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ASSESSMENT OF SATISFACTION WITH ENTREPRENEURIAL EDUCATION AMONG GENERATION ALPHA

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Purpose: The study aims to examine student satisfaction with entrepreneurial education among Generation Alpha in Poland. It seeks to identify strengths, gaps, and unmet needs within current educational practices and to formulate evidence-based recommendations for improving the quality, relevance, and inclusiveness of early-stage entrepreneurial education.
Design/methodology/approach: The study employed a structured questionnaire survey among 252 students aged 7-12, using a simplified, gamified format tailored to their developmental stage. The data were analyzed using three complementary tools: the Student Satisfaction Index, Importance-Performance Analysis, and Importance-Satisfaction Gap. This integrated methodological design enabled the quantification of satisfaction levels, prioritization of improvement areas, and precise diagnostic insight into perceived educational quality from the learner's perspective.
Findings: The study found that while students assign high importance to entrepreneurial skills, their satisfaction with practical implementation – particularly in areas such as financial literacy, project execution, and school-based initiatives – remains comparatively low. Socio-demographic analysis revealed that students from rural areas and those aware of their parents' entrepreneurial background reported higher levels of satisfaction. The application of a combined framework integrating structured satisfaction metrics, performance prioritization, and gap analysis was effective in identifying latent discrepancies not captured by conventional assessment methods.
Research limitations/implications: The study is limited to a single region in Poland, restricting the generalizability of findings to other socio-cultural contexts. Additionally, the exclusive use of quantitative methods limits the depth of interpretive analysis.
Practical implications: The findings support the need for more practice-oriented, context-sensitive, and personalized pedagogical strategies. Recommendations include strengthening financial and managerial competencies in everyday learning, clarifying the practical value of civic elements, and tailoring content to reflect students' socio-demographic backgrounds.

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Social implications: By enhancing the design and delivery of entrepreneurial education at earlier stages, the study contributes to equipping Generation Alpha with essential 21st-century skills, including initiative, responsibility, and problem-solving.
Originality/value: This paper is among the first to apply a structured and multi-dimensional evaluation framework that integrates satisfaction measurement, performance analysis, and diagnostic gap identification to assess entrepreneurial education among Generation Alpha.
Keywords: entrepreneurial education, generation alpha, satisfaction index, importance-performance analysis.
Category of the paper: Research paper.

1. Introduction

The fundamental role of Entrepreneurial Education (EE) in shaping 21st-century skills has been consistently confirmed by researchers and policymakers, leaving little doubt about its importance (Council of the European Union, 2018; Rodriguez, Lieber, 2020).

Despite this recognized significance, EE has not yet been fully integrated into compulsory education systems. This shortfall is attributable to multiple factors, including insufficient methodological and personnel support, as well as the persistent conservatism of national education systems.

According to the Global Entrepreneurship Monitor (GEM), the Entrepreneurial Education at School (EES) indicator ranked last among all thirteen Entrepreneurial Framework Conditions in 30 out of 49 participating economies in GEM 2023, clearly identifying it as the weakest element of national entrepreneurial ecosystems. Notably, EES received a score of 5 or higher – on a scale from 0 to 10, indicating sufficiency or better – in only five economies, while over half of the countries recorded average scores below 3.0, confirming the persistent weakness of school-level entrepreneurial education across most national contexts (GEM, 2023).

These persistent shortcomings have increasingly gained attention at both the expert level and in broader public discourse, prompting debates, media engagement, and public appeals from educators, entrepreneurs, and civic actors (Education Business, 2022; Carvalho et al., 2022). This rising visibility underscores the urgency of policy-level reform and reflects widespread concerns regarding the relevance and inclusiveness of current educational models.

At the same time, Generation Alpha (born after 2010) has fully entered primary and lower secondary education (corresponding to levels 1 and 2 of the International Standard Classification of Education – ISCED), replacing previous cohorts and demonstrating a high degree of digital literacy and an early interest in entrepreneurial activities (Visa, 2023; Tassin, Briggs, 2025). Despite growing interest in EE at these levels, the field continues to suffer from a lack of standardized curricula, pedagogical coherence, and quality assurance mechanisms. Given the low degree of formalization of EE in early education, student satisfaction has

emerged as a valuable – sometimes the only available –indicator for evaluating program effectiveness and identifying improvement areas.

A critical gap in current research concerns the lack of effective methods for systematically assessing both the quality of entrepreneurial education and student satisfaction with it at the primary and lower secondary levels. While structured satisfaction indices are commonly applied in higher education (McLeay et al., 2017), their use among younger learners remains largely underexplored, primarily due to the absence of age-appropriate instruments.

This study aims to examine satisfaction with EE among Generation Alpha, with the goal of supporting its systematic improvement through the application of the Student Satisfaction Index (SSI) and Importance-Performance Analysis (IPA). This approach provides valuable insights for policymakers, educators, and curriculum developers, offering actionable recommendations for optimizing EE in line with the cognitive, emotional, and behavioral characteristics of Generation Alpha as a new cohort of educational service consumers.

2. Literature review

Despite significant differences in institutional approaches to the development of entrepreneurial education systems, the emphasis on entrepreneurial competencies has become a global priority. This is reflected in the strategic documents of various countries, and the European Union (EU) has officially included entrepreneurship as one of the eight key competences for lifelong learning (Council of the European Union, 2018). An analysis of EU framework documents on entrepreneurial education has shown that in secondary education, it is closely linked to the development of 21st-century skills but does not always include training in financial literacy, risk management, or the commercialization of ideas (Seikkula-Leino et al., 2021).

In contrast, the United States follows a decentralized paradigm in which entrepreneurial education is primarily promoted by non-governmental organizations that have developed national content standards serving as voluntary guidelines for individual states (Rodriguez, Lieber, 2020). Unlike the EU, where entrepreneurial education is often integrated into broader curricula, the U.S. model places a stronger emphasis on ensuring that students acquire practical business planning experience by the end of K-12 education (Solomon, 2007).

Despite growing attention, the accessibility and quality of entrepreneurial education at primary and lower secondary levels remain unresolved issues (Toutain et al., 2019; GEM, 2023). According to a study conducted across 33 countries, only 31.4% of schoolteachers reported having access to methodological guidelines for entrepreneurial education, including lesson plans, teaching scenarios, and examples of best practices (European School Education Platform, 2022). Similarly, in the United States, entrepreneurship courses remain rare in K-12

schools and are most often offered as electives or embedded within career and technical education programs, rather than being part of the core curriculum (Hussain, 2023).

With the emergence of Generation Alpha (born after 2010) in classrooms, the issue of accessibility and quality of entrepreneurial education has become particularly relevant. A UK-based study commissioned by Visa reveals that 76% of children aged 8-14 declare an intention to start their own business, run a small enterprise, or pursue a side hustle. Moreover, 78% reported earning money in the past year, with 43% using digital technologies to support these activities (Visa, 2023). This generation, characterized by high digital literacy, demonstrates entrepreneurial potential from an early age, necessitating a reassessment of educational strategies (Cassandra Report, 2022).

Primary and lower secondary schools remain largely unprepared to address this challenge, due to several systemic factors. First, entrepreneurship components are almost entirely absent from official ISCED level 1 and ISCED level 2 curricula (Brauckmann-Sajkiewicz, Pashiardis, 2022). In most cases, entrepreneurial competencies are developed through an interdisciplinary approach, often superficially incorporated into geography, mathematics, and social studies courses (Palmér, Johansson, 2018). Second, traditional teaching methods effective for Generations Y and Z fail to yield expected results for Generation Alpha (GWI, 2023). Generation Alpha students grow up interacting with artificial intelligence and touch-based technologies, learning through trial and error (Höfrová et al., 2024). This necessitates a revision of educational strategies at ISCED levels 1 and 2 and the adoption of new teaching methods incorporating gamification, tailored to the characteristics of the digital generation (Šramová, Pavelka, 2023).

As a result, many education systems lack a clear understanding of which knowledge, skills, and attitudes should be developed through entrepreneurship components at primary and lower secondary levels (Jardim et al., 2021; Carvalho et al., 2022), what educational materials should be used, and which methods would be most effective for Generation Alpha. The absence of standardized content has led to high variability in education quality across schools, with entrepreneurial education often relying on the enthusiasm and initiative of individual teachers rather than systematic policy implementation (González-Tejerina, Vieira, 2021).

Experts argue that the lack of standardization and regulation of entrepreneurship components at ISCED levels 1 and 2 – unlike core subjects such as mathematics, history, and geography – has made it difficult to effectively assess the development of entrepreneurial competencies (Pepin, St-Jean, 2019). As a result, developing robust methodologies for enhancing entrepreneurial education at the primary level remains a significant challenge.

Given this low degree of formalization, student satisfaction has emerged as a valuable – sometimes the only available – indicator for evaluating program effectiveness and identifying improvement areas (Oberman Peterka et al., 2015). Recent research indicates that despite its subjective nature, student satisfaction is increasingly recognized as a key metric in assessing education quality and effectiveness in compulsory schooling (Lodi et al., 2019). It reflects

students' perceived usefulness of education, engagement, and motivation, which directly correlate with improved academic outcomes (Simonsen, Rundmo, 2020). Experts also note that this approach expands opportunities for ISCED level 1 and 2 institutions, where student voices have traditionally been underrepresented, and attendance is mandatory (Van Der Scheer et al., 2018).

Although systematic studies specifically focused on assessing student satisfaction with entrepreneurial education at ISCED levels 1 and 2 remain limited, available research provides valuable insights into key trends and outcomes. For example, the Spanish Junioremprende program reported high student satisfaction due to its interactive format and focus on fostering initiative, creativity, and self-confidence (Maldonado Briegas et al., 2021). In Canada, evaluation of school-based entrepreneurial programs (Pepin, St-Jean, 2019) showed that students appreciated opportunities to launch real ventures, collaborate in teams, and experience ownership. In Sweden, findings revealed that students were most satisfied with value-creation projects aimed at helping others, while projects focused only on idea development were perceived as less meaningful (Lackéus, 2020).

These findings underline the importance of pedagogical design and experiential learning in shaping satisfaction with entrepreneurship education. This is especially relevant for Generation Alpha, whose learning preferences differ significantly from those of earlier cohorts. Traditional models often fail to meet their expectations, resulting in reduced engagement and satisfaction (Kato, 2024; Tsimayeu, 2024). Despite growing scholarly recognition of the need to adapt entrepreneurial education to Generation Alpha, empirical studies explicitly targeting this cohort remain scarce. In existing research with mixed-age samples, Generation Alpha is not delineated as a distinct analytical group, limiting the ability to generate generation-specific pedagogical insights (Bisanz et al., 2019; Gorenc et al., 2023; Jardim et al., 2023).

Assessing student satisfaction at the primary and lower secondary levels presents unique methodological challenges. Due to developmental differences in attention, cognition, and communication, traditional research tools may not yield reliable results. As emphasized in recent work, effective measurement requires age-adapted, interactive methods designed specifically to capture satisfaction among younger learners (Dix et al., 2023).

Among well-established methods for assessing student satisfaction, two approaches stand out for their structured design and practical utility. The Customer Satisfaction Index (CSI), originally developed for service quality evaluation, integrates multiple dimensions of the student experience into a single model, providing quantifiable insights and highlighting areas for enhancement (Santini et al., 2017). In turn, Importance-Performance Analysis (IPA) compares perceived importance with satisfaction to determine priority areas for targeted improvement (McLeay et al., 2017). Together, these methods enable a structured and effective approach to improving entrepreneurial education.

Although widely applied in higher education, CSI and IPA remain underutilized at ISCED levels 1 and 2. Nevertheless, preliminary studies show promise for their adaptation in early education, particularly in contexts where entrepreneurial curricula are not yet formalized (Yanova, 2015; Chiou et al., 2024).

Despite increasing interest in student satisfaction and entrepreneurial education, significant gaps remain. Addressing these gaps requires targeted, systematic research focused on Generation Alpha in primary and lower secondary contexts. This includes: (a) developing age-appropriate assessment tools for this cohort; (b) applying reliable methodologies that combine structured satisfaction metrics such as CSI and IPA. A systematic assessment of student satisfaction among Generation Alpha can help schools identify areas for curriculum and instructional improvement, ultimately enhancing the quality, relevance, and impact of entrepreneurial education.

3. Research methodology

This study employed a structured questionnaire survey conducted in 2022 among primary school students of Generation Alpha (born after 2010) in Poland's West Pomeranian Voivodeship. The aim was to assess their satisfaction with entrepreneurial education as direct consumers of educational services.

The research was part of a broader study on entrepreneurial education at the primary level, covering three interrelated thematic blocks: (1) satisfaction with the quality of entrepreneurial education, (2) entrepreneurial attitudes and intentions, and (3) entrepreneurial competencies.

The questionnaire comprised 24 questions, including 18 core items and six socio-demographic variables. The present article focuses exclusively on the first thematic block – student satisfaction with entrepreneurial education – while the results of the second block are presented in a separate publication (Tsimayeu, 2023).

The target population consisted of students aged 7 to 12, enrolled in grades 2 to 6 of primary schools. A simple random sampling method was applied. All respondents met the inclusion criteria: residence in the study region and attendance at the same school for at least 12 months. A total of 259 students were surveyed, of whom 244 submitted fully completed and valid responses to the first thematic block (response rate – 96.8%).

Data collection was carried out using the PAPI (Pen and Paper Personal Interview) method under the supervision of trained researchers. The questions were structured using age-appropriate phrasing, simplified syntax, and accessible vocabulary. To enhance engagement and reduce stress among respondents, the survey incorporated gamified elements, including a star-based visual rating system.

Each of the 15 entrepreneurial skills and knowledge areas was evaluated twice on a 7-point Likert scale: first in terms of perceived importance (from "definitely not important" to "definitely important"), and later in terms of satisfaction (from "definitely dissatisfied" to "definitely satisfied") regarding how well each element was implemented in school.

To avoid cognitive anchoring and encourage independent judgment, the survey used a methodological decoupling technique: importance ratings were collected at the beginning of the questionnaire, while satisfaction ratings were recorded near the end. This structural separation aimed to reduce response bias and increase diagnostic precision.

In line with the study's objectives, three analytical tools were used to assess and interpret student satisfaction with entrepreneurial education:

1. Student Satisfaction Index (SSI). To assess satisfaction, the Student Satisfaction Index was calculated using Equation (1):

$$SSI = \left(\frac{\sum_{i=1}^{n} \left(\frac{MIS_i}{\sum_{i=1}^{n} MIS_i} \times MSS_i \right)}{MPS} \right) \times 100\% \quad (1)$$

where:
SSI – Student Satisfaction Index, expressed as a percentage;
MIS*i* – Mean Importance Score for item *i*, calculated as the arithmetic mean of respondents' importance ratings;
MSS*i* – Mean Satisfaction Score for item *i*, calculated as the arithmetic mean of respondents' satisfaction ratings;
n – Total number of assessed attributes;
MPS – Maximum Possible Score, defined by the 7-point Likert scale used in the study.

SSI was calculated and interpreted based on the author's adaptation of the evaluative model proposed by Irawan (2003), which classifies results into five levels of satisfaction:
81.00-100.00 – "Very satisfied";
66.00-80.99 – "Satisfied";
51.00-65.99 – "Quite satisfied";
35.00-50.99 – "Less satisfied";
0.00-34.99 – "Not satisfied".

2. Importance–Satisfaction Gap (ISG). To identify mismatches between students' expectations and their perceived satisfaction, the Importance–Satisfaction Gap (ISG) was calculated using Equation (2):
3. Entrepreneurial Education Priority Matrix (EEPM). To analyze the strengths and weaknesses of entrepreneurial education, the Entrepreneurial Education Priority Matrix was applied. This matrix, developed based on the IPA approach (Martilla, James, 1977), includes the following components:

- A two-dimensional matrix with the Y-axis representing MIS and the X-axis representing MSS;
- Division into four quadrants: (1) "Concentrate Here," (2) "Keep Up the Good Work," (3) "Low Priority," and (4) "Possible Overkill";
- Quadrant boundaries established using the mean values of MIS and MSS across all attributes.

A pilot study was conducted with 26 students to test the clarity, usability, and psychometric reliability of the questionnaire. Based on the pilot, minor adjustments were made to improve comprehension. Reliability testing of the main instrument showed high internal consistency, with Cronbach's alpha at $\alpha = 0.90$, indicating robust reliability (threshold $\alpha > 0.60$).

4. Empirical results

As shown in Table 1, the sample of 252 primary school students was relatively balanced by gender and included respondents from all targeted age and grade groups, as well as from both urban and rural areas of varying sizes. In line with the sampling design, the students were stratified into four grade-level groups (grades 2-3, 4th grade, 5th grade, and 6th grade) and four corresponding age groups (7-9, 10, 11, and 12 years). Older students (12 years old and 6th grade) constituted the largest proportion of the sample, which aligns with demographic trends in the West Pomeranian Voivodeship, where a decline in birth rates has been observed since 2010 (Statistics Poland, 2017).

Table 1.
Demographic profile (N = 244)

№	Indicator	Options	Structure, %
1	Gender	girl	50.97
		boy	49.03
2	Age	7-9 years	19.63
		10 years	20.06
		11 years	27.98
		12 years	32.33
3	Place of residence	village	23.65
		city of up to 50K population	29.92
		city of 51K-300K population	24.40
		city of over 300K population	22.03
4	Grade	2-3 grade	16.26
		4th grade	24.13
		5th grade	23.21
		6th grade	36.40

Source: Own study.

Table 2 presents the results of the student satisfaction assessment related to entrepreneurial education, structured across three main domains: Core Entrepreneurial Education, Entrepreneurial Culture, and Entrepreneurial Civic Education. The overall SSI for entrepreneurial education reached 66.65%.

Table 2.
Entrepreneurial education satisfaction analysis

№	Skill/Competency	MIS	MSS	ISG	SSI	Satisfaction Level
1.	Core Entrepreneurial Education	5.37	4.77	-0.60	68.21%	Satisfied
1.1	Developing own ideas and creating plans	5.18	4.60	-0.58	65.67%	Quite satisfied
1.2	Recognizing personal talents	5.81	5.43	-0.38	77.58%	Satisfied
1.3	Planning expenses and saving money	5.62	4.87	-0.75	69.62%	Satisfied
1.4	Selling products and earning money	4.78	4.26	-0.52	60.85%	Quite satisfied
1.5	Carrying out individual projects and tasks	5.34	4.59	-0.75	65.56%	Quite satisfied
2.	Entrepreneurial Culture	5.19	4.77	-0.42	68.17%	Satisfied
2.1	Finding good solutions to conflicts	5.27	4.89	-0.38	69.88%	Satisfied
2.2	Effectively communicating personal stories	4.25	4.09	-0.16	58.46%	Quite satisfied
2.3	Describing a future profession	4.98	4.64	-0.34	66.22%	Satisfied
2.4	Creating new useful objects from materials	4.55	4.53	-0.02	64.69%	Quite satisfied
2.5	Organizing events and interacting with people	5.13	4.47	-0.66	63.91%	Quite satisfied
2.6	Setting and achieving difficult goals	5.74	5.00	-0.74	71.43%	Satisfied
2.7	Utilizing personal strengths and talents	6.07	5.47	-0.60	78.20%	Satisfied
3.	Entrepreneurial Civic Education	4.60	4.17	-0.43	59.62%	Quite satisfied
3.1	Engaging in charitable activities	4.82	4.46	-0.36	63.76%	Quite satisfied
3.2	Presenting evidence to support opinions	4.84	4.33	-0.51	61.90%	Quite satisfied
3.3	Participating in volunteer work	4.04	3.64	-0.40	51.93%	Quite satisfied
	Entrepreneurial Education	5.15	4.67	-0.48	66.65%	Satisfied

Source: Own study.

Among the three domains, Core Entrepreneurial Education demonstrated the highest aggregate satisfaction (SSI = 68.21%). Within this category, the highest satisfaction score was recorded for Recognizing personal talents (SSI = 77.58%), while the lowest was associated with Selling products and earning money (SSI = 60.85%). The most important competency, according to student ratings, was Planning expenses and saving money (MIS = 5.62), which also revealed the largest importance–satisfaction gap (ISG = -0.75).

The domain of Entrepreneurial Culture yielded a comparable SSI value of 68.17%. The highest satisfaction in this category was associated with Utilizing personal strengths and talents (SSI = 78.20%), whereas Effectively communicating personal stories received the lowest satisfaction score (SSI = 58.46%) and the lowest importance rating (MIS = 4.25). Setting and achieving difficult goals was rated as the most important competency (MIS = 5.74) and was also linked to a significant gap (ISG = -0.74).

The lowest domain-level satisfaction was observed for Entrepreneurial Civic Education, with an SSI of 59.62%. The competency Participating in volunteer work received the lowest satisfaction score across all categories (SSI = 51.93%) and was also rated lowest in importance (MIS = 4.04). Presenting evidence to support opinions had the highest importance in this domain (MIS = 4.84) and demonstrated a moderate gap (ISG = - 0.51).

Table 3 details satisfaction levels with entrepreneurial education across various socio-demographic groups. Female respondents demonstrated marginally higher overall satisfaction (SSI = 67.11%) compared to their male counterparts (SSI = 66.26%). When analyzing satisfaction according to respondents' place of residence, students from rural areas reported the highest overall SSI (70.68%), whereas those from large urban areas (cities exceeding 300,000 inhabitants) exhibited the lowest overall satisfaction (SSI = 60.30%). Grade-level analysis revealed that the highest satisfaction was among 6th-grade students (SSI = 69.87%), with 4th-grade students reporting the lowest satisfaction levels (SSI = 60.32%).

Table 3.
Entrepreneurial education satisfaction by socio-demographic groups

Indicator	Options	SSI, %			
		Core Entrepreneurial Education	Entrepreneurial Culture	Entrepreneurial Civic Education	Overall
Gender	girl	69.56	68.35	59.00	67.11
	boy	67.02	68.01	60.21	66.26
Place of residence	village	71.51	73.55	61.53	70.68
	city of up to 50K pop.	71.24	69.94	60.02	68.65
	city of 51K-300K pop.	65.21	69.29	58.45	66.01
	city of over 300K pop.	63.46	58.92	57.89	60.30
Grade	2-3 grade	69.85	70.88	59.69	68.41
	4th grade	64.32	59.51	54.84	60.32
	5th grade	68.93	69.08	54.64	66.58
	6th grade	69.36	72.04	65.16	69.87
Have any of your parents started a company?	No	68.64	68.77	59.35	67.07
	I don't know	62.84	58.91	52.83	59.12
	Yes	70.58	72.62	64.66	70.46
My parents have a higher education	No	70.43	72.13	67.51	70.70
	I don't know	66.31	63.80	53.26	62.79
	Yes, one	68.87	70.44	57.92	67.69
	Yes, both	69.37	70.82	64.46	69.16

Source: Own study.

Students whose parents possessed entrepreneurial experience had higher SSI scores (70.46%), while respondents uncertain about their parents' entrepreneurial background demonstrated notably lower satisfaction levels (SSI = 59.12%). In addition, respondents whose parents lacked higher education recorded the highest satisfaction (SSI = 70.70%), whereas the lowest satisfaction was indicated by students unsure of their parents' educational status (SSI = 62.79%).

Figure 1 presents the Entrepreneurial Education Priority Matrix, which reflects a differentiated landscape of entrepreneurial competencies, highlighting areas where students' expectations are either fully met or remain unaddressed.

A clear concentration of core entrepreneurial competencies is observed in the upper quadrants, with several items – such as Recognizing personal talents and Utilizing personal strengths and talents – positioned in the Keep Up the Good Work area, indicating both high importance and high satisfaction.

At the same time, a cluster of competencies – Developing own ideas and creating plans, Carrying out individual projects and tasks, and Organizing events and interacting with people – are located in the Concentrate Here quadrant, reflecting areas of perceived significance that are not yet matched by corresponding satisfaction levels.

Most civic-oriented items are grouped in the Low Priority quadrant, suggesting limited perceived value and relatively low engagement. Notably, Describing a future profession stands out as the only competency placed in the Possible Overkill quadrant, indicating a potential misalignment between instructional emphasis and student-perceived relevance.

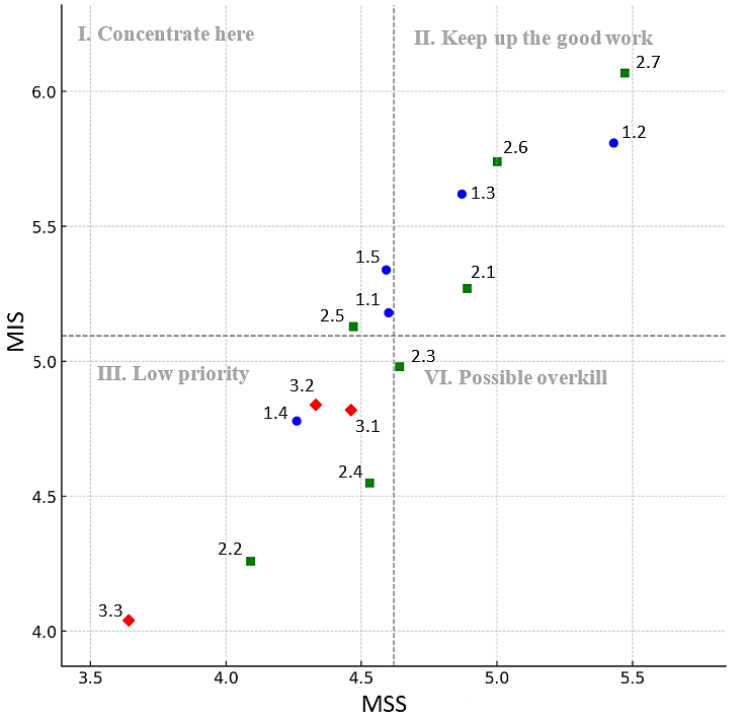

Figure 1. Entrepreneurial Education Priority Matrix.

Source: Constructed from own data based on the IPA model by Martilla & James (1977).

5. Discussion and conclusions

The conducted research indicates that assessing satisfaction and perceived needs among Generation Alpha provides relevant insights for educators, school administrators, and policymakers aiming to improve the quality of entrepreneurial education. Understanding which aspects of learning are most valued by this cohort of hyperconnected learners, which instructional methods they find most effective, and where significant gaps remain allows for the development of more systematic and adaptive approaches to entrepreneurship education at the school level.

Although the overall SSI score was relatively high (66.65%), lower satisfaction levels related to financial, managerial, and communication competencies are consistent with prior research by Pepin & St-Jean (2019), who noted that Generation Alpha increasingly demands a more practice-oriented approach to topics such as financial literacy, project management, and storytelling. These results underscore students' expectations for a more systematic and embedded integration of such content into everyday learning processes (Tsimayeu, 2024).

At the same time, the consistently low ratings in both importance and satisfaction concerning elements of Entrepreneurial Civic Education appear to reflect students' perception of these components as overly formal or disconnected from real-life contexts. This perception may arise from a limited awareness of the practical relevance of such competencies in everyday situations and future professional trajectories. This finding appears to diverge from recent survey data and expert assessments suggesting that Generation Alpha demonstrates a strong sense of social responsibility and engagement with community issues (Visa, 2023; Kato, 2024). These findings are nonetheless consistent with the conclusions of Studdard et al. (2016), who highlight the limited understanding of social entrepreneurship among students at early educational stages, often shaped by a stronger orientation toward individual achievement rather than collective or societal outcomes.

In this context, it is crucial to underscore that the perceived low importance of certain competencies does not necessarily reflect their objective secondary status or lack of relevance. Instead, it may point to a lack of clarity and persuasiveness on the part of educators in articulating the applied value of these skills for students' personal and professional development, which, according to Bisanz et al. (2019), represents a key barrier to the effective integration of civic-oriented content in entrepreneurship education.

The strategic prioritization of entrepreneurial education components using the EEPM and the IPA framework revealed that competencies particularly critical for Generation Alpha – and thus requiring targeted pedagogical focus – include the development of leadership, communication, and networking skills through the organization of events, as well as the ability to design and implement original ideas and projects.

To support a comprehensive and multi-layered assessment of entrepreneurial education, the analytical frame-work based on SSI and EEPM was extended through the integration of ISG. The inclusion of ISG enhances diagnostic precision by quantifying discrepancies between MIS and MSS.

The relevance of this integrated approach is illustrated by the evaluation of EE elements such as Planning expenses and saving money and Setting and achieving difficult goals. Both elements achieved satisfactory SSI scores (69.62% and 71.43%, respectively), which, when viewed in isolation, suggest adequate performance. However, the corresponding ISG values (-0.75 and -0.74) indicate significant gaps between perceived importance and satisfaction –gaps that were not reflected in the EEPM, as these elements did not fall into the Concentrate Here quadrant. With-out the inclusion of ISG, such discrepancies would have

remained undetected, leading to a potential misjudgment of pedagogical priorities and the omission of areas requiring urgent instructional attention.

These findings are consistent with previous research by McLeay et al. (2017) and Julian et al. (2022), which emphasizes the added value of ISG in diagnostic analyses within satisfaction studies. Accordingly, SSI should serve as the foundational metric for general assessment, EEPM as a strategic planning tool, and ISG as a precision instrument for identifying latent discrepancies.

The results further indicate that students' perceptions of entrepreneurial education are strongly influenced by their socio-demographic context. A higher SSI among pupils from rural areas, compared to their peers in major urban centers, may reflect the use of more individualized or locally adapted approaches to integrating entrepreneurial con-tent into the curriculum in smaller communities (Zollet et al., 2024). This disparity may also be linked to differences in the perceived practical value of entrepreneurial learning and to the more limited availability of educational pro-grams and extracurricular initiatives in rural settings.

The analysis also shows that pupils who are unaware of their parents' entrepreneurial experience or educational attainment tend to report substantially lower satisfaction levels. This pattern suggests that awareness of one's family background may contribute to the formation of clearer educational expectations and a more positive perception of school-based entrepreneurial learning (Fidan, Argıç, 2022). In contrast, the absence of family dialogue around education and career pathways appears to undermine students' ability to recognize the relevance of entrepreneurial elements in their learning. This observation reinforces the argument that open family communication regarding education and future planning plays a vital role in fostering students' meaningful engagement with school-based entrepreneurship education (Bae et al., 2014).

From a theoretical standpoint, the findings of this study make a meaningful contribution to the development of assessment and analytical approaches in entrepreneurial education targeted at Generation Alpha at the primary and lower secondary levels. By integrating new methodological elements, the study extends existing conceptual models and frameworks (Höfrová et al., 2024). In particular, the proposed comprehensive approach – combining SSI, EEPM, and ISG – addresses key limitations of traditional single-factor models used to evaluate educational quality and student satisfaction.

From a practical standpoint, the key findings of this study lead to several actionable recommendations for educators and policymakers:

1. Enhance the practical content and applied orientation of financial, managerial, and communication components within entrepreneurial education by integrating them more actively into students' everyday learning and project-based activities.
2. Revise instructional strategies for teaching social and civic competencies, with a focus on improving the clarity and persuasiveness of how their real-world relevance is communicated to students.

3. Adapt entrepreneurial education programs to reflect students' residential and family contexts, emphasizing the role of family engagement in shaping students' educational expectations and career-related discussions.

Despite the methodological rigor and analytical depth of this study, several limitations should be acknowledged. First, the sample was restricted to a single region, which limits the generalizability of the findings across diverse socio-cultural and educational contexts. Second, the exclusive reliance on quantitative methods constrained the ability to explore the underlying reasons behind low satisfaction levels or perceived importance of specific elements. These factors may affect the interpretive depth of the analysis and warrant caution when applying the results to broader educational environments.

Building on the present outcomes and taking these limitations into account, future research should incorporate qualitative approaches to gain a more nuanced understanding of students' motivations, expectations, and perceptions regarding the relevance of entrepreneurial education. Further studies are also needed to examine the relation-ships between satisfaction, the level of entrepreneurial competencies, and students' entrepreneurial intentions at the primary and lower secondary levels.

In conclusion, adopting a comprehensive and age-appropriate approach to assessing both satisfaction and perceived relevance of competencies in entrepreneurial education makes it possible to identify not only general satisfaction patterns, but also specific "pressure points" that call for immediate pedagogical and organizational action.

Building on these findings – and considering the growing scholarly consensus on the uniqueness of Generation Alpha as a future-defining cohort of educational service consumers – there is a clear need to develop long-term research agendas and adaptive educational strategies. These strategies should be specifically oriented toward anticipating changes in how Generation Alpha learns, what they expect from education, and which entrepreneurial competencies will be defined by the evolving social narratives of a rapidly developing and maturing generation of digital natives and hyperconnected learners.

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