DIAGNOSIS OF EDUCATIONAL NEEDS AND EXPECTATIONS FOR MENTORING ENTREPRENEURIAL COMPETENCE: THE CASE OF THE EUROPEAN FOOD SECTOR

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Purpose: The purpose of the study is to contribute to the debate on the entrepreneurial context of the curriculum of business and management training programs by diagnosing the educational needs and expectations of mentors in developing entrepreneurial competence in the European food sector.

Design/methodology/approach: Two qualitative methods, Latent Semantic Analysis (LSA) and content analysis, were applied to analyze a set of 17 interviews with start-up mentors about their educational needs and expectations. The paper builds on the study by Bisk (2002), who indicated that what entrepreneurs primarily seek from their mentors is career-related advice of a general business nature, not sector-specific.

Findings: The study confirms that mentors in the food sector predominantly need managerial competencies and business tools to guide entrepreneurs and start-ups, and there are specific areas of these competencies that need to be addressed in the curricula of professional training programs designed for mentors.

Research limitations/implications: The results cannot be generalized to all mentors or each mentoring program, as the sample size was small, the research project was limited to an online format, and the respondents were predominantly recruited by one organization. To further build on the results, studies are recommended to be carried out in other sectors, in other mentoring training programs, as well as in the context of sustainable and entrepreneurial circular economy. Furthermore, research on the mentees' prospects could also complement the findings.

Practical implications: The study offers practical insight into the curriculum of the training programs designed for mentors in the food sector.

Originality/value: The study takes an innovative, methodological approach to produce transferable evidence from the combination of conventional text analysis, and Latent Semantic Analysis (LSA), which combined led to the development of an integrative SWOT matrix framework for future mentoring training programs built around the entrepreneurial context. The research results are addressed to educators and academics who design and organize training programs for mentors and support the development of entrepreneurial competencies.

Keywords: mentors, start-ups, entrepreneurial competence, business mentoring, training programs.

Category of the paper: Research paper.

1. Introduction

The European Union, through its official bodies including the European Commission and the European Institute of Innovation and Technology (EIT), places a great deal of attention and emphasis on entrepreneurship to strengthen sustainable innovation ecosystems while complying with the Sustainable Development Goals of the United Nations. The outcome expected from this policy is to increase competitiveness, sustainable economic growth, and job creation throughout Europe (EIT, 2022). That approach, in turn, requires new businesses, start-ups, and entrepreneurs that prove to lead to increased economic efficiency, innovations, employment, and equity (Shane, Venkataraman, 2000; Valerio, Parton, Robb, 2014). Since universities are under pressure to provide effective entrepreneurship education and research (Pittaway, Cope, 2007; Gibb, 2013; Henry, 2013), there is an ongoing debate on the contribution of the entrepreneurial context to the curriculum of business and management programs. Moreover, entrepreneurship education is something that goes beyond teaching students about entrepreneurship, and therefore new pedagogies that create entrepreneurs are needed (Kirby, 2007; Kubberød, Hagen, 2015). Consequently, the field of entrepreneurial education has grown exponentially in recent decades as a global trend with significant investments in curriculum development, externally funded projects, and research (Jones, Penaluna, Pittaway, 2014). Studies focus on the impact that training and education programs have on entrepreneurial drive and self-efficacy (Zhao, Seibert, Hills, 2005; Florin, Karri, Rossiter, 2007; Wilson et al., 2009), and point to mentoring and peer learning as effective interventions to support the development of entrepreneurial capabilities (Mills, Bakarat, Vyakarnam, 2012; Elliott, Mavriplis, Anis, 2020). However, research on mentoring support for entrepreneurs and start-ups is still relatively limited (St-Jean, Audet, 2009). Therefore, the objective of the study is to further evidence this debate by diagnosing the needs and expectations of mentors in the food sector who support the development of entrepreneurial competence. At the same time, the study does not claim to provide an exhaustive review of the prospects of food sector mentors, nor the complete curriculum of training programs designed specifically for them. However, it could shed new light on the support that mentors need to do their job.

2. Entrepreneurship Mentoring in Research

In the literature, the concept of entrepreneurial mentoring has been predominantly related to novice entrepreneurship (St-Jean, Audet, 2012; Nabi, Walmsley, Akhtar, 2021), start-up entrepreneurs (Bisk, 2002), and entrepreneurial self-efficacy and satisfaction (Elliott, Anis, Mavriplis, 2016; St-Jean, Tremblay, 2020; St-Jean, Radu-Lefebvre, Mathieu, 2018; Ting, Feng, Qin, 2017). At the same time, we only have a limited understanding of the factors and decision processes that lead an individual to become an entrepreneur. Mentoring appears to be a supportive tool, and typically its functions for novice entrepreneurs are divided into three categories: psychological functions, entrepreneurial career-related functions, and a role model function (Wanberg, Welsh, Hezlett, 2003; St-Jean, 2011).

In the category of psychological functions, research findings point at the importance of socio-emotional support and the development of entrepreneurial maturity, especially in relation to knowledge development (Kuratko, Neubert, Marvel, 2021). Studies also highlight the factors that maximize mentee learning which occurs throughout a mentoring relationship (Gimmon, 2014; McKevitt, Marshall, 2015). The results show that when entrepreneurs understand similarities and share mutual trust with mentors, they maximize learning outcomes (El Hallam, St-Jean, 2016).

Studies on the entrepreneurial career-related functions of mentors focus primarily on the effects on business performance and venture success through the improvement of the skill set and self-efficacy (Kubberød, Fosstenløkken, Erstad, 2018). The lack of experience and business-related skills of new entrepreneurs proves to be the main cause of high failure rates among young businesses (van Praag, 2003; Van Gelder et al., 2007). A match between the mentor's industry and the mentee's industry experience is found to be irrelevant (Bisk, 2002). Additionally, a mentor does not have to be an entrepreneur in order to be supportive (St-Jean, Mitrano-Méda, 2016), however mentoring is far more effective when mentors are business owners (Sullivan, 2000). Mentoring influences satisfaction and career retention among novice entrepreneurs (Ozgen, Baron, 2007; St-Jean, Mathieu, 2015). Further research specifically indicates that mentoring supports the development of entrepreneurial self-efficacy (St-Jean, Radu-Lefebvre, Mathieu, 2018), however achieving objective results such as sales or profitability growth through mentoring are less likely (Barrett, 2006).

A role model function is realized when mentorship builds self-efficacy through co-learning and social capital development (Le Cornu, 2005; Nabi, Walmsley, Akhtar, 2021). Intentions of a mentor are the most important factors that influence the effects of mentoring (Ting, Feng, Qin, 2017). The low directivity mentoring style combined with a high level of mentor involvement in the relationship generates greater positive outcomes for the mentees and leads to success (Cull, 2006; Gravells, 2006).

As mentoring is examined, various benefits emerge (Allen et al., 2008). Recent research confirms that mentoring is an effective alternative to support entrepreneurs and their businesses versus traditional training programs (EL Hallam, St-Jean, 2016). Effective learning is well served by mentoring relationships (Sullivan, 2000), and matching mentors and mentees wisely can efficiently promote mentoring efficiency (Ting et al., 2017). Studies also show that mentoring provides considerably more benefits than drawbacks for both the mentor and the mentee (Gravells, 2006; Hansford et al., 2002).

The conducted analysis of the literature demonstrates that the research findings on mentoring entrepreneurs remain inconsistent and mentoring process outcomes have not been fully understood yet (Kar, Sarangi, 2021; St-Jean, Audet, 2009; Valerio, Parton, Robb, 2014). Furthermore, it seems that more attention has been paid to mentees than to mentors, and therefore, this study is to investigate the latter.

3. Methods

The purpose of the investigation is to diagnose the educational needs and expectations of mentors in the food sector to shape the curriculum of programs designed specifically for them. The paper builds on the study by Bisk (2002), who has indicated that what entrepreneurs primarily seek from their mentors is career-related advice of a general business nature, not industry- or sector-specific. Therefore, it has been hypothesized that today's mentors in the food sector predominantly need general managerial competencies and tools to mentor entrepreneurs and start-ups. Since developing entrepreneurial competencies is a complex process that requires tailored learning support (Kutzhanova, Lyons, Lichtenstein, 2009; Kubberød, Fosstenløkken, Erstad, 2018), there are specific areas of competence that need to be addressed and included in the curriculum of professional training programs for mentors.

The research was carried out among n = 17 of 31 mentors participating in the open call training program entitled "Mentor Academy" that was organized in November 2020 by the Food Branch of the European Institute of Innovation and Technology (EIT Food), the University of Reading, the University of Cambridge, the University of Aarhus and the University of Warsaw.

After completing the Mentor Academy program, the mentors were invited to participate in a one-on-one online interview in English with a researcher. To guarantee validity and confidentiality, the interviews were conducted by a researcher who was not involved in the course as a teacher or a grader. The interview scenario was semi-structured, included open-ended questions, and provided guidance to the interviewer, but also allowed the interviewees to elaborate in more detail on the research areas. The group of respondents was very diverse, both in terms of mentoring experience, level of education, and professional experience. In geographical terms, the majority of the respondents were residents of the European Union (90%).

The experiential learning approach derived from Experiential Learning Theory, ELT (Kolb, 1984; Kolb and Kolb, 2005), was applied in the study. Taking part in the Mentor Academy program represented an experience on which respondents were asked to reflect and provide feedback on both their competencies and skills in mentoring, and expectations towards training programs that would help them develop further as mentors.

Qualitative methods were adopted as a small sample size did not support quantitative methods, although Automated Content Analysis (ACA) was included. Methodological triangulation was applied to increase the credibility and validity of the research output. Consequently, two methods were employed in the qualitative analysis: the Latent Semantic Analysis (LSA), and the conventional content analysis of the body of textual data. LSA lies at the intersection of ACA and information retrieval and provides more objective approaches to the analysis of textual data (Evangelopoulos, Prybutok, Zhang, 2022). It is solely based on patterns of word co-occurrence and does not presuppose any linguistic analysis (Dam, Kaufmann, 2008). In the study, the LSA made a tool to translate semantic content into textual data that was not predicted a priori by any assumptions or a predefined list of narratives. Therefore, LSA was applied a posteriori for clustering the interview texts into common keyword themes as precursors to subsequent conventional content analysis. The process of merging the results of the two was conducted to present the research findings as pragmatic, objective, and comprehensive as possible, and to directly lead to the synthesis of the research results and the development of an integrative conceptual matrix framework for future mentoring training programs built around the entrepreneurial context. The stages of this process are presented in Table 1.

Table 1.

Stages of the Primary Data Analysis

Stages of Primary Data Analysis	Methods and Description	Results
1. Latent Semantic Analysis (LSA)	Through the Otter.ai application, each passage of text was automatically examined to determine the presence or absence of individual words.	A set of 44 individual words, most frequently occurring in the 17 interview body of text.
2. LSA results analysis	Analysis of a set of 44 individual, most frequent words retrieved by the AI application and clustering them by their connotation and context into the 32 keyword phrases.	A set of 32 keyword phrases most frequently occurring in the 17 interview body of text.
3. Keyword phrases analysis	Comparison of frequency and occurrence of all keyword phrases and their participation in the content of the textual data.	A set of comparative data of keyword phrases.
4. Analysis of common categories of keyword phrases	Analysis of a set of 32 most common keyword phrases and clustering them by frequency, connotation, and context into 4 common group categories.	Four common group categories of 32 keyword phrases.
5. Content analysis of the interviews	Analysis of the interviews, clustering their context into the four common categories of keyword phrases and other subsequent categories resulting from the content of the body of textual data. The categories were then labeled according to the preceding LSA and the findings of the content analysis.	Descriptive and interpretive presentation of the content analysis of the interviews. Summarizing and categorizing the narratives into four common keyword categories.
6. Connecting the dots	Deductive analysis and interpretation of all research findings based on data derived from the LSA, keywords and their common categories, and content analysis of the interview narratives.	An integrative conceptual matrix framework for future mentoring training programs built around an entrepreneurial context.

Source: Author's own study.

4. Results

4.1. Latent Semantic Analysis

The 17 interviews were audio-recorded and transcribed verbatim using an AI tool to analyze the content of the textual data. The goal of this process was to provide insight into the semantic data to identify important narratives and their themes. The LSA resulted in the collection of 49 455 words, of which 44 most frequently occurring ones were retrieved by the AI application (0,089% of all transcribed words). The 44 most frequently repeated words were discussed, confirmed, and coded in common 32 keyword phrases with a total of 1702 occurrences which represented 3,44% of all the transcribed words. After the keyword phrases were confirmed, they were grouped into four common categories of mentoring skills shared by the interview respondents: 1. Personal skills, 2. Interpersonal skills, 3. Teamwork and leadership, and 4. Business skills. All detailed data are presented in Figure 1.

Category	Keywords	Number of occurrences	Number of respondents
n.a.	*Mentoring*	471	17
1. Personal skills	*Experience*	94	16
	Learning	70	15
	Knowledge	51	16
	Competencies	44	15
	Development	39	13
	Education	38	16
	Skills	32	13
	Training	18	8
	Self-awareness	5	1
	Adapting	6	4
	Sub-total	397	101
	Mean	39,7	11,7
	Median	38,5	14,0
	Percentage of occurrences in 4 categories	32,25%	
2. Interpersonal skills	*Problem-solving*	21	10
	Communication	17	6
	Advising	16	10
	Relationships	15	4
	Trust	8	8
	Sub-total	77	64
	Mean	15,4	7,6
	Median	16,0	8,0
	Percentage of occurrences in 4 categories	6,26%	
3. Teamwork & leadership skills	*Teams*	63	13
	Leader or Leadership	19	8
	Support	16	10
	Inspiring	7	5
	Sub-total	105	52
	Mean	26,3	9,0
	Median	17,5	9,0
	Percentage of occurrences in 4 categories	8,53%	
4. Business skills	*Business*	101	15
	Start-ups	83	15
	Technology	63	17
	Understanding the mentee's business	63	17
	Tools	63	14
	Company	60	15
	Commercialization or Marketing	56	14
	Manager or Management	51	13
	Sustainability	47	10
	Entrepreneur or Entrepreneurship	31	10
	Money or Funding	22	11
	MBA (program)	12	4
	Sub-total	652	169
	Mean	54,3	12,9
	Median	58,0	14,0
	Percentage of occurrences in 4 categories:	52,97%	
	Keyword phrases in total ("Mentoring" excluded)	1231	
	Keyword phrases in total in % ("Mentoring" excluded)	100%	

Figure 1. Keyword Phrases and Common Semantic Categories.

Source: Author's own study.

4.2. Content analysis

The four common categories of mentoring skills were also confirmed in the content analysis of the interviews, where the respondents explicitly named and elaborated on them when asked about their strengths and weaknesses in mentoring. Furthermore, respondents shared their opinions on the Mentor Academy, both positive (transcribed as opportunities for future mentoring programs) and negative (lessons learned for program organizers).

4.2.1. Strengths and weaknesses in mentoring

The respondents plan to continue to mentor and develop their competencies, especially in the field of sustainable development, and circular economy, and hope to "become ambassadors of change". However, when asked about their strengths and weaknesses in mentoring, they seemed less comfortable describing in which areas they felt the most competent and what they found challenging. Regarding strengths, the respondents mainly mentioned the creation of teams, the building of trust-based relationships, inspiring people, and making them perform better. They also communicated "a joy of working with people", good communication skills, and the ability to listen carefully to others. They perceived curiosity and constant attempts to learn new things as an advantage and a demonstration of their good coaching capabilities. Some of the respondents felt comfortable reviewing a business and identifying key elements that the mentees needed to work on. Some also reported on their technical background and experience in business technologies. Other interviewees found themselves competent in the fields of sustainability, climate change, and environmental protection. In summary, among the strengths, the respondents listed their competencies and skills that could be found across all four common semantic categories elicited through the LSA analysis, while among the challenges they faced and shared in the interviews, only three of them were present, i.e. 1. Personal skills, 2. Interpersonal and 4. Business skills, while the third category, 3. Teamwork and leadership, was missing.

In terms of weaknesses, the ones most frequently mentioned were the lack of adequate business skills, and management tools. In particular, the respondents identified the need for improvement in the areas of commercialization, market and business development, production, and scaling. Some reported a need to better understand financial issues and intellectual property rights, while others perceived mentoring for mature companies as a true challenge.

4.2.2. Opportunities and Threats - Expectations toward training programs designed for mentors and lessons learned

Training programs were expected to provide a wide variety of prospects for their participants. Not only were they supposed to deliver useful information over a short period of time, but they were also meant to leave space for individual reflection and inspiration. They should equip their attendees with new knowledge to ensure that start-ups and companies

that they work with were "on the cutting-edge with trends". The interviewees appreciated peer-to-peer interaction and the discussions during sessions that they found to be as important as lectures and presentations. In their opinion, any training program should start with some basic tools and knowledge that all mentors might need. They would prefer to plan the training in stages where one could move from one step to another.

The interviewees noticed that most of the mentoring courses they had previously participated in focused on self-awareness and different mentoring styles. Although the respondents agreed that soft skills were important elements of the training agenda, they would prefer to allow more time for business-oriented topics and competencies that would equip them with managerial tools to provide feedback to their mentees. Regarding management tools, respondents would expect a module on financial perspectives, especially accounting standards, and investment management. The completion of real-life business case studies appeared to be the most preferred learning method. The schedule of a training program was perceived as a challenge, and therefore the respondents recommended planning the sessions in an agile way and in small tutorial groups. Finally, the interviewees underlined that knowing more about the professional background and experience of their peers in the training group would be beneficial to the learning process, as it would facilitate more effective networking and discussions.

5. Discussion

To combine the results of the LSA and the content analysis derived from the interviews with the mentors, the SWOT analysis approach was applied as the frame perspective summarizing and categorizing the research output. Although the SWOT matrix is a scheme predominantly used for strategic management in organizations, it is also a powerful tool for sizing up a project or venture with respect to capabilities, deficiencies, opportunities, and threats to its existence and further development (Chermack, Kasshanna, 2017). From the narratives on expectations and needs for the training programs designed for mentors, the lessons learned from the Mentor Academy, as well as the perceived strengths and weaknesses in the mentoring process (as reported by the respondents), a course was drafted for the educational programs designed for mentors in the entrepreneurial context of the food sector (Figure 2).

Strengths	Weaknesses
Full of a learning experience Full of knowledge and building competencies Peer-learning and flipped classroom approach Business-oriented Focused on start-ups Technology-driven Managerial tools provided Proactive and engaging	Concentrated on self-awareness and adaptation Focused primarily on building relationships among mentors and mentees Designed to mainly inspire the participants Passive, and lecture-driven
Opportunities	Threats
Building competencies that can be applied in different sectors and ecosystems Developing business skills, along with personal and interpersonal skills Focused on business cases and based on a problem-solving approach Developing communication skills Focused on the marketing and commercialization of products and services Entrepreneurial in the curriculum, context and approach Testing new mentoring tools Agile in schedule and organization	Designed like MBA or executive training programs Focused predominantly on hard management tools, while neglecting the soft ones Not flexible in organization and structure Not business or start-up oriented Too intense in both: schedule and learning

Figure 2. SWOT Matrix for Educational Programs Designed for Food Sector Mentors in the Entrepreneurial and Start-Up Context.

Source: Author's own study.

Comparing the data derived from the LSA and the findings from the content analysis, we might conclude that what mentors expect to develop through training programs are personal and interpersonal skills, teamwork and leadership, and business skills. Teamwork and leadership skills are listed only among the strengths perceived by the respondents, which could mean that the respondents see themselves as adequately trained and prepared for the challenge of building and leading teams. However, personal and interpersonal skills can be seen as both weaknesses and strengths, with a clear dominance among perceived strengths, not weaknesses. Although most of the respondents confirm that they are well equipped with soft skills through previous training courses, they lack managerial training and appear to be unconfident with their knowledge and skills in embracing areas of competencies such as finance, operations, and marketing. These topics seem to be missing from their agenda, which they fully acknowledge.

In terms of methods, peer learning plays an important role in the educational programs expected by mentors. A flipped classroom approach, in which course participants learn as much from lecturers, readings, and case studies as from their classmates, appears to be suitable for mentoring programs. Whether conducted in a lecture room, online, or hybrid format, the courses are expected to be custom-made and planned in an agile way.

The respondents are dedicated to further building their mentoring competence, as well as developing learning tools and methods to improve their effectiveness. They find identifying and responding to the needs of mentees a very crucial part of the process of which the expected

outcome is achieved once the mentees take action and develop their businesses. They would willingly continue their education, especially in the area of management, industry-specific ventures, and sustainable business models. However, they oppose courses that are too intense and could result in a diminishing learning curve.

6. Conclusion

The research results demonstrate that mentors in the food sector need personal and managerial competencies, skills, and tools to help their ecosystems grow and develop, and therefore there are specific areas of competence that should be addressed and included in the curriculum of professional development programs designed for mentors.

Regarding the limitations of the study, the results cannot be generalized to all mentors or each mentoring program: the sample size was small, the project was limited to an online format, and the food mentors who participated in the Mentor Academy were predominantly recruited by one organization, EIT Food. However, the sample size allowed for more in-depth qualitative analysis, which revealed the strengths and weaknesses of the mentoring process perceived by the mentors and gave a snapshot not only of their career-related concerns but also of their future plans. The online format allowed the respondents to participate in the project at a convenient time and place, and the EIT Food consortium provided a suitable platform to address mentors from the food sector.

To build on the research findings, studies on mentoring practice and training programs for mentors are recommended in food systems, but also in other sectors. Little is still known about specific mentoring competencies that allow effective sustainability entrepreneurship and an entrepreneurial circular economy. Research on the mentees' perspective, discovering what they find particularly useful, and what types of skills and approaches of mentors allow them to act and make their business or start-up successful, would also greatly complement the findings.

Acknowledgments

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