. It is often about making decisions that not everyone agrees with, and the result of this decisions is not completely predictable.	Man <i>et al.</i> (2002), Rezaei-Zadeh <i>et al.</i> (2014), Wagener <i>et al.</i> (2010)
Independence	Acting independently of others. The ability to decide about what to do.	Rauch and Frese (2007), Wagener <i>et al.</i> (2010)
Self-knowledge	Competencies of self-understanding or self-awareness and also about self-confidence.	Hayward <i>et al.</i> (2010)
Building networks	It is important for entrepreneurs to establish an appropriate (internal and external) network of contacts and to maintain this network.	Davidsson and Honig (2003), McClelland (1987), Baron and Markman (2003), Man <i>et al.</i> (2002), Markman and Baron (2003)
Ability to persuade	It allows entrepreneurs to convince others about their thinking, plans, or products.	Baron and Markman (2003), Brush (2008), Davidsson and Honig (2003), Markman and Baron (2003), McClelland (1987), Wagener <i>et al.</i> (2010)
Social and environmentally conscious conduct	Functioning in a socially responsible manner that regulates economic, social and environmental interests and the future consequences that humanity has on the world.	Lans <i>et al.</i> (2008)

Adapted from Kyndt and Baert (2015)

**Table 3.** Proposed Model of Competence Constructs

Competence Construct	Author
Competencies for strategic planning for the future	Man (2001), Man <i>et al.</i> (2002), Kyndt and Baert (2015)
Competencies of decisiveness and commitment	Man (2001), Man <i>et al.</i> (2002), Kyndt and Baert (2015)
Conceptual competencies	Man (2001), Man <i>et al.</i> (2002)
Organizing competencies	Man (2001), Man <i>et al.</i> (2002)
Personal strength competencies	Man (2001), Man <i>et al.</i> (2002)
Learning competencies	Man (2001), Man <i>et al.</i> (2002), Kyndt and Baert (2015)
Competencies of self-knowledge	Kyndt and Baert (2015)
Sustainable behaviour competencies	Kyndt and Baert (2015)
Competencies for market insight	Kyndt and Baert (2015)
Competencies of recognizing opportunities	Man (2001), Man <i>et al.</i> (2002), Kyndt and Baert (2015)
Competencies of building networks and relationships	Man (2001), Man <i>et al.</i> (2002), Kyndt and Baert (2015)
Ability to persuade	Kyndt and Baert (2015)
Independence	Kyndt and Baert (2015)
Awareness of potential returns on investments	Kyndt and Baert (2015)
Perseverance	Kyndt and Baert (2015)
Entrepreneurial knowledge	Moberg <i>et al.</i> (2014)
Creativity	Moberg <i>et al.</i> (2014)

**Figure 1.** Updated Conceptual Research Model for Studying the Impact of Entrepreneurship Education on Entrepreneurial Competencies and Entrepreneurial Intentions



Adapted from Zdolšek and Širec (2014)

& Širec, 2014), is presented in Figure 1 and shows the entire model, which is derived from entrepreneurship education through entrepreneurial competencies to entrepreneurial intentions. Compared with the first model (Zdolšek & Širec, 2014), the updated and final version clearly presents the measurement instrument for the analysis of entrepreneurial competencies through defined competence constructs.

Measurement of entrepreneurial competencies is done through behaviour measurement, which is specific to a certain competence. The basis of the measurement instrument's present claims is designed as behavioural indicators and asks individuals how often they carry out certain behaviours (Kyndt & Baert, 2015, p. 15; Chandler & Jansen, 1992). Behavioural indicators are used because competencies can be shown only with the individual's behaviour and actions (Man *et al.*, 2002, p. 133). It is also necessary to point out the possibility of overestimation from individuals. Table 4 represents a short overview of the prepared measuring instrument for the proposed model.<sup>2</sup>

**Table 4.** Overview of the Measuring Instrument by Components

Measuring Instruments	Number of Items (questions or claims)
Measuring instrument for TPB <sup>3</sup> constructs	24
Measuring instrument for entrepreneurial competencies	99
Demographic data	9
Total	132

## Conclusion

The global trend is that more people are involved in higher education than ever before (Schøtt *et al.*, 2015, p. 7). Issues arise because the labour market and the education system are not harmonized; therefore, many young graduates (at least in the short-term) remain unemployed. On the other hand, entrepreneurship is known for its impact on economic growth while accelerating the technological development and employment rate (Schøtt & Others, 2015, p. 17; Lackéus, 2015, p. 6). Therefore, entrepreneurship education represents a key solution for stabilization of negative labour market conditions. Looking deeper into the meaning of entrepreneurship education for students, it means the development of certain skills or qualities and is not necessarily directly linked to the

creation of new businesses (Lackéus, 2015, p. 6). The most important aspect from our perspective is that, through entrepreneurship education, students develop entrepreneurial competencies and change their attitude toward entrepreneurship (Schøtt *et al.*, 2015, p. 9). A literature review has shown the importance of entrepreneurial competencies of students, as they can be the basis for their entrepreneurial intentions.

To summarize, we performed a theoretical research of entrepreneurial competencies based on the competence study. Through an in-depth analysis of existing entrepreneurial competencies research models of Man (2001) and Man *et al.* (2002), Kyndt and Baert (2015), and Moberg *et al.* (2014), we conducted a new, congregated hybrid research model with 17 competence constructs. This was done through modification of the existing models. The new conceptual research model for studying the impact of entrepreneurship education on entrepreneurial competencies in relation to entrepreneurial intentions of students will serve for empirical testing of investigated phenomena. The present conceptual research model is a continuation from Zdolšek and Širec's (2014) research and has updated and precisely designed the measurement instrument for analysis of entrepreneurial competencies through defined competence constructs. Consequently, the updated conceptual research model is ready for further use to study the impact of entrepreneurship education on entrepreneurial competencies in relation to entrepreneurial intentions. The original contribution is in the formulation of a unique research model and the construction of a customized measuring instrument.

Despite the importance of linking *entrepreneurship education–entrepreneurial competencies–entrepreneurial intentions*, the scientific literature dealing with all three variables is scarce (Zdolšek & Širec, 2014). The only author dealing with all three variables, to the best of our knowledge, is Sánchez (2011, 2013); thus, we further emphasize the need for scientific research in this area, which is also the most important message of the current paper. Finally, we agree with Mitchelmore and Rowley (2010) that further development in this field is needed, both in the sense of theory of entrepreneurial competencies as well as in research work with practical studies. The next step will therefore consist of empirical testing of the proposed conceptual research model, which studies the impact of entrepreneurship education on entrepreneurial competencies and entrepreneurial intentions of students in higher education.

<sup>2</sup> The entire measuring instrument is available upon request by the authors

<sup>3</sup> Stands for theory of planned behaviour (Ajzen, 1991) and was used to study the entrepreneurial intentions. More in detail presented in the article Zdolšek and Širec (2014).

## References

- Adam, E., Chell, E. (1993). The successful international entrepreneur: a profile. Paper Presented to the *23rd European Small Business Seminar*. Belfast.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179-211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Aragon, S.R., Johnson, S.D. (2002). Emerging roles and competencies for training in e-learning environments. *Advances in developing human resources*, 4(4), 424-439. <https://doi.org/10.1177/152342202237520>
- Bacigalupo, M., Kampylis, P., Punie, Y., & Van den Brande, G. (2016). *EntreComp: The Entrepreneurship Competence Framework*. Luxembourg: Publication Office of the European Union.
- Baert, H., Camertijn, C. (2007). Zelfbeoordeling van Ondernemerscompetenties in een Competentiegericht Ontwikkelingstraject: de ENTRE-Spiegel. Conference contribution at the conference *Onderwijs Research Dagen 2007*, Groningen, Netherlands.
- Baron, R. A., & Markman, G. D. (2003). Beyond social capital: The role of entrepreneurs' social competence in their financial success. *Journal of Business Venturing*, 18, 41–60. [https://doi.org/10.1016/S0883-9026\(00\)00069-0](https://doi.org/10.1016/S0883-9026(00)00069-0)
- Bartlett, C.A., Ghoshal, S. (1997). The myth of the generic manager: new personal competencies for new management roles. *Calif. Manage. Rev.*, 40(1), 92–116. <https://doi.org/10.2307/41165924>
- Baum, J.R. (1994). *The relationship of traits, competencies, motivation, strategy and structure to venture growth*. PhD dissertation, University of Maryland, USA.
- Bird, B. (1995). Toward a theory of entrepreneurial competency. In J.A. Katz & R.H. Brockhaus (Eds.), *Advances in entrepreneurship, firm emergence, and growth*, 2, 51–72. Greenwich, Connecticut: JAI Press Inc.
- Bohlander, G., Snell, S. (2004). *Managing human resources*. 13th edition. Manson: Thomson South-Western.
- Boyatzis, E.R. (1982). *The competent manager*. New York: John Wiley.
- Bratton, J., Gold, J. (2003). *Human resources management: Theory and practice*. 3rd edition. New York: Palgrave Macmillan.
- Brinckmann, J., Grichnik, D., & Kapsa, D. (2010). Should entrepreneurs plan or just storm the castle? A meta-analysis on contextual factors impacting the business planning–performance relationship in small firms. *Journal of Business Venturing*, 25, 24–40. <https://doi.org/10.1016/j.jbusvent.2008.10.007>
- Brophy, M., in Kiely, T. (2002). Competencies: A new sector. *Journal of European Industrial Training*, 26(2), 165-176. <https://doi.org/10.1108/03090590210422049>
- Brush, C. G. (2008). Pioneering strategies for entrepreneurial success. *Business Horizons*, 51, 21–27. <https://doi.org/10.1016/j.bushor.2007.09.001>
- Busenitz, L.W., Barney, J.B. (1997). Differences between entrepreneurs and managers in large organizations: Biases and heuristics in strategic decision-making. *Journal of business venturing*, 12(1), 9-30. [https://doi.org/10.1016/S0883-9026\(96\)00003-1](https://doi.org/10.1016/S0883-9026(96)00003-1)
- Chandler, G., Jansen, E. (1992). The founder's self-assessed competence and venture performance. *Journal of Business Venturing*, 7(3), 223-236. [https://doi.org/10.1016/0883-9026\(92\)90028-P](https://doi.org/10.1016/0883-9026(92)90028-P)
- Chandler, G.N., Hanks, S.H. (1994). Founder competence, the environment, and venture performance. *Entrepreneurship: Theory and Practice*, 18(3), 77-90. <https://doi.org/10.1177/104225879401800306>
- Chwolka, A., & Raith, M. G. (2012). The value of business planning before start-up: A decision-theoretical perspective. *Journal of Business Venturing*, 27(3), 385–399. <https://doi.org/10.1016/j.jbusvent.2011.01.002>
- Davidsson, P., & Honig, B. (2003). The role of social and human capital among nascent entrepreneurs. *Journal of Business Venturing*, 18, 301–331. [https://doi.org/10.1016/S0883-9026\(02\)00097-6](https://doi.org/10.1016/S0883-9026(02)00097-6)
- De Clercq, D., Sapienza, H.J., Yavuzc, R. I., & Zhoua, L. (2012). Learning and knowledge in early internationalization research: Past accomplishments and future directions. *Journal of Business Venturing*, 27, 143–165. <https://doi.org/10.1016/j.jbusvent.2011.09.003>
- Deakins, D., Freel, M. (1998). Entrepreneurial learning and the growth process in SMEs. *The Learning Organization*, 5(3), 144-155. <https://doi.org/10.1108/09696479810223428>
- Durkan, P., Harrison, R., Lindsay, P., Thompson, E. (1993). Competence and executive education and development in an SME environment. *Irish Bus. Adm. Res.*, 14(1), 65–80.
- European Commission. (2008). *Entrepreneurship in higher education, especially within non-business studies*. Retrieved from portal *European commission*: [http://ec.europa.eu/enterprise/policies/sme/files/support\\_measures/training\\_education/entr\\_highed\\_en.pdf](http://ec.europa.eu/enterprise/policies/sme/files/support_measures/training_education/entr_highed_en.pdf)
- European Commission. (2018). *Council Recommendation on Key Competences for Lifelong Learning*. Retrieved from portal *European commission*: [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CONSIL:ST\\_9009\\_2018\\_INIT&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CONSIL:ST_9009_2018_INIT&from=EN)
- Gasse, Y. (1997). *Entrepreneurial–Managerial Competencies and Practices of Growing SMEs – Summary of Results from an Empirical Study (Preliminary)*. Centre for Entrepreneurship and SME and Entrepreneuriat Laval, Universite Laval, Quebec, Canada.
- Gras, D., & Mendoza-Abarca, K. I. (2014). Risky business? The survival implications of exploiting commercial opportunities by nonprofits. *Journal of Business Venturing*, 29, 392–404. <https://doi.org/10.1016/j.jbusvent.2013.05.003>
- Hayward, M. L. A., Forster, W. R., Sarasvathy, S. D., & Fredrickson, B. L. (2010). Beyond hubris: How highly confident entrepreneurs rebound to venture again. *Journal of Business Venturing*, 25, 569–578. <https://doi.org/10.1016/j.jbusvent.2009.03.002>



- Heinonen, J., Poikkijoki, S.A. (2006). An entrepreneurial-directed approach to entrepreneurship education: mission impossible? *Journal of Management Development* 25(1), 80-94. <https://doi.org/10.1108/02621710610637981>
- Hunt, J. M. (1998). Toward the development of a competency model of family firm leadership. Paper Presented to the *12th Annual National Conference* (pp. 15–18). Clearwater, FL: United States Association for Small Business and Entrepreneurship.
- Karlsson, T., Honig, B. (2009). Judging a business by its cover: An institutional perspective on new ventures and the business plan. *Journal of Business Venturing*, 24, 27–45. <https://doi.org/10.1016/j.jbusvent.2007.10.003>
- Kiggundu, M. N. (2002). Entrepreneurs and Entrepreneurship in Africa: What is Known and What Needs to be Done. *Journal of developmental Entrepreneurship*, 7(3).
- Kvedaraitė, N. (2014). Reasons and Obstacles to Starting a Business: Experience of Students of Lithuanian Higher Education Institutions. *Management – Journal of Contemporary Management Issues*, 19(1), 1–16.
- Kyndt, E. in Baert, H. (2015). Entrepreneurial competencies: Assessment and predictive value for entrepreneurship. *Journal of Vocational Behavior*, 90, 13-25. <https://doi.org/10.1016/j.jvb.2015.07.002>
- Lackéus, M. (2015). *Entrepreneurship in education. What, why, when, how*. Entrepreneurship360, Background paper. OECD and European Commission.
- Lans, T., Bergevoet, R., Mulder, M., & Van Woerkum, C. (2005). Identification and measurement of competencies of entrepreneurs in agribusiness. In M. Batterink, R. Cijssouw, M. Ehrenhard, H. Moonen, & P. Terlouw (Eds.), *Selected papers from the 8th Ph.D. conference on business economics, management and organization science* (pp. 81–95).
- Lans, T., Blok, V. in Wessellink, R. (2014). Learning apart and together: towards an integrated competence framework for sustainable entrepreneurship in higher education. *Journal of Cleaner Production*, 62, 37-47. <https://doi.org/10.1016/j.jclepro.2013.03.036>
- Lans, T., Hulsink, W., Baert, H., & Mulder, M. (2008). Entrepreneurship education and training in a small business context: Insights from the competence-based approach. *Journal of Enterprising Culture*, 16, 1–21. <https://doi.org/10.1142/S0218495808000193>
- Lau, T., Chan, K. F., Man, T. W. Y. (1999). Entrepreneurial and managerial competencies: small business owner–managers in Hong Kong. In Fosh, P., Chan, A. W., Chow, W. W. S., Snape, E., Westwood, R. (Eds.), *Hong Kong Management and Labour: Change and Continuity*. London: Routledge.
- Man, T. W. (2001). *Entrepreneurial competencies and the performance of small and medium enterprises in the Hong Kong services sector* (Doctoral dissertation, The Hong Kong Polytechnic University).
- Man, T. W., Lau, T., in Chan, K. F. (2002). The competitiveness of small and medium enterprises: A conceptualization with focus on entrepreneurial competencies. *Journal of business venturing*, 17(2), 123-142. [https://doi.org/10.1016/S0883-9026\(00\)00058-6](https://doi.org/10.1016/S0883-9026(00)00058-6)
- Markman, G. D., Baron, R. A. (2003). Person–entrepreneurship fit: Why some people are more successful than others. *Human Resource Management Review*, 13, 281–301. [https://doi.org/10.1016/S1053-4822\(03\)00018-4](https://doi.org/10.1016/S1053-4822(03)00018-4)
- McClelland, D. C (1973). Testing for competence rather than for 'intelligence'. *American Psychologist* 28(1), 1–14. <https://doi.org/10.1037/h0034092>
- McClelland, D. C (1998). Identifying competencies with behavioural-event interviews. *Psychological Science* 9(5), 331-339. <https://doi.org/10.1111/1467-9280.00065>
- McClelland, D. C. (1961). *The Achieving Society*. Princeton, NJ: van Nostrand. <https://doi.org/10.1037/14359-000>
- McClelland, D. C. (1987). Characteristics of successful entrepreneurs. *The journal of creative behavior*, 21(3), 219-233. <https://doi.org/10.1002/j.2162-6057.1987.tb00479.x>
- Mitchelmore, S., Rowley, J. (2010). Entrepreneurial competencies: a literature review and development agenda. *International journal of entrepreneurial Behavior & Research*, 16(2), 92-111. <https://doi.org/10.1108/13552551011026995>
- Mitton, D. G. (1989). The complete entrepreneur. *Entrepreneurship Theory Pract.*, 13(3), 9–19. <https://doi.org/10.1177/104225878901300303>
- Moberg, K., Vestergaard, L., Fayolle, A., Redford, D., Cooney, T., Singer, S., & Filip, D. (2014). *How to assess and evaluate the influence of entrepreneurship education: A report of the ASTEE project with a user guide to the tools*. The Danish Foundation for Entrepreneurship–Young Enterprise.
- OECD/EU (2017). *The Missing Entrepreneurs 2017: Policies for Inclusive Entrepreneurship*. OECD Publishing: Paris.
- OECD/EU. (2015). *The Missing Entrepreneurs 2015: Policies for Self-employment and Entrepreneurship*. OECD Publishing: Paris.
- Philips, N., Tracey, P. (2007). Opportunity recognition, entrepreneurial capabilities and bricolage: Connecting institutional theory and entrepreneurship in strategic organization. *Strategic Organization*, 5, 313–320. <https://doi.org/10.1177/1476127007079956>
- Rae, D., Penaluna, A., & Dhaliwal, H. (2011). *Higher education and graduate enterprise in the new era: should every student learn enterprise skills?* Graduate Market Trends e-newsletter. Retrieved from portal HECSU: [https://www.hecsu.ac.uk/assets/assets/documents/gmt/GMT\\_Winter\\_2011.pdf](https://www.hecsu.ac.uk/assets/assets/documents/gmt/GMT_Winter_2011.pdf)
- Rauch, A., Frese, M. (2007). Let's put the person back into entrepreneurship research: A meta-analysis on the relationship between business owners' personality traits, business creation, and success. *European Journal of Work and Organizational Psychology*, 16, 353–385. <https://doi.org/10.1080/13594320701595438>
- Rezaei-Zadeh, M., Hogan, M., O'Reilly, J., Cleary, B., & Murphy, E. (2014). Using interactive management to identify, rank and model entrepreneurial competencies as universities' entrepreneurship curricula. *Journal of Entrepreneurship*, 23, 57–94. <https://doi.org/10.1177/0971355713513353>
- Sánchez, J. C. (2011). University training for entrepreneurial competencies: its impact on intention of venture creation. *International Entrepreneurship Management Journal*, 7, 239-254. <https://doi.org/10.1007/s11365-010-0156-x>

- Sánchez, J.C. (2013). The impact of an entrepreneurship education program on entrepreneurial competencies and intention. *Journal of Small Business Management*, 51(3), 447-465. <https://doi.org/10.1111/jsbm.12025>
- Schött, T., Kew, P., & Cheraghi, M. (2015). *Future Potential. A GEM perspective on youth entrepreneurship 2015*. Retrieved from portal GEM: <http://www.gemconsortium.org/report>
- Snell, R., Lau, A. (1994). Exploring local competencies salient for expanding small businesses. *J. Manage. Dev.* 13(4), 4–15. <https://doi.org/10.1108/02621719410057032>
- Thompson, J. E., Stuart, R., & Lindsay, P. R. (1996). The competence of top team members: a framework for successful performance. *Journal of Managerial Psychology*, 11(3), 48-66. <https://doi.org/10.1108/02683949610113593>
- Tumasjan, A., & Braun, R. (2012). In the eye of the beholder: How regulatory focus and self-efficacy interact in influencing opportunity recognition. *Journal of Business Venturing*, 27, 622–636. <https://doi.org/10.1016/j.jbusvent.2011.08.001>
- Valtonen, H. (2007). Does culture matter? Entrepreneurial attitudes in the autobiographies of twentieth-century business leaders in Finland and the United States. *Business and Economic History On-line*, 5, 1–24. Retrieved from: <http://www.thebhc.org/publications/BEHonline/2007/valtonen.pdf>
- Verheul, I., Wennekers, S., Audretsch, D., & Thurik, R. (2001). *An Eclectic Theory of Entrepreneurship: policies, institutions and culture*. Retrieved from portal REPUB: <http://repub.eur.nl/res/pub/6873/2001-0303.pdf>
- Wagener, S., Gorgievski, M., & Rijdsdijk, S. (2010). Businessman or host? Individual differences between entrepreneurs and small business owners in the hospitality industry. *The Service Industries Journal*, 30, 1513–1527. <https://doi.org/10.1080/2642060802624324>
- Zdolšek, T., Širec, K. (2014). Impact of Entrepreneurship Education on Entrepreneurial Intentions of Students: A review of empirical research. *Naše gospodarstvo/Our economy*, 60(3-4), 55-64. <https://doi.org/10.7549/ourecon.2014.3-4.06>

## Authors

**Tanja Zdolšek Draksler** is working as a project manager at the Jožef Stefan Institute and at Pošta Slovenije, in the domain of IT. Working on international research projects granted her insight into the intersection of machine learning, data mining, and semantic technologies related to multimedia and personalised learning. She is a PhD candidate at Faculty of Economics and Business, University of Maribor, in the field of entrepreneurship, with an emphasis on entrepreneurship education, entrepreneurial intentions, and entrepreneurial competencies.

**Karin Širec, PhD**, is an associate professor of entrepreneurship and business economics, head of the Department of Entrepreneurship and Business Economics, and member of the Institute for Entrepreneurship and Small Business Management at the Faculty of Economics and Business at the University of Maribor. She carries out research in the fields of entrepreneurship, business economics, innovations, female entrepreneurship, and high-growth entrepreneurship as well as establishment and growth of companies. Since 2013, she has served as a country expert for the European Commission/OECD project Inclusive Entrepreneurship.

# Konceptualni raziskovalni model za raziskovanje podjetniških kompetenc študentov

## Izvleček

Pregled literature kaže, da primanjkuje raziskav, ki bi preučevale vpliv podjetniškega izobraževanja na podjetniške kompetence v povezavi s podjetniškimi namerami. Potreben je nadaljnji razvoj tega področja, vendar obstaja težava, saj smo priča pomanjkanju raziskovalnih modelov glede podjetniških kompetenc ali težavi, da obstoječi raziskovalni modeli le delno pokrivajo kompleksno raziskovalno področje podjetniških kompetenc. Namen članka je zato oblikovanje novega, posodobljenega raziskovalnega modela (ki temelji na sedanjih modelih). Izvedena je bila teoretična raziskava podjetniških kompetenc, ki temelji na teoriji kompetenčnega pristopa. S poglobljeno analizo sedanjih raziskovalnih modelov podjetniških kompetenc smo izvedli pripravo novega, združenega, hibridnega raziskovalnega modela. Razvit je bil nov konceptualni raziskovalni model za preučevanje vpliva podjetniškega izobraževanja na podjetniške kompetence in podjetniške namere študentov. Model bo služil za nadaljnje empirično raziskovanje tega področja. Izvirni prispevek je v oblikovanju edinstvenega

raziskovalnega modela in izdelava prilagojenega merilnega instrumenta za proučevanje vpliva podjetniškega izobraževanja na podjetniške kompetence in podjetniške namere.

**Ključne besede:** kompetenčna teorija, podjetniške kompetence, podjetniške namere, podjetniško vedenje, visokošolsko izobraževanje, podjetniško izobraževanje