

## Model for the Emotional Intelligence's Development in Entrepreneurship

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### Abstract

Emotional intelligence has become a critical soft skill in achieving success in the modern world. Studies of the emotional intelligence of workers and managers testify to its positive impact on the performance of enterprises and organisations. This fact justifies the development of emotional intelligence in the entrepreneurial environment. The purpose of the research paper is to highlight a logical, easy-to-use, effective, and systematic approach to the development of emotional intelligence of entrepreneurs in the educational environment. The research paper contains 1) the 4-component instrumental model for emotional intelligence development adapted to the entrepreneurial environment; 2) testing, which allows for tracking the dynamics of the development of emotional intelligence; 3) the training course, which allows for developing each component of the model. The 4-component instrumental model was developed based on the D. Goleman model and contains a new set of competencies adapted to the entrepreneurial environment. Our proposed model allows us to build a convenient graphical display of the results in the form of an EI diagram of four quadrants – emotional intelligence profile. 158 people took part in the psychometric verification of the test, and a demonstrator and confirmation analysis was carried out using the programs MS Excel, SPSS, STATISTICA, FACTOR, and R-Studio. The educational training course on the development of emotional intelligence was tested in 2021-2022 as part of Erasmus+ staff teaching mobility at universities in Ukraine, Poland, and Slovakia.

Keywords: model, test; emotional intelligence; training course; entrepreneurship.

Article Classification: Research article

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## 1 Introduction

The topic of the development of emotional intelligence (EI), as one of the soft skills necessary for success in modern society, is relevant not only in psychology but also in management and entrepreneurship. Emotions play a significant role in business and entrepreneurship as a crucial irrational factor. Emotions significantly affect consumers' decision-making in the market and all organisational-level managers. Managers make decisions using the latest information technologies and personal emotions. In entrepreneurship, emotions play a crucial role, and more and more researchers are focusing on the need to develop emotional intelligence further.

During the coronavirus pandemic, the role of emotional intelligence has increased. Leaders with high emotional intelligence are essential during a crisis because the climate of their teams can change rapidly and significantly impact the psychological safety of organisations (Semenets-Orlova et al., 2021). The scientific literature shows significant positive correlations between leadership performance and all four EI competencies clusters: self-awareness, self-management, social awareness, and relationship management (Haricharan, 2022).

The scientific literature has already proved that the developed emotional intelligence of employees allows the increase in sales, cash receipts and customer loyalty in various areas of business (Bayighomog, 2021; Zhang, 2022). The EI of project managers increases team cohesion and saves time in achieving the desired results (Qi Zhang and Shengyue Hao, 2022). Managers' adaptability and optimism positively affect financial, employee and operational performance (Strugar Jelača et al., 2022).

Çetin and Karakaş (2021) concluded that individuals with high emotional intelligence exhibit more knowledge-sharing behaviour and are more prone to disseminate information in the organisation. After identifying 72 relevant research publications, researchers have proven the influence of emotions on knowledge management (Hornung and Smolnik, 2021).

The authors (Xifeng Lu et al., 2022) analysed all existing studies on the influence of emotions in entrepreneurship. They identified five main categories, the most promising for further research are: research on the impact of specific emotion on entrepreneurship, research on employee emotion and entrepreneurship, research on emotion in various entrepreneurial types, and research on the role of emotional support in entrepreneurship.

Emotional intelligence also plays an essential role in family enterprises. It is crucial to work with people to reach higher performance and make them feel more loyal and satisfied (Minárová, 2020).

Thus, the number of studies of emotional intelligence in management, business, and entrepreneurship is constantly increasing. This fact justifies the development of emotional intelligence in the entrepreneurial environment.

The foundation of modern EI research was the non-cognitive theory of EI (R. Bar-Ona, 2000), the theory of emotional and intellectual abilities of J. Edgar Hoover, Meyer and P. Salovey (1997), and the mixed theory of emotional competence of D. Goleman (1995).

However, the proposed models and testing were not adapted to the entrepreneurial environment. Therefore, we have developed a 4-component instrumental model for developing emotional intelligence in the entrepreneurial environment (4EI model), testing 'Emotional Intelligence in Business' and training courses' Emotional Intelligence in Entrepreneurship' appropriate for learning.

This scientific work aims to highlight the logical, easy-to-use, effective, and systematic approach to the development of emotional intelligence of future entrepreneurs based on the results of the introduction in the educational environment.

## 2 Material and methods

This study has applied both explanatory and descriptive research designs. Despite a sufficient number of approaches to the development of emotional intelligence, a convenient model for the development of emotional intelligence has not yet been proposed, which would be easily used in the educational process to develop the abilities of future entrepreneurs. Thus, our research was narrowed down to designing a model for developing entrepreneurs' EI. The 4EI model was developed as a result of the generalisation of fundamental and recent scientific publications, including Goleman's model.

D. Goleman defines emotional competence as an acquired property based on emotional intelligence. Initially, D. Goleman identified 25 emotional competencies, sorted into five clusters: I) Self-awareness (knowledge of one's states, preferences, abilities and opportunities); II) Self-management (ability to use one's mental resources and to cope with internal states); III) Motivation (emotional inclinations that lead to achieving goals and facilitate this process); IV) Empathy (awareness of other people's feelings, needs and concerns); V) Social skills (the art of evoking the desired reaction in others) (Goleman, 1995). Nevertheless, D. Goleman reduced his model to 18 competencies over time, sorted into four clusters (Ackley, 2016). These competencies were described by Wolff (2005) and are shown in Table 1, 'The structure of emotional intelligence according to D. Goleman's model'.

Table 1 The structure of emotional intelligence according to D. Goleman's model; modified by (Wolff, 2005 and Ackley, 2016)

EI Components	Emotional competencies of the components
Self-awareness (concerns knowing one's internal states, preferences, resources, and intuitions)	<i>Emotional awareness</i> (recognising one's emotions and their effects) <i>Accurate self-assessment</i> (knowing one's strengths and limits) <i>Self-confidence</i> (a strong sense of one's self-worth)
Self-management (refers to managing one's internal states, impulses, and resources)	<i>Emotional self-control</i> (keeping emotions in check) <i>Transparency</i> (maintaining integrity, acting congruently with one's values) <i>Adaptability</i> (flexibility in handling change) <i>Achievement</i> (striving to improve or meet a standard of excellence) Initiative (readiness to act on opportunities) <i>Optimism</i> (persistence in pursuing goals despite obstacles and setbacks)
Social awareness (refers to how people handle relationships and awareness of others' feelings, needs, and concerns)	<i>Empathy</i> (sensing others' feelings and perspectives and taking an active interest in their concerns) <i>Organisational awareness</i> (reading a group's emotional currents and power relationships) <i>Service orientation</i> (anticipating, recognising, and meeting customers' needs)
Relationship management (concerns the skill or adeptness at inducing desirable responses in others)	<i>Developing others</i> (sensing others' development needs and bolstering their abilities) <i>Inspirational leadership</i> (inspiring and guiding individuals and groups) <i>Change catalyst</i> (initiating or managing change) <i>Influence</i> (wielding effective tactics for persuasion) <i>Conflict management</i> (negotiating and resolving disagreements) <i>Teamwork and collaboration</i> (working with others toward shared goals, creating group synergy in pursuing collective goals)

Following the 4EI model, a test called ‘Emotional Intelligence in Business’ was developed. The first psychometric testing was attended by 158 people (120 women, 38 men), as reflected in work by Lutsenko et al. (2021). Testing was carried out online (can be found at: <https://testing-system-nure.herokuapp.com/auth>). Data processing was performed in programs MS Excel, SPSS, STATISTICA, FACTOR, and R-Studio. In the first version of the test, there were 80 statements – 20 statements for each of the 4 clusters (self-awareness, self-management, social awareness, relationship management). They are accompanied by a 5-point grading scale: 0 - never, 1 - very rarely, 2 - sometimes, 3 - often, 4 - always. Analysis of the answers made it possible to reach the psychometric properties on a 10-point scale. During the design of the new questionnaire, the analysis and screening of tasks were carried out, and 50% of the most effective ones were kept. Exploratory and confirmatory factor analysis was carried out, which confirmed the 4-components proposed structure of emotional intelligence, verification of the reliability, discriminability and validity of the test, which showed promising results. Thus, the effectiveness of the new test ‘Emotional Intelligence in Business’ has been empirically proven, allowing the diagnosis and recording of emotional intelligence dynamics (Lutsenko et al., 2021).

Our proposed model allows us to build a convenient graphical display of the results in the form of an EI diagram of four quadrants – emotional intelligence profile. Testing is convenient to carry out in the Smart Sender program (the link to the chatbot: [https://t.me/SEID\\_balanceEI\\_bot?start=ZGw6MzM5Njk](https://t.me/SEID_balanceEI_bot?start=ZGw6MzM5Njk)).

An example of the respondent's emotional intelligence profile and a survey fragment in the chatbot are shown in Fig. 1.

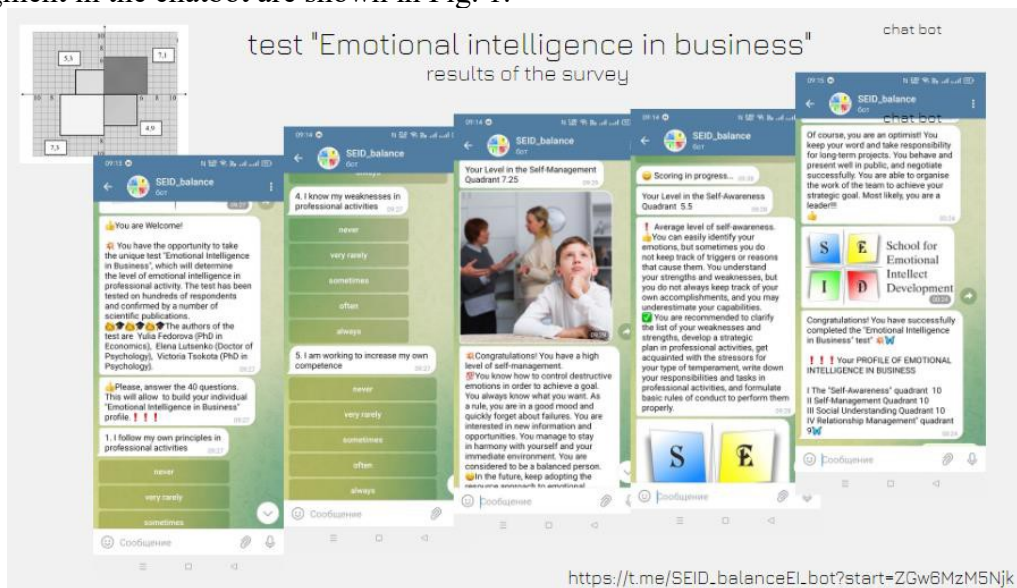


Figure 1 An example of a respondent's emotional intelligence profile and a survey fragment in the program's chatbot Smart Sender; own elaboration

Over 500 students of all age categories from Ukraine, Poland, and Slovakia participated in the survey. The proposed tool allows tracking the dynamics of development of each component of the 4-component instrumental model of the development of EI.

### 3 Results

The research paper presents a logical, easy-to-use, effective, and systematic approach to the development of emotional intelligence of entrepreneurs in the educational environment, which includes three tools:

- the 4-component instrumental model for the development of emotional intelligence adapted to the entrepreneurial environment;
- the testing, which allows tracking the dynamics of the development of emotional intelligence;
- the description of the training course, which allows the development of each component of the model.

The basis and *the first tool* of an integrated approach to the development of EI is the 4-component instrumental model for the development of EI. It is based on four essential components (factors): self-awareness, self-management, social awareness and relationship management. The 4-component instrumental model for the development of EI is shown in Figure 2.

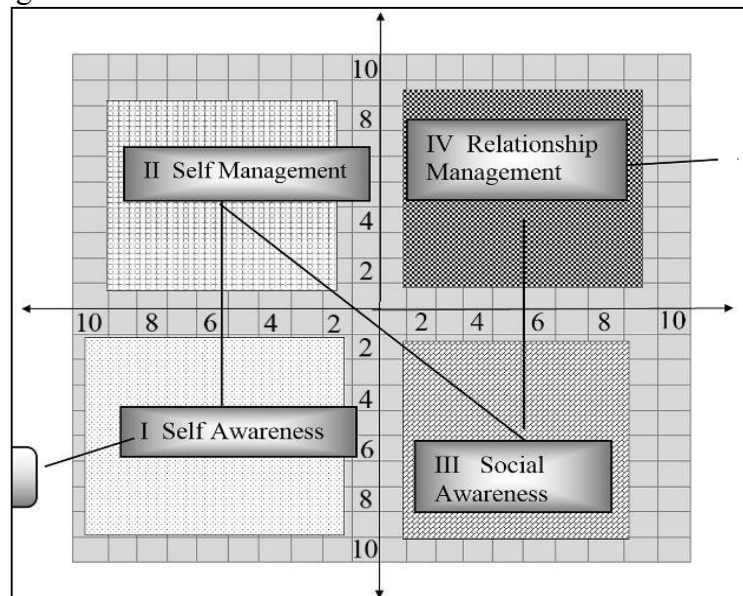


Figure 2 4-component instrumental model for the development of EI; own elaboration

The horizontal axis from left to right shows the direction of latitude of the EI cover: from the individual to the team level. The vertical axis from the bottom up shows the degree of control of the EI: from only understanding one's own emotions and the emotions of others to managing emotions (own and others). Each quadrant size in the model corresponds to the quantitative characteristics of the corresponding component of the 4-component instrumental model of the EI. This approach allows the learning process and demonstrates the dynamics of each component of the EI by increasing the area of the corresponding quadrant. The quadrant size can vary from 0 to 10. This is in line with the standard stan test scale. According to the stan scale, the results from 0-3 are a low level, 4-7 is an average level, and 8-10 is a high level of development of the components of the 4-component instrumental model of the EI.

Based on the model of D. Goleman, we proposed a 4-component instrumental model for the development of EI adapted to the entrepreneurial environment. Table 2 shows the emotional competencies of each component of the 4-component instrumental model of EI.

Table 2 The structure of emotional intelligence according to the 4-component instrumental model of EI; own elaboration

EI Components	Emotional competencies of the components
Self-awareness (self-reflection)	1. Emotional awareness: awareness of one's emotions, consequences and reasons for their occurrence. 2. Accurate self-assessment: understanding of one's strengths and weaknesses in professional activity. 3. Understanding one's basic attitudes: a strong sense of self-worth and awareness of one's principles and moral qualities.
Self-management (management of one's mental states)	4. Ability to focus on tasks in stressful situations. 5. Ability to manage one's mood when working in a team. 6. Ability to switch attention or concentrate (as needed). 7. Ability to overcome fear, anger, and other negative emotions to achieve a goal. 8. Ability to work with others to achieve common goals. 9. Ability to stay positive and focused.
Social awareness (cognitive empathy)	10. Attention to and acceptance of feelings and points of view of other people, a manifestation of a genuine interest in them. 11. Orientation towards servicing others: the ability to anticipate, recognise and meet customers' requests. 12. Ability to be open, listen without prejudice and be ready to help. 13. Correct interpretation of connections between other people or social processes.
Relationship management (emotional influence)	14. Possession of effective tactics of persuasion. 15. Ability to resolve conflicts, inspire, and lead individuals and groups. 16. Ability to lead changes, manage projects and take responsibility. 17. Ability to create additional opportunities based on the analysis of new information. 18. Ability to build and maintain valuable relationships. 19. Ability to create group synergies to achieve common goals.

The 4EI model includes components: self-awareness, self-management, social awareness, and relationship management adapted to the entrepreneurial environment.

Using *the second tool*, the 'Emotional Intelligence in Business' test specially developed for this model, we can obtain a graphic image of the emotional intelligence profile. The emotional intelligence profile is the 4EI model with quadrants, the size of which is equal to the value of the component obtained during testing (from 0 to 10). The test can be taken in the Smart Sender program in Telegram messenger following the link to the chatbot [https://t.me/SEID\\_balanceEI\\_bot?start=ZGw6MzM5Njk](https://t.me/SEID_balanceEI_bot?start=ZGw6MzM5Njk).

The advantage of using the 4EI model is that it can graphically demonstrate the degree of development of each model component. Building an emotional intelligence profile allows one to determine each component's development level and focus on developing the necessary emotional intelligence skills. At the same time, an integrated approach involves tracking the results before the start of training and after training.

*The third tool* for developing emotional intelligence is a training course for future entrepreneurs. Its content is shown in Table 3.

Table 3 Content of the course 'Emotional Intelligence in Entrepreneurship'; own elaboration

The topic of the seminar	Work with quadrant	Testing	Number of hours
Emotional intelligence is a resource of the XXI century	Self-awareness	Initial	2
How to be successful in conditions of turbulence	Self-management		2
From emotions to emotional capital	Social awareness		2
Effective communication and leadership	Relationship management	Final	2

In 2020-2022, the educational training course was presented and conducted for management and entrepreneurial specialities students at the universities of Ukraine, Slovakia, and Poland. The participating institutions were: Ukrainian Engineering-Pedagogics Academy, Ukraine (2020-2021); University of Applied Sciences in Nysa, Poland (in the framework of the Erasmus+ KA107 Programme, 2022); Constantine the Philosopher University in Nitra, Slovakia (in the framework of the Erasmus+ KA107 Programme, 2022); and Comenius University, Slovakia (2022).

#### 4 Discussion

Some limitations of our research should be considered. Biases might have occurred due to our choice of key emotional intelligence competencies in the entrepreneurial environment. The subjective influences possibly affected the selection and classification of incorporated studies. Other researchers can select and classify emotional intelligence differently in the business environment.

Additionally, restrictions occurred in the respondents' surveys due to the online education format introduced in response to the Covid-19 pandemic. There were problems with interviewing respondents from Poland and Slovakia because they preferred WhatsApp and did not use telegram messenger. Due to the inability to adapt the Smart Sender software to WhatsApp, most participants remain not covered.

Further areas of research are to diagnose the level of emotional intelligence of students from different European countries and analyse the results of the introduction of training courses for students of economic and managerial specialities. Also, the proposed integrated approach can be used to build project teams and optimise the composition of startup project participants or existing R&D teams in enterprises. Complexity, consistency, convenience, adaptability to the entrepreneurial environment, visualisation of results and the ability to track the dynamics of the development of emotional intelligence of entrepreneurs opens wide horizons for applying the proposed approach in the countries of the European Union.

#### Acknowledgements

This work was supported by the Slovak Research and Development Agency [APVV-19-0581].

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