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BUCȘA MARIA

**MANAGERIAL STRATEGIES FOR THE FORMATION AND
CAPITALIZATION OF ENTREPRENEURIAL COMPETENCE
IN THE UPPER SECONDARY EDUCATION SYSTEM OF
ROMANIA AND THE REPUBLIC OF MOLDOVA**

521.03 ECONOMY AND MANAGEMENT IN THE FIELD OF ACTIVITY

Abstract of the Doctoral Thesis in Economic Sciences

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Scientific supervisor:

Solcan Angela, PhD in Economics, Associate Professor

Members of the Guidance Committee:

Braguța Aurelia, PhD in Economics, Associate Professor

Portarescu Serghei, PhD in Economics, Associate Professor

Stihi Liudmila, PhD in Economics, Associate Professor

Composition of the doctoral thesis defense committee:

Chair – **Cotelnic Ala**, Habilitated Doctor in Economics, University Professor, Academy of Economic Studies of Moldova

Scientific supervisor – **Solcan Angela**, PhD in Economics, Associate Professor, Scientific Advisor, Academy of Economic Studies of Moldova

Official reviewers:

Popa Andrei, Habilitated Doctor in Economics, University Professor, Technical University of Moldova, "Bogdan Petriceicu Hasdeu" Center in Cahul.

Stihi Liudmila, PhD in Economics, Associate Professor, Academy of Economic Studies of Moldova.

Jalencu Marian, PhD in Economics, Associate Professor, State University of Moldova.

Botezatu Angela, PhD in Economics, Deputy Director for Training and Education, Public Institution Center of Excellence in Economics and Finance/

The defense will take place on **30 October 2026**, at **14.00**, in the meeting of the Doctoral Thesis Public Defense Committee of the Academy of Economic Studies of Moldova, at the following address: **MD2005, Chișinău municipality, 59 Mitropolit G. Bănulescu-Bodoni Street, 1st floor, Office 104 (Building B).**

The doctoral thesis and the summary may be consulted at the Scientific Library of the Academy of Economic Studies of Moldova, on the ASEM website (www.irek.ase.md) and on the ANACEC website (www.anacec.md).

Chair of the Doctoral Thesis

Public Defense Committee,

Cotelnic Ala,

Habilitated Doctor in Economics, University Professor



Scientific advisor,

Solcan Angela,

PhD in Economics, Associate Professor



Author,

Bucșa Maria



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CONCEPTUAL BACKGROUND OF THE RESEARCH

Actuality and importance of the research topic. Entrepreneurship education at upper secondary level has become, in both Romania and the Republic of Moldova, a priority direction of education policy, driven by the pressures of a knowledge-based economy [6; 14; 20; 21]. Several comparative analyses (OECD, Eurostat, the European Commission) show a close link between how well these competences are formed in school and a country's later performance in innovation and entrepreneurship [16; 17; 31]. The goals of education are visibly shifting: entrepreneurial competence is no longer a marginal topic but has become a strategic factor in individual and socio-economic development [30; 36]. It now ranks among the key competences of the European framework for lifelong learning, and instruments such as EntreComp give it a concrete operational shape [2; 4].

The specialized literature links these competences to initiative, creativity, decision-making capacity, and professional adaptability [3; 23]. According to the Education Code of the Republic of Moldova, upper secondary school is the strategic stage where a student's autonomy and responsibility take shape, and the European Commission, through its Eurydice reports, confirms this at European level [12; 15]. However, the systematic review by Nabi, Liñán, Fayolle, Krueger, and Walmsley shows that the impact of entrepreneurship education has been investigated predominantly at university level, leaving the upper secondary level insufficiently studied [28]. Students who encounter entrepreneurial experiences early gain more confidence in their own abilities and move into the labour market more easily [22; 34]. The issue goes beyond theory. Youth unemployment is rising, the NEET phenomenon is expanding, and European Commission reports point to wide gaps between countries in how entrepreneurship education is implemented and what results it produces [15; 16].

An analysis of the two systems reveals clear differences in size, structure, and resources. In the 2024–2025 school year, Romania had approximately 2.87 million pupils in pre-university education [26]. The Republic of Moldova, by comparison, counted only 330,000–340,000 pupils at the pre-university level, with a predominantly rural school population and markedly fewer resources. The contexts for implementing entrepreneurship education reflect these figures: Romania has built broader ecosystems, while the Republic of Moldova still faces difficulties in access, infrastructure, and resources. Even so, upper secondary school remains, in both systems, the strategic level at which autonomy, initiative, and professional orientation take shape.

The specialized literature rejects the idea that including entrepreneurship in the curriculum forms these competences on its own; what matters more is the quality of managerial strategies, experiential methods, and ties to the socio-economic environment [13; 18]. The European

framework defines competence as a combination of knowledge, skills, and attitudes, and its formation requires placing students in learning situations close to real entrepreneurial activity [2; 23]. At the macroeconomic level, OECD and European Commission reports converge on the same point: an economy grows more competitive the better it supports entrepreneurship and innovation, which underlines the relevance of this topic for upper secondary schools in Romania and the Republic of Moldova [16; 17; 30].

State of research on the topic. Research into entrepreneurial competence has become a subject of interest for numerous scholars in the fields of economics, education, and management. Researchers who have made substantial contributions to the study of the theoretical and methodological aspects of entrepreneurial education include A. Fayolle, M. Lackéus, D.F. Kuratko, H. Matlay, G. Nabi, F. Liñán, N.F. Krueger, T.J. Bae, V. Souitaris, E. Rasmussen, R. Sørheim, A. Rauch, and W. Hulsink. The competence dimension of entrepreneurship and the structure of entrepreneurial competencies have been analyzed by S. Mitchelmore, J. Rowley, A. Tittel, O. Terzidis, M. Mulder, T. Lans, M. Bacigalupo, P. Kamylyis, Y. Punie, and G. Van den Brande. The relationship between entrepreneurial education and entrepreneurial intention has been addressed in studies by I. Ajzen, N.F. Krueger, F. Liñán, B.C. Martin, J.J. McNally, and M.J. Kay, while the role of experiential methods and the educational context has been highlighted in the works of V.F. Motta, S.V.R. Galina, M. Lackéus, A. Fayolle, B. Gailly, H. Neck, and P.G. Greene. The managerial aspects of entrepreneurial education have been analyzed by M. Fullan, G. Boldureanu, N. Scripcaru, N. Vilcov, M. Dimitrescu, A. Năstase, M. Dumitrescu, and D. Ardelea, while various aspects of the topic have been explored at national and regional levels by A. Novac, N. Vinogradova, N. Velişco, I. Sonea, G. Farcaş, G. Cornea, and A. Botezatu.

An analysis of the situation in the field under investigation reveals that, despite existing contributions, no comprehensive studies have been conducted to integrate the managerial, educational, and behavioral dimensions into a unified model for developing entrepreneurial competencies at the high school level within a comparative context involving Romania and the Republic of Moldova; this realization prompted the selection of the topic, aim, and objectives of the present research.

Aim of the research. Providing the theoretical and methodological foundation for, and developing, a managerial model for the formation and capitalization of entrepreneurial competence among upper secondary school students in Romania and the Republic of Moldova, with a view to increasing the effectiveness of the entrepreneurial education process and preparing young people for economic initiative.

To achieve this aim, the following **specific objectives** were set:

O1. Structuring and synthesizing the theoretical frameworks regarding entrepreneurial competence and managerial strategies from the perspective of contemporary educational and economic theories;

O2. Conducting a comparative examination of the regulations and curricular content concerning entrepreneurship education in the upper secondary system of Romania and the Republic of Moldova;

O3. Establishing the current managerial practices used by upper secondary institutions in both countries in forming students' entrepreneurial competence;

O4. Highlighting the managerial and institutional factors that influence the development of students' entrepreneurial competence;

O5. Designing a managerial model intended for the formation and capitalization of entrepreneurial competence at the level of the upper secondary institution;

O6. Designing and validating a procedure for applying the proposed managerial model, as a means of validating and assessing its applicability in upper secondary education institutions in Romania and the Republic of Moldova;

O7. Formulating a set of educational and economic policy recommendations addressed to decision-makers within the upper secondary education system.

Meeting these objectives required formulating the following research hypotheses.

General hypothesis. Correlated managerial strategies, implemented at the level of upper secondary institutions and grounded in educational leadership, teacher training, the use of active teaching methods, and the strengthening of partnerships with the external environment, significantly and positively condition the level of formation and capitalization of entrepreneurial competence among upper secondary students in Romania and the Republic of Moldova.

Working hypotheses:

H1. Students' perceived exposure to entrepreneurship-oriented managerial and educational strategies correlates positively and statistically significantly with their self-assessed level of entrepreneurial competence.

H2. Participative educational leadership, teacher professional development, and the quality of institutional strategy implementation are favoring factors in the development of students' entrepreneurial competence.

H3. The systematic application of active and experiential teaching methods produces superior results in forming entrepreneurial competence, compared with predominant reliance on traditional methods.

H4. The national and institutional context generates significant differences in the degree of students' exposure to entrepreneurship education and in their self-assessed level of entrepreneurial competence in Romania and the Republic of Moldova.

Research methodology and justification of the methods selected. The research is positioned at the intersection of educational management, economic education, and entrepreneurship, which gives it a complex, interdisciplinary character. Its theoretical foundation draws on the work of researchers in entrepreneurship, strategic management, entrepreneurship education, entrepreneurial competences, educational management, and leadership. Data were collected through questionnaires administered to students and teachers in high schools in Romania and the Republic of Moldova, curricular documents and education policies, as well as interviews and classroom observations. We combined a questionnaire-based sociological survey with a comparative analysis of managerial practices and a psycho-pedagogical experimental approach of a pre-experimental type (pre-test–post-test, single group), complemented by document analysis. Processing followed a mixed design: on the qualitative side, we drew on documentation, analysis, synthesis, and modeling, referenced against EntreComp, the KSA model, and Ajzen's theory of planned behavior [1; 2]; on the quantitative side, we used descriptive and inferential statistics, Cronbach's Alpha coefficient, factor analyses (EFA/CFA), correlations, and multiple linear regression. The approach, deductive and explanatory in nature, aimed to test the hypotheses and provide an integrated analysis of the managerial strategies for forming entrepreneurial competences in upper secondary education.

Validation of the research results. The research results were disseminated at 11 national and international scientific events and published in 6 specialized articles, 2 indexed in international databases and 4 included in the National Register of Journals of the Republic of Moldova, category B. In total, the theoretical and applied contributions of the thesis are reflected in 25 scientific papers, published or accepted for publication, recognized by ANACEC.

Volume and structure of the thesis. The structure and content of the thesis are determined by the aim and objectives of the research and comprise: an introduction, three chapters, general conclusions and recommendations, a bibliography (216 sources), and 11 appendices.

Limitations of the research. The research has certain limitations, arising mainly from the intentional nature of the sampling and the limited number of institutions investigated. These aspects restrict the statistical generalization of the results at the national level and limit the extent to which regional diversity and urban–rural differences are captured. Limitations point to the need for future research on larger, more diverse samples and for longitudinal tracking of the evolution of entrepreneurial competence.

CONTENT OF THE THESIS

Chapter 1, "Theoretical Foundations of Entrepreneurial Competence and of Managerial Strategies in Education", examines the conceptual evolution of entrepreneurial competence and the theoretical foundations of the managerial strategies that support its formation in the educational environment. Entrepreneurial competence has not always been understood in the same way. Early research sought a stable personality profile, the need for achievement, risk-taking, and a propensity for innovation, capable of explaining who becomes an entrepreneur. Later research challenged the usefulness of this question and shifted attention toward observable behaviors, and the discussion gradually moved toward skills, then toward complex competences dependent on the educational environment in which the individual develops [4]. In the present research, entrepreneurial competence is treated as a set of behaviors that can be developed through concrete educational activities, not as a fixed attribute of "predisposed" students.

The conceptual foundation brings together the European Key Competences Framework, EntreComp, and the psychosocial approach to entrepreneurial intention, grounded in the Theory of Planned Behavior [1]. The author adopts Shane and Venkataraman's definition, which links entrepreneurship to identifying and exploiting opportunities rather than to simply starting a business.

The author adopts a broad definition, which links entrepreneurship to identifying and exploiting opportunities in order to create value, rather than to simply carrying out an economic activity for profit, the meaning retained by the legal framework [2; 32]. A narrow reading of the concept would have limited the research to a very small group of students, those who actually intend to become entrepreneurs. Three limitations of the existing literature, the almost exclusive focus on the university level [28; 33], the marginal treatment of the managerial dimension, and the absence of a comparative Romania- Republic of Moldova analysis, each leave a gap that this research sets out to address.

In our view, *entrepreneurial competence at upper secondary level cannot be reduced to a sum of individual knowledge, skills, and attitudes; rather, it is the result of the interaction between a student's potential and the quality of the institutional managerial strategies that support it. Entrepreneurial competence is thus an outcome co-produced by the student and the educational-managerial environment in which they learn. This interaction is shaped by two interdependent sets of factors: individual factors (the student's potential, motivation, and learning experience) and institutional-managerial factors (educational leadership, teacher preparation, available resources, and partnerships with the external environment).*

The relationships among educational management, entrepreneurial exposure, competence, intention, and entrepreneurial action are shown schematically in Figure 1. This framework starts from a simple premise: entrepreneurial competence in students does not depend on a single factor and does not develop through a single activity. It builds up through what happens at school, through how educational activity is organized and coordinated, through what teachers do in class, through the learning experiences made available to students, and through their contact with concrete entrepreneurial situations.

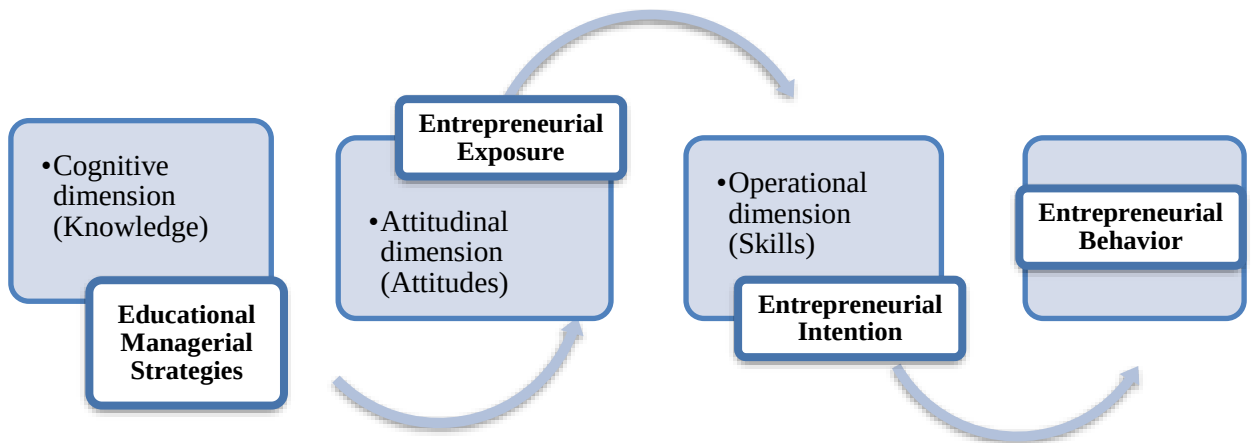


Figure 1. Conceptual framework of the relationship between educational management, entrepreneurial exposure, and entrepreneurial competence

Source: developed by the author.

The dimensions of competence, cognitive, operational, attitudinal, are operationalized by reference to the EntreComp framework, chosen for its level of detail across domains and competences, the only one among the frameworks examined that allows a measurement applicable at upper secondary level [2; 4].

What remains to be clarified is what, in concrete terms, managerial support for this competence actually means within a high school. The starting point is the theory of strategic management, in which strategy correlates an organization's objectives, decisions, and resources; transposing it to the educational institution, however, requires adjustments related to the specific nature of educational change [19]. Managerial strategy operates at institutional scale, through planning and coordination; pedagogical strategy targets the identification of concrete learning opportunities. Although both levels are relevant, they do not overlap.

Research on educational leadership shows that the impact of school leadership on students is indirect, mediated by institutional culture and organizational conditions [19]. Managerial strategies do not directly provide entrepreneurial competences; rather, they shape the environment in which students are exposed to learning about entrepreneurship.

Table 1. Summary of managerial models and typologies of strategies applicable to entrepreneurship education

Managerial model / perspective	Associated strategy typology	Dominant managerial mechanism	Application in entrepreneurship education	Benchmarks for assessing effectiveness	Limitations / conditions
Institutional strategic management	Institutional integration and development strategy	planning, organizing, coordinating, monitoring	integrating entrepreneurship education into the school's objectives and priorities; correlating curricular and extracurricular activities	coherence between objectives and actions; continuity of interventions; degree of institutional integration	effectiveness declines when activities are isolated, episodic, or dependent solely on individual teacher initiative
Distributed educational leadership	Leadership and empowerment strategy	distributing roles, involving stakeholders in decision-making, coordinating actors	involving management, teachers, and partners in designing entrepreneurial experiences	assumption of responsibilities; internal cooperation; staff mobilization	requires a collaborative organizational culture, clarity of roles, and managerial support
Management based on resources and organizational capacity	Institutional capacity-building strategy	allocating and developing human, material, digital, and informational resources	teacher training; allocated time; infrastructure; access to expertise and resources for projects, simulations, and mini-companies	adequacy of resources; staff competence; sustainability of activities; student access	available resources produce no results in the absence of coherent use and organizational capacity
Management through partnerships / ecosystem approach	Collaboration and institutional openness strategy	coordinating school - economic environment - community relations	mentoring, contacts with entrepreneurs, applied projects, authentic learning contexts, and community initiatives	functionality and continuity of partnerships; authenticity of experiences; diversity of actors involved	formal partnerships, lacking concrete responsibilities and activities, have limited educational value
Management of educational processes	Process and implementation strategy	coordinating activities, workflows, learning experiences	institutional support for project/problem-based learning, mini-companies, mentoring	quality of implementation; student participation; alignment between methods and objectives	effects depend on the organizational conditions of implementation
Quality and improvement management	Monitoring, evaluation, and adaptation strategy	feedback – evaluation – adjustment	tracking program implementation and using results to revise activities and resources	institutional self-regulation capacity; use of feedback	requires relevant indicators and avoiding a reduction in quality

Source: developed by the author.

On this basis, five strategic dimensions are systematized, strategic-institutional, curricular, resource-related, partnership-related, and quality monitoring, and correlated with six distinct managerial models, summarized in Table 1.

Experiential methods, projects, problem-based approaches, simulations, mentoring, and service-learning are examined separately, as pedagogical tools rather than managerial strategies [7; 23; 34; 35]. The effectiveness of a method is not an inherent property of the method itself; it depends on the conditions under which it is selected, supported, and evaluated by management [23]. The distinction drawn in the thesis between the structural-institutional level and the processual-pedagogical level precisely reflects this relationship between conditions and learning experiences.

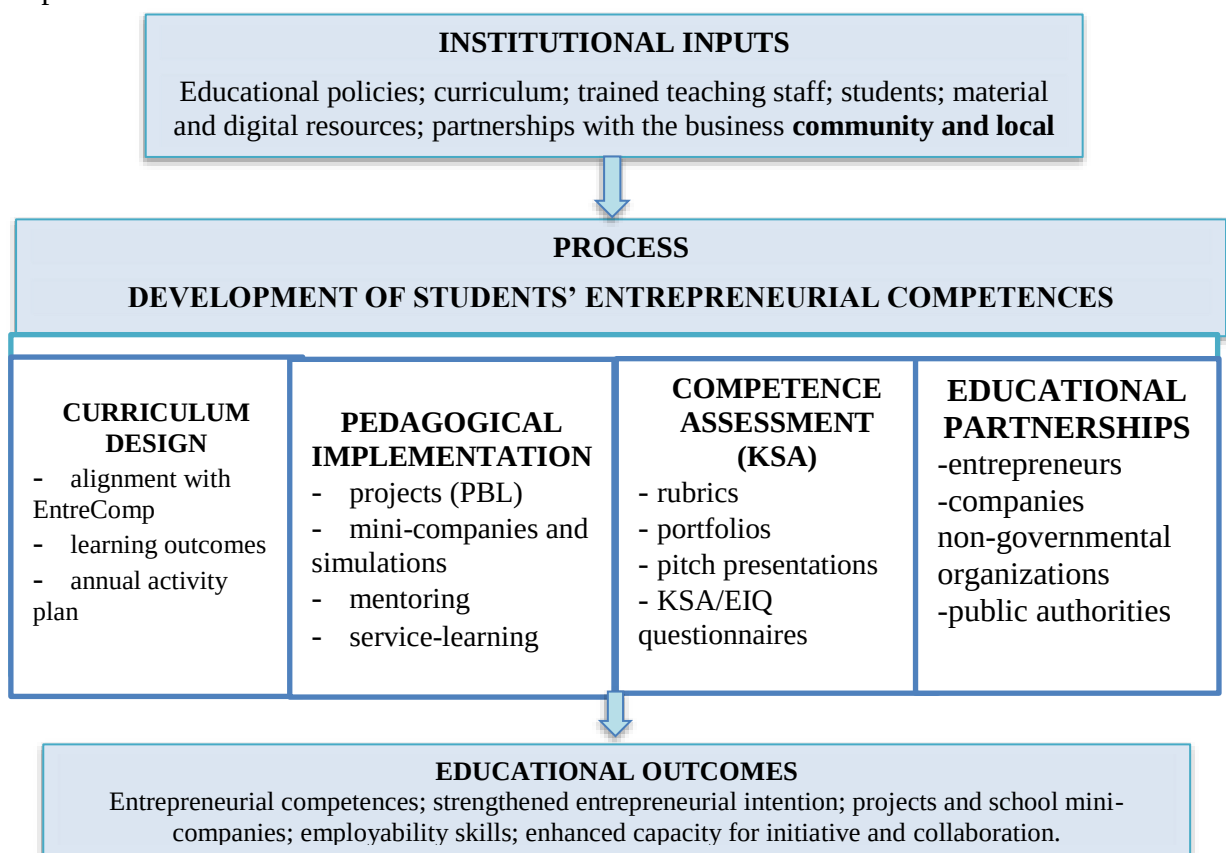


Figure 2. Preliminary Operational Framework for Entrepreneurship Education at the Upper Secondary Level

Source: Developed by the author based on the EntreComp framework and a synthesis of the relevant literature.

The final section of the chapter compares four European systems, Finland, Estonia, Denmark, and the Netherlands, not to evaluate them, but to identify transferable mechanisms: curricular autonomy and cross-curricular integration in the first two, the dual school-enterprise model in Denmark, and the alignment of education and industry in the Netherlands. For Romania and the Republic of Moldova, the author develops a custom correspondence matrix linking

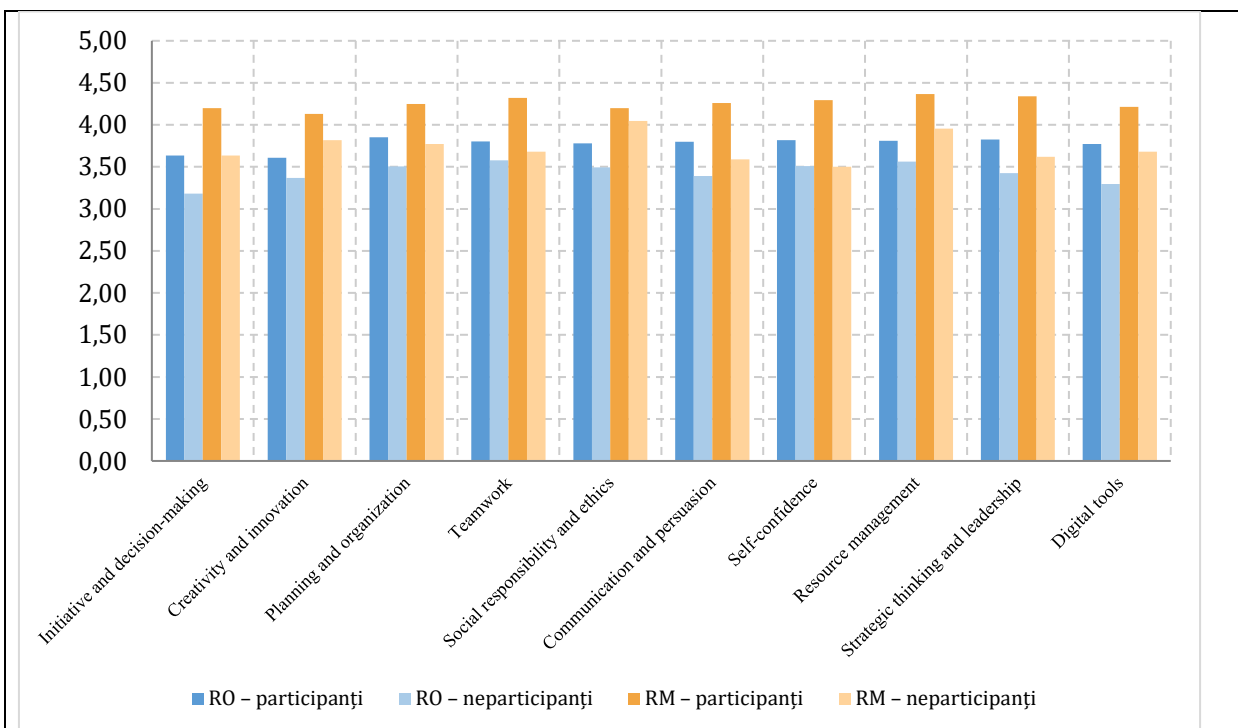
national curricular documents [24; 25; 27] with the three EntreComp areas; this is presented explicitly as an analytical tool rather than an official equivalence. The matrix reveals a structural difference: it is a compulsory subject in Romania [24], whereas it is optional in the Republic of Moldova [11; 12]. The literature addresses the competence-based, psychological, and managerial-institutional approaches separately.

The theoretical insights discussed in this chapter—the conceptual dimension of entrepreneurial competence, the managerial strategies supporting its development, and the experiential pedagogies through which it is put into practice—can be integrated into an input-process-outcome framework that outlines the preliminary operational structure for entrepreneurial education at the high school level (Figure 2).

Chapter 2, "Analysis of managerial strategies for developing entrepreneurial competence in high schools in Romania and the Republic of Moldova", translates the theoretical frameworks from Chapter 1 into an empirical study conducted across four high schools: two in Romania and two in the Republic of Moldova. Three interrelated levels are examined: the regulatory and curricular framework applicable to the institutions under study during the 2024-2025 academic year, the managerial practices reported by teaching staff and administrators, and the entrepreneurial competence as self-assessed by students in the four high schools [8].

The documentary analysis conducted for the 2024–2025 school year reveals a structural difference between the two systems. In Romania, "Entrepreneurial Education" was a compulsory subject in the 10th grade, whereas in the Republic of Moldova, this competence is developed primarily through elective subjects [11; 12; 25]. The reform approved by MEC Order 4.350/2025 integrates entrepreneurial education into a single subject titled "Economics and Entrepreneurial Education" and applies starting with the 2026-2027 cohort, a period subsequent to the one investigated; while it does not affect the empirical data, it marks a developmental trend in the Romanian curricular framework [24]. This difference in status does not imply a ranking of the two systems. The institutions operate within distinct regulatory frameworks, and the findings remain valid for the sample investigated, without being generalized to the entire high school education systems of the two countries.

The study employed a quantitative, comparative, cross-sectional, and non-experimental approach. This choice is justified by the need to simultaneously measure multiple concepts across a relatively large sample without intervening in the educational process. The sample comprised 330 participants from four purposively selected institutions: 292 students (183 from Romania and 109 from the Republic of Moldova) and 38 teachers and administrators.



Entrepreneurial competence profile based on students' participation in specialized programs

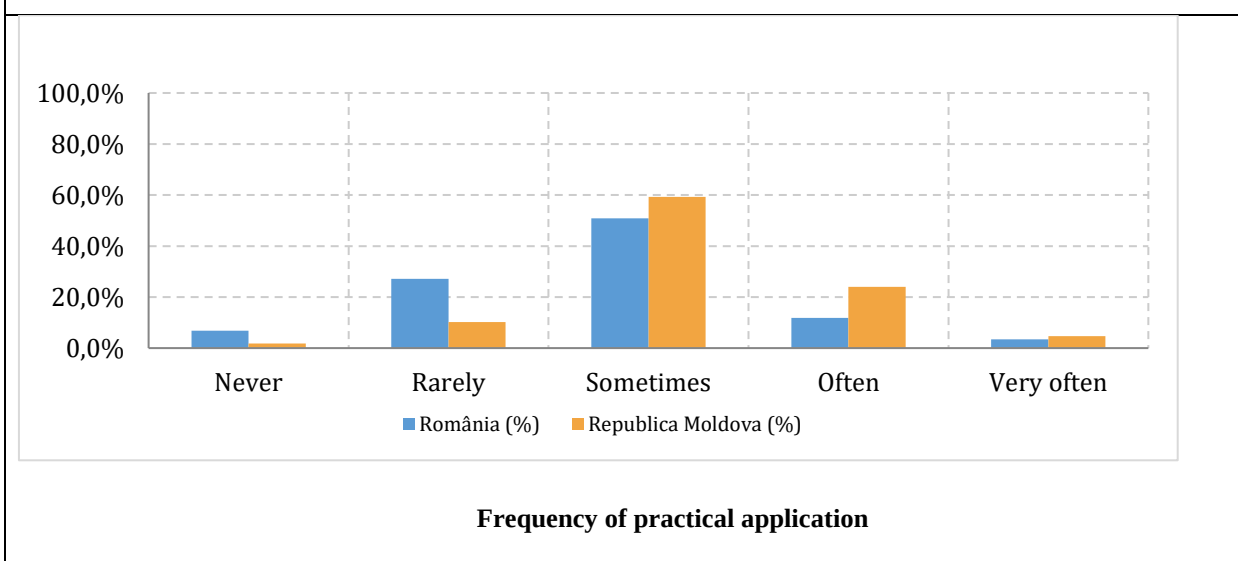


Figure 3. Responses to the administered questionnaire

Source: developed by the author.

The selection criteria were: the functional equivalence of the institutions within the upper secondary education systems of the two countries, despite differing administrative designations; the inclusion of a subject or module with entrepreneurial content in the curriculum; and their location within an Eastern European educational space that shares a common curricular

background yet is at different stages of alignment with European frameworks for entrepreneurial competence, thereby enabling a controlled comparison.

The research was conducted with the institutional approval of the educational institutions' leadership. Participation was voluntary and anonymous, with no collection of names or other identifying data, thereby ensuring the confidentiality of participants, including minor students. Descriptive analysis highlights higher levels of competence among students who participated in entrepreneurial programs (Figure 3). The primary motivation was the desire to acquire new knowledge, and students from the Republic of Moldova reported more frequent application of knowledge, as well as higher average scores for sustainability and social responsibility.

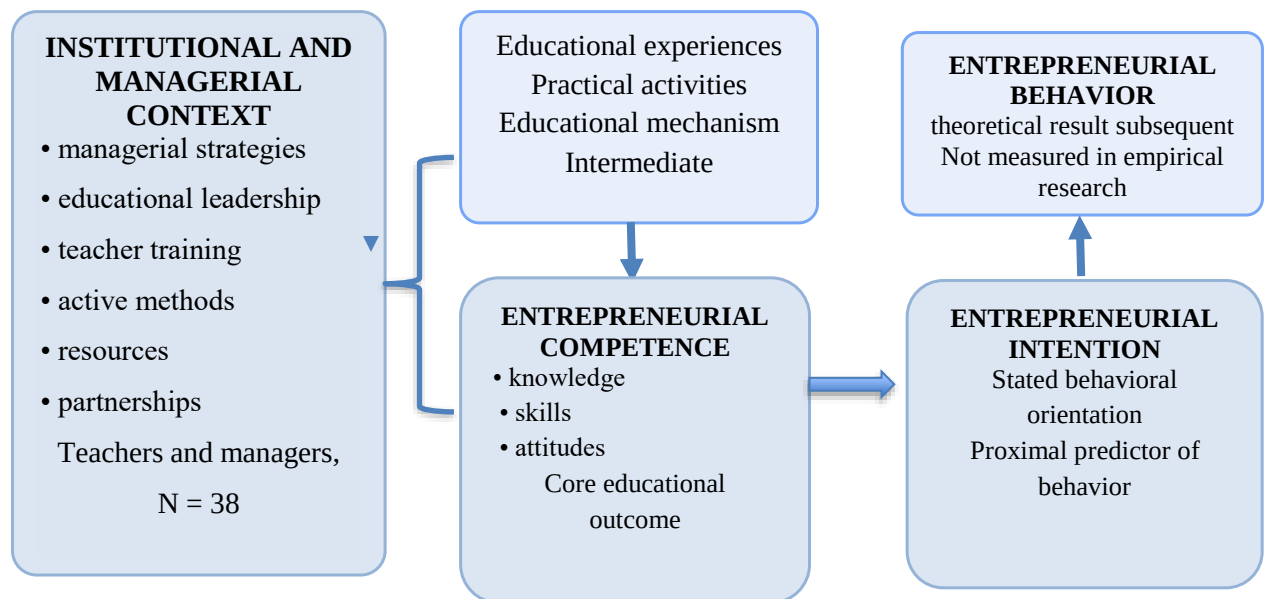


Figure 4. Conceptual-operational model of research variables: Institutional and managerial context → entrepreneurial exposure → entrepreneurial competence → entrepreneurial intention.

Source: Developed by the author based on the research's theoretical framework and the specialized literature.

Although the four institutions provide relevant contexts for identifying similarities and differences in the development and utilization of entrepreneurial competence, the results cannot be statistically generalized to the national level; rather, they are valid for the specific context of the institutions investigated. This limitation is inherent to multiple-case studies based on purposive sampling.

To summarize the correspondence between the abstract theoretical concept and the variables investigated, the relationships considered are presented in the model in Figure 4.

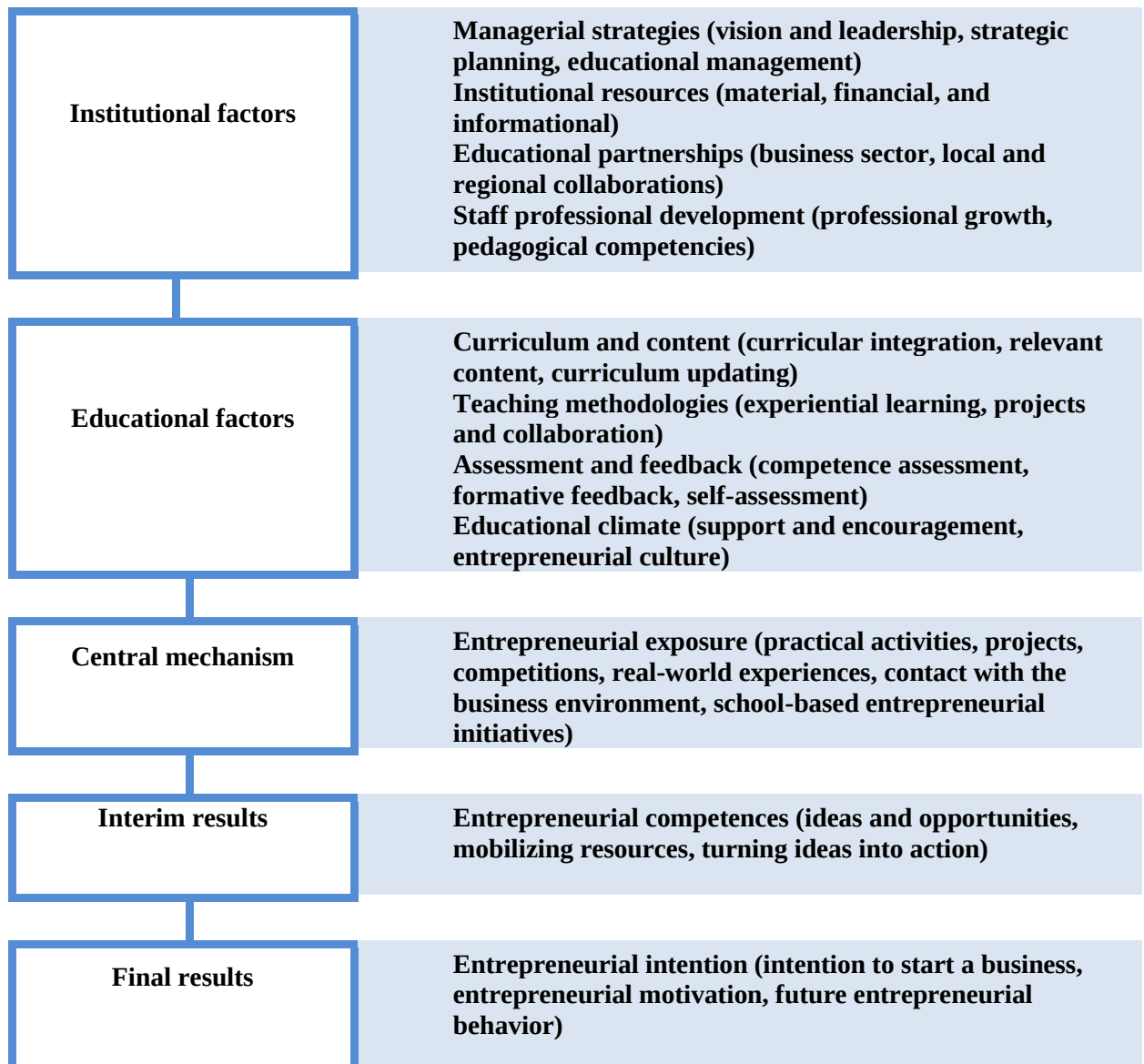


Figure 5. Conceptual model of the factors facilitating and the barriers to the implementation of managerial strategies for developing entrepreneurial competence

Source: developed by the author.

The model serves an explanatory and guiding function, demonstrating that the development of competence depends on the coordination of multiple interventions rather than a single one. For the institutions studied, the results indicate a need to shift from isolated initiatives to planned and monitored activities that are aligned with the institution's resources, professional training, and partnerships [8]. These points are revisited in Chapter 3, where the specific managerial model (MFVCA) is developed.

Chapter 3, "Managerial Model and Strategic Directions for Developing Entrepreneurial Competence in High School Education", proposes a managerial solution derived from integrating theoretical frameworks (Chapter 1) with empirical findings (Chapter 2):

the Management Model for Developing and Leveraging Entrepreneurial Competence (MFVCA). The scientific problem addressed involves the design of a unified managerial model, integrating institutional strategy, curricular activities, collaboration with external partners, and evaluation, structured across four interdependent levels (strategic, curricular, relational, and evaluative) and implemented through the "4P" logic: Planning, Partnerships, Projects, and Performance.

The originality of the MFVCA lies in the way its components are integrated, rather than in the novelty of each component taken in isolation: EntreComp-KSA defines the targeted learning outcomes, TPB provides the rationale for selecting intention as the variable of interest, strategic management and the Balanced Scorecard link the vision to indicators, and the PDCA cycle structures continuous improvement. Education 4.0 operates across these elements through the responsible use of technology [10; 29].

The need for the model is supported by statistical relationships established in Chapter 2: perceived managerial and educational conditions contribute most significantly to the entrepreneurial competence score, followed by educational experiences and entrepreneurial intention, with the model explaining a substantial proportion of the score's variance. These relationships are predictive rather than causal within the analyzed sample; data from students and data from teaching staff and managers originate from separate databases without respondent-to-respondent linkage, meaning the association with the implementation of the MFVCA remains indirect.

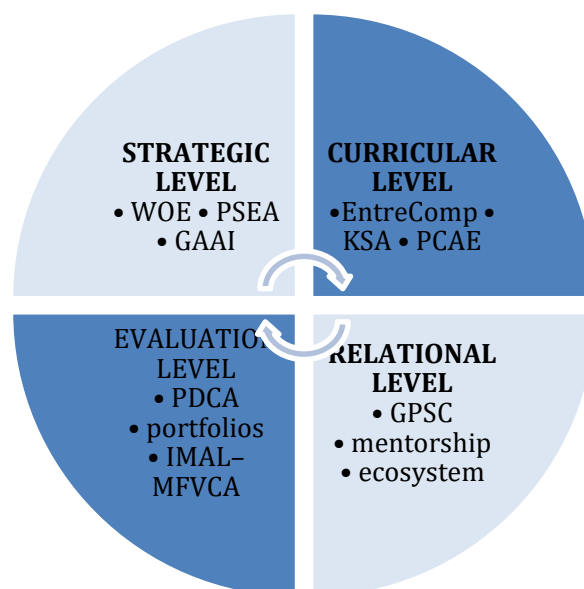


Fig. 6. Integrated architecture of the MFVCA model and the interdependence of its components

Source: developed by the author.

The MFVCA structure defines four interdependent management levels- strategic, curricular, relational, and evaluative, each with its own purpose and tools, yet none capable of functioning in isolation. The strategic level sets the direction, which the curricular level translates into concrete learning experiences. Resources and contexts for action are expanded through the relational level, while the evaluative level completes the cycle by providing insights on progress and feedback for the next decision-making stage. Figure 6 illustrates the model's static architecture, highlighting the four levels, their correspondence with the "4Ps," the key tools, and the model's shared ultimate goal: the formation and development of students' entrepreneurial competencies.

The model is supported by five instruments, each corresponding to a level, which were applied in the pilot study (Figure 7). GAAI, PSEA, and IMAL-MFVCA also underwent content validation via the Delphi procedure; extensive psychometric validation of IMAL-MFVCA remains a direction for future research.

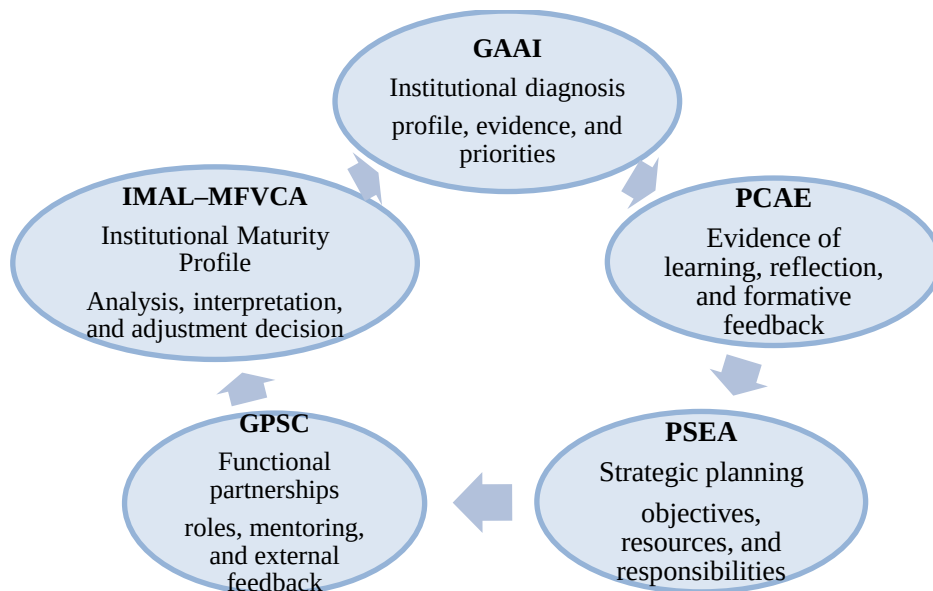


Figure 7. Information flow of MFVCA tools in the institutional decision-making process

Source: developed by the author.

GAAI (Institutional Entrepreneurial Audit Grid) assesses an institution's capacity across five areas, leadership, curricular integration, partnerships, resources, and monitoring, resulting in an Audit Report (RAAI). PSEA (Strategic Plan for Entrepreneurial Education) translates this assessment into priorities, objectives, actions, and indicators, aligned with existing institutional documents (the Institutional Development Plan in Romania or the Institution Development Plan in the Republic of Moldova). PCAE (Student Entrepreneurial Competence Portfolio) documents progress regarding the 15 EntreComp competencies across four stages: initiation, exploration, application, and autonomy. GPSC (School-Company Partnership Guide) structures external collaboration into five stages, ranging from identifying needs to evaluating results. IMAL-

MFVCA integrates data from the other tools into an institutional maturity profile covering four dimensions. Operationalizing the MFVCA translates the model's principles into responsibilities, activities, and results that can be tracked at the institutional level. The system comprises five tools integrated within the 4P framework, as presented in Table 2.

Table 2. The MFVCA tool system and their functional correspondence

Instrument	MFVCA level / 4P component	Main function	Status within the research
GAAI	strategic / Planning	diagnosing the institutional capacity to organize entrepreneurship education	instrument applied in the pilot study; content examined through the Delphi procedure
PSEA	strategic and curricular / Planning–Projects	translating the vision into objectives, actions, resources, and deadlines	instrument applied in the pilot study; adjusted based on feedback from experts and users
PCAE	curricular / Projects	collecting learning evidence and formatively assessing progress	instrument applied in the psychopedagogical experiment; used to document students' progress
GPSC	relational / Partnerships	clarifying the objectives, roles, conditions of participation, and evaluation of the collaboration	instrument applied in the pilot study; feasibility examined through quantitative and qualitative data
IMAL-MFVCA	evaluative / Performance	integrating institutional indicators and supporting managerial decision-making	instrument used pre-test–post-test and examined through the Delphi procedure; extensive psychometric validation is still required
MFVCA digital support	cross-cutting / 4P components	managing the flow of data, evidence, and feedback	support used experimentally in the pilot; not equivalent to technical validation for large-scale implementation

Source: developed by the author.

The empirical research in Chapter 3 included a second stage, distinct from that in Chapter 2: a single-group pre-experimental study conducted over six months (January–June 2025), involving pre-test and post-test measurements administered to the 292 students. The study's empirical findings offer new insight into how active learning methods can be integrated into routine high school activities: scores for entrepreneurial competence, assessed using the EntreComp framework, showed a noticeable increase between the two measurements, and entrepreneurial intention followed the same upward trend.

The aggregate managerial index also shifted toward slightly more favorable values, indicating an improved perception of institutional conditions by the end of the intervention. As the approach relied on a single group without a control group for comparison, the observed progress cannot be attributed solely to the MFVCA intervention; the students' natural maturation over the course of a semester, concurrent school activities, or simply the passage of time could equally serve as partial explanations for the observed changes. Consequently, the results suggest that implementing the model is feasible and that students responded positively to the proposed activities, although they do not, in a strict statistical sense, demonstrate the superiority of the MFVCA model over other educational approaches.

Based on these findings, as well as the correlations identified in Chapter 2 between perceived managerial conditions and self-assessed entrepreneurial competence, differentiated recommendations were formulated for four categories of stakeholders involved in entrepreneurial education: ministries of education, high school leadership, teaching staff, and the business community. The collected data also highlight several risks requiring managerial attention: a tendency toward formalism in reporting, the risk of overburdening teaching staff, and the temptation to prematurely use the IMAL-MFVCA tool to compare or rank high schools before it has undergone proper calibration. To avoid this risk, it is recommended that the initial applications of the MFVCA tools remain strictly formative and confidential, focusing on self-assessment and institutional improvement rather than public comparisons between institutions.

Synthesizing the scientific findings, the managerial contribution of the MFVCA lies in integrating the strategic, curricular, relational, and evaluative levels into a unified framework, validated in terms of content through the Delphi method, a psycho-pedagogical experiment, and conducted interviews. The small sample size, the cross-sectional nature of the diagnostic study, and the pre-experimental design of the pilot limit the generalizability of the results to the entire population of high schools in the two countries. Further research is required for the extensive psychometric validation of the IMAL-MFVCA and for a longitudinal evaluation, including a comparison group, to more clearly isolate the specific effect of the MFVCA intervention.

CONCLUSIONS AND RECOMMENDATIONS

The research conducted within this study enabled *the achievement of the proposed goal*: the theoretical-methodological grounding and development of a managerial model for fostering and leveraging entrepreneurial competence among high school students in Romania and the Republic of Moldova. The analysis of concepts and theories related to the study's subject facilitated the achievement of *the research objectives*, as follows:

- O1, which involved systematizing theoretical approaches to entrepreneurial competence and managerial strategies from the perspective of contemporary educational and economic theories, was addressed in subsection 1.1 by integrating the EntreComp framework with the Knowledge-Skills-Attitudes model into three operational dimensions, cognitive, operational, and attitudinal and by proposing a specific definition;
- O2, which involved a comparative analysis of the curricular, institutional, and regulatory frameworks for high school entrepreneurship education in Romania and the Republic of Moldova, was addressed in subsection 2.1 by highlighting a structural difference: its status as a compulsory subject in the 10th grade in Romania versus its status as an elective subject in the Republic of Moldova;
- O3, which involved identifying the current management practices employed by high schools in both countries to develop students' entrepreneurial competence, was addressed in subsection 2.2 based on data collected from 292 students and 38 teachers and administrators across four institutions (two in Romania and two in the Republic of Moldova);
- O4, which involved identifying the managerial and institutional factors influencing the development of students' entrepreneurial competence, was addressed in subsection 2.3 by defining five enabling dimensions, managerial orientation, active and experiential methods, educational partnerships, continuous professional development, and available resources, along with the corresponding institutional barriers;
- O5, which involved developing a strategic managerial model for fostering and leveraging entrepreneurial competence at the high school level, was addressed in subsection 3.1, where the proposed managerial model was constructed and substantiated. The MFVCA model integrates the strategic, curricular, relational, and evaluative levels through the "4P" mechanism: Planning, Partnerships, Projects, and Performance.
- O6, which aimed to design and test an implementation procedure for the proposed managerial model, serving as a means to validate and evaluate its applicability, was addressed in subsection

3.3; this section presented the implementation stages, necessary conditions, and an illustrative scenario for applying the model within a high school setting.

- O7, which involved formulating educational and economic policy recommendations for decision-makers in the high school education system, was achieved in the "General Conclusions and Recommendations" section through specific, targeted proposals.

Key scientific results obtained:

- Systematization of the concept of "entrepreneurial competence" within an integrated managerial approach (Chapter 1), by correlating the EntreComp framework with the KSA model and the Theory of Planned Behavior;
- Comparative analysis of the curricular and institutional framework for high school entrepreneurship education in Romania and the Republic of Moldova (Chapter 2, subsection 2.1), based on a unified analytical grid, identifying a structural difference: a compulsory subject in Romania versus an optional one in the Republic of Moldova.
- Identification of the managerial and institutional factors influencing the development of entrepreneurial competence (Chapter 2, subsection 2.3) by triangulating data from students, teaching staff, and managers, while distinguishing managerial factors from strictly pedagogical ones.
- Development of the MFVCA managerial model, including the strategic directions and tools required for its implementation (Chapter 3, subsections 3.1–3.2), grounded in the EntreComp-KSA-TPB-PDCA literature and original empirical data, and tested through a six-month pilot study across four institutions.

Author's personal contributions

- Development of the assessment tool for managerial practices regarding the development of entrepreneurial competence (questionnaires), administered to students, teachers, and school managers in both countries;
- Comparative analysis of managerial practices in high school entrepreneurial education;
- Development of a managerial model for fostering entrepreneurial competence within the high school system.

The scientific novelty and originality of the research lie in the managerial approach to developing entrepreneurial competence at the high school level, as well as in the comparative perspective between Romania and the Republic of Moldova—an aspect hitherto absent from the consulted specialized literature.

The significant scientific issue addressed involves the theoretical substantiation and development of a managerial model for fostering and leveraging entrepreneurial competence

within the high school system; this has resolved the problem regarding the lack of a unified, comparative managerial framework for developing this competence in Romania and the Republic of Moldova, thereby enabling its implementation by high schools and educational decision-makers in both countries.

The theoretical significance and practical value of the scientific results lie in the refinement and development of an integrated conceptual framework, based on correlating the EntreComp model, the Knowledge-Skills-Attitudes paradigm, and the Theory of Planned Behavior, thereby helping to clarify the relationship between competencies, intention, and entrepreneurial behavior with the aim of fostering students' entrepreneurial competence.

Implementation of scientific results: The results have been implemented, as confirmed by 4 implementation certificates, through the application of the MFVCA framework in high schools across Romania and the Republic of Moldova. Based on the research findings, the following **recommendations** have been proposed:

Recommendations for the Ministry of Education (Romania) / Ministry of Education and Research (Republic of Moldova):

- Establish a bilateral Romania-Republic of Moldova network of MFVCA pilot high schools (8-12 institutions with diverse profiles and regional contexts), implement the model over two school years, and follow up with an external evaluation and a decision regarding its expansion.
- Develop a common reference framework for entrepreneurial competence development, aligned with EntreComp and KSA standards, that specifies learning outcomes, progression levels, and assessment methods, without standardizing national curricular specificities.
- Strengthen institutional support for partnerships between high schools and the business sector through specific regulations and dedicated funding mechanisms.
- Develop a bilateral digital platform for MFVCA implementation that integrates methodological guidelines, assessment tools, transferable projects, and validated educational resources.

Recommendations for high school principals and institutional management:

- Incorporating MFVCA into the institutional development plan and the annual management plan by implementing the "4Ps" framework (Planning, Partnerships, Projects, Performance)-including objectives, responsibilities, resources, timelines, and outcome indicators.
- Establishing an annual institutional portfolio of entrepreneurial projects, comprising at least one interdisciplinary project for each level of study (e.g., practice firms, simulations, community projects, innovation labs).

- Initiating and strengthening structured partnerships with the local business community, in accordance with the research-validated model.
- Utilizing management tools identified through research to assess and improve their own practices regarding the development of entrepreneurial competencies.

Recommendations for educators:

- Utilizing tools and methods proven effective by research to develop students' entrepreneurial competence in the classroom.
- Actively participating in continuous professional development programs focused on educational entrepreneurship.

Recommendations for the business sector:

- Implementing multi-year student mentorship programs in collaboration with high schools, with mentors supporting teams in defining the problem, testing the idea, and presenting the solution.
- Facilitating student access to real-world business experiences through study visits, job shadowing, and the analysis of authentic case studies, followed by reflection and evaluation.
- Establishing micro-financing funds and innovation labs for student projects, accompanied by mentorship and transparent selection criteria.
- Involving practitioners in the evaluation of student projects by providing feedback on the value proposition, feasibility, and sustainability of the proposed solutions.

Limitations and future research. The study has several limitations. The EntreComp-KSA-TPB correlation selected for the MFVCA is validated in the literature but is not the only possible one. The model's four levels remain a proprietary construct - validated via the Delphi method—that other authors might label differently. The diagnostic study, being cross-sectional and non-experimental, and the pre-experimental study, conducted without a control group, do not allow for establishing causal relationships or assessing long-term effects, although they indicate a positive correlation between coherent managerial strategies and the development of students' entrepreneurial competence.

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**LIST OF THE AUTHOR'S WORKS ON THE SUBJECT OF THE THESIS
MANAGERIAL STRATEGIES FOR THE FORMATION AND CAPITALIZATION OF
ENTREPRENEURIAL COMPETENCE IN UPPER SECONDARY EDUCATION IN
ROMANIA AND THE REPUBLIC OF MOLDOVA**

by Ms. Maria BUCȘA, PhD candidate of the ASEM Doctoral School
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14. **BUCȘA, Maria.** *Educational Entrepreneurship: Innovative Models for Youth and the Administration of the Future.* În: *Competitiveness and Innovation in the Knowledge Economy*, Conferința Științifică Internațională din 26–27 septembrie 2025, Chișinău: Academia de Studii Economice din Moldova, 2025, pp. 30–35, 0,59 c.a. Disponibil: <https://doi.org/10.24818/cike2025.02>
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18. BUCȘA, Maria. *Impactul inteligenței artificiale asupra practicii manageriale.* În: *Ensuring Equal Opportunities Through Educational Management and Psycho-Pedagogical Assistance in the Context of Current Challenges*, Conferința Internațională, noiembrie 2024, Arad, pp. 163–173, 0,70 c.a., ISBN 978-606-26-2040-0. Disponibil: <https://cjrae-arad.ro/wp-content/uploads/2025/05/Volum-Conferinta-2024.pdf>

19. BUCȘA, Maria. *Antreprenoriatul – inovație și dezvoltare.* În: *Ensuring Equal Opportunities Through Educational Management and Psycho-Pedagogical Assistance in the Context of Current Challenges: Entrepreneurship, Innovation and Development*, Conferința Internațională, Arad, 2023, pp. 192–200, 0,60 c.a., ISBN 978-606-26-1818-6. Disponibil: [https://cjrae-arad.ro/wp-content/uploads/2024/03/TODERICI-O-ASIGURAREA lucrari-conferinta-ed-mai-2023_final.pdf](https://cjrae-arad.ro/wp-content/uploads/2024/03/TODERICI-O-ASIGURAREA_lucrari-conferinta-ed-mai-2023_final.pdf)

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23. BUCȘA, Maria. *Influența microeconomiei în formarea și valorificarea competențelor antreprenoriale în învățământul liceal.* În: *Școala actuală, școala viitorului*, Sesiunea de comunicări științifice din cadrul Proiectului Educațional Internațional „Leadership didactic: abordări și tactici de succes”, nr. 5, vol. I, București, 2024, p. 549, 0,06 c.a., ISSN 2972-2012, ISSN-L 2972-2012. Disponibil:

<https://eueducenter.ro/descarca/revista%20provocari%20si%20solutii%20in%20educatie%20editia%205%20vol%201.pdf>

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25. BUCȘA, Maria. *Exemplu de bună practică educațională: „Viitor antreprenor” – atelier pentru formarea competențelor antreprenoriale, financiare și de viață.* În: *Școala Bucovineană*, nr. 2/2025, Suceava: Casa Corpului Didactic „George Tofan”, 2025, 3 p., aproximativ 0,18 c.a., ISSN 2285-9160, ISSN-L 1841-8066. Disponibil: https://drive.google.com/file/d/197FXQtMXXIX_ObLML0sFH-5e3oDLWNlv/view și <https://www.ccd-suceava.ro/pdf/%C8%98coala%20Bucovinean%C4%83%202-2025.pdf>

ADNOTARE

BUCȘA, Maria. Strategii manageriale de formare și valorificare a competenței antreprenoriale în sistemul liceal din România și Republica Moldova. Teză de doctor în științe economice, specialitatea 521.03 Economie și management în domeniul de activitate. Chișinău, 2026

Structura tezei: introducere, 3 capitole, concluzii generale și recomandări, bibliografie 216 titluri, 11 anexe, 135 pagini text de bază, 24 figuri, 32 tabele. Rezultatele obținute sunt publicate în 25 lucrări științifice.

Domeniul de studiu: Științe economice.

Cuvinte-cheie: competență antreprenorială, educație antreprenorială, EntreComp, expunere antreprenorială, învățământ liceal, management educațional, MFVCA, strategii manageriale.

Scopul lucrării. Fundamentarea teoretico-metodologică și elaborarea unui model managerial de formare și valorificare a competenței antreprenoriale la elevii din învățământul liceal din România și Republica Moldova, în vederea creșterii eficienței procesului educațional antreprenorial și a pregătirii tinerilor pentru inițiativă economică.

Obiectivele cercetării: Structurarea și sintetizarea reperelor teoretice referitoare la competența antreprenorială și strategiile manageriale din perspectiva teoriilor educaționale și economice contemporane; Examinarea comparativă a reglementărilor și a conținuturilor curriculare privind educația antreprenorială în sistemul liceal din România și Republica Moldova; Stabilirea practicilor manageriale actuale valorificate de instituțiile de învățământ liceal din cele două țări în formarea competenței antreprenoriale a elevilor; Evidențierea factorilor de natură managerială și instituțională care influențează dezvoltarea competenței antreprenoriale ale elevilor; Conceperea unui model managerial destinat formării și valorificării competenței antreprenoriale la nivel de instituție liceală; Conceperea și validarea unei proceduri de aplicare a modelului managerial propus, ca modalitate de validare și evaluare a aplicabilității acestuia în instituțiile de învățământ liceal din România și Republica Moldova; Elaborarea unui set de recomandări de politică educațională și economică adresate factorilor de decizie din sistemul educațional liceal.

Noutatea și originalitatea științifică a rezultatelor obținute constă în abordarea managerială a formării competenței antreprenoriale la nivel liceal, precum și în perspectiva comparativă România–Republica Moldova, nevalorificată până în prezent în literatura de specialitate.

Semnificația teoretică și valoarea aplicativă a rezultatelor științifice constă în conturarea unui cadru conceptual unitar, construit prin corelarea modelului EntreComp cu paradigma Knowledge–Skills–Attitudes și cu teoria comportamentului planificat, aducând clarificări privind relația dintre competențe, intenție și comportament antreprenorial în mediul educațional.

Rezultatele științifice obținute constau în: structurarea și aprofundarea conceptului de „competență antreprenorială” într-o perspectivă managerială unitară; efectuarea unei examinări comparative a cadrului curricular și instituțional referitor la educația antreprenorială la nivel liceal din România și Republica Moldova; evidențierea factorilor de natură managerială și instituțională cu impact asupra formării competenței antreprenoriale a elevilor în cele două sisteme de învățământ; conceperea unui model managerial, însoțită de stabilirea direcțiilor strategice și a instrumentelor manageriale necesare punerii acestuia în aplicare, în scopul dezvoltării competenței antreprenoriale a elevilor.

Implementarea rezultatelor științifice. Rezultatele cercetării au fost/urmează a fi implementate prin aplicarea modelului managerial propus în instituții de învățământ liceal din România și Republica Moldova, precum și prin integrarea acestora în activități didactice, proiecte educaționale și programe de dezvoltare a competențelor antreprenoriale, contribuind astfel la îmbunătățirea practicilor manageriale existente și la fundamentarea deciziilor manageriale la nivel instituțional.

ANNOTATION

BUCȘA, Maria. Managerial Strategies for the Formation and Development of Entrepreneurial Competence in the Upper Secondary Education System of Romania and the Republic of Moldova. PhD thesis in Economic Sciences, specialty 521.03 Economics and Management in the Field of Activity. Chișinău, 2026.

Thesis structure: introduction, three chapters, general conclusions and recommendations, a bibliography comprising 216 titles, 11 appendices, 135 pages of main text, 24 figures, and 32 tables. The research results have been published in 25 scientific papers.

Field of study: Economic Sciences.

Keywords: entrepreneurial competence, entrepreneurship education, EntreComp, entrepreneurial exposure, upper secondary education, educational management, MFVCA, managerial strategies.

Aim of the thesis. To provide the theoretical and methodological foundation for, and to develop, a managerial model for the formation and enhancement of entrepreneurial competence among upper secondary school students in Romania and the Republic of Moldova, with a view to increasing the effectiveness of entrepreneurship education and preparing young people for economic initiative.

Research objectives: Structuring and synthesizing theoretical frameworks regarding entrepreneurial competence and managerial strategies from the perspective of contemporary educational and economic theories; conducting a comparative examination of regulations and curricula concerning entrepreneurial education in the high school systems of Romania and the Republic of Moldova; identifying current managerial practices employed by high schools in both countries to foster students' entrepreneurial competence; highlighting the managerial and institutional factors influencing the development of students' entrepreneurial competence; designing a managerial model aimed at developing and leveraging entrepreneurial competence at the high school level; devising and validating a procedure for implementing the proposed managerial model to assess its applicability in high schools in Romania and the Republic of Moldova; and formulating a set of educational and economic policy recommendations for decision-makers within the high school education system.

The scientific novelty and originality of the results lie in the managerial approach to developing entrepreneurial competence at the high school level, as well as in the comparative perspective between Romania and the Republic of Moldova- an angle hitherto unexplored in the specialized literature.

The theoretical significance and practical value of the scientific results lie in the formulation of a unified conceptual framework, constructed by correlating the EntreComp model with the Knowledge–Skills–Attitudes paradigm and the theory of planned behavior, thereby clarifying the relationship between competencies, intention, and entrepreneurial behavior within the educational environment.

The scientific results obtained: consist of systematising and further developing the concept of “entrepreneurial competence” through an integrated managerial approach; conducting a comparative analysis of the curricular and institutional frameworks for entrepreneurship education at upper secondary level in Romania and the Republic of Moldova; identifying the managerial and institutional factors influencing the development of students' entrepreneurial competence within the two education systems; developing a managerial model; and identifying the strategic directions and managerial tools required for its implementation, with the purpose of developing students' entrepreneurial competence.

Implementation of the scientific results: the research results have been implemented, as confirmed by 4 implementation certificates, through the application of the proposed managerial model in upper secondary education institutions in Romania and the Republic of Moldova, as well as through their integration into teaching activities, educational projects, and entrepreneurial competence development programmes. Their implementation contributes to improving existing managerial practices and supporting managerial decision-making at the institutional level.

BUCȘA, MARIA

**MANAGERIAL STRATEGIES FOR THE FORMATION AND
CAPITALIZATION OF ENTREPRENEURIAL COMPETENCE IN THE UPPER
SECONDARY EDUCATION SYSTEM OF ROMANIA AND THE REPUBLIC OF
MOLDOVA**

521.03 ECONOMY AND MANAGEMENT IN THE FIELD OF ACTIVITY

Summary of the doctoral thesis in economic sciences

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