

Transformative Forces: Social Entrepreneurship as Key Competency

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Abstract: Social entrepreneurship catalyzes positive change through sustainable business models that address social and environmental issues. This approach requires a deep understanding of societal challenges, strong business acumen, and collaborative efforts to accomplish shared goals. Essential interdisciplinary skills such as critical thinking, effective communication, teamwork, and problem-solving are crucial and transferable across industries and positions. Embracing digital transformation additionally boosts social entrepreneurship, enabling the creation of new products, streamlined operations, and broader outreach to diverse audiences. Achieving impact goals as a social entrepreneur requires a comprehensive understanding of digital tools and technologies. This study delves into students' perceptions regarding the practicality of their current education in acquiring skills sought after by the market, particularly in the domain of social entrepreneurship. Carried out at the Polytechnic University of Cávado and Ave in Portugal, the research employs two surveys centered on 21st-century skills and the attributes of social entrepreneurs to gather data. The findings of this empirical study hold promising potential for enhancing higher education. By pinpointing areas for improvement, such as curriculum adjustments and the adoption of innovative teaching methods, educators can better equip students to confront future challenges in a sustainable and ethical manner. In an era defined by pervasive digital transformation, providing students with pertinent skills and knowledge is paramount for empowering them to contribute to shaping a more sustainable and inclusive world through social entrepreneurship.

Keywords: Competences, Entrepreneurship, Leadership, Higher education, Innovation, Social entrepreneurship.

1. Introduction

Social Scholarly research on social entrepreneurship has highlighted the lack of consensus on the precise definitions or boundaries of terms such as 'social enterprise', 'social entrepreneur' or 'social entrepreneurship' (Dey and Lehner, 2017; Ranville and Barros, 2021). Defourny and Nyssens (2012) conducted a comparative analysis of the development of this concept in the United States and Europe, revealing different regional emphases. In Europe, the sense is closely linked to the third sector, the cooperative tradition, and the work integration social enterprises that have been prominent in the policy landscape of many European countries since the 1990s. In the United States, on the other hand, it is mainly associated with non-profit sector activities driven by social objectives. The multifaceted nature of social enterprises and social entrepreneurship, operating in different sectors and industries with different legal frameworks and ownership models, poses a formidable challenge to definition (European Commission, 2020). However, their commitment to a social or environmental mission takes precedence over profit maximisation. Economic activities are used to achieve social goals, with profits typically reinvested to further these goals (Rahdari et al., 2016; Zahra and Wright, 2016).

Social entrepreneurship is intrinsically linked to social innovation, with implications on the competencies required. Social enterprises often adopt management practices based on democratic and participatory principles and strive for social justice (European Commission, 2020). A broader understanding of the different definitions of social enterprise and social entrepreneurship is essential for educational planning in this field (Myyryläinen, 2022). Learning objectives should be expansive, enriching competencies and skills relevant to social entrepreneurship, even for individuals not directly involved in social enterprises. However, competence depends on knowledge and a collective understanding of the phenomenon. Higher education institutions must recognize the constantly evolving landscape of social enterprises and emphasize the fact that defining them is an ongoing and crucial endeavour. (Bauwens et al., 2020; Ghafar, 2020). To develop competencies in social entrepreneurship, it is essential to have a deep understanding of the contextual nuances of social enterprises across different countries. However, competencies are context-dependent and intertwined with behaviours, attitudes, and values (Lavriničiča, 2021).

Given the growing influence of digital transformation on peoples' lives, this study seeks to assess students' perceptions of the effectiveness of their current education in acquiring market-demanded skills, particularly in the context of social entrepreneurship. It also aims to shed light on their professional expectations for the future. Focusing on students at the Polytechnic Institute of Cávado and Ave in Portugal, this empirical research uses two questionnaires - one focusing on 21st-century skills and the other on the profile of the social entrepreneur. The resulting findings can serve as a springboard for advancements and innovations in higher education, including possible curriculum redesigns or pedagogical innovations to address challenges and prepare students for a more sustainable and conscientious future. Following this introductory presentation, section 2 presents the theoretical framework resulting from the literature review, while section 3 outlines the research methodology. The discussion of the findings is given in section 4, with concluding remarks in section 5.

2. Literature Review

Innovation is a cornerstone for organizations in the knowledge society, facilitating the creation of solutions and sustainable practices (Sivam et al., 2019; Paavola et al., 2023). The era of solitary innovation is over, and open innovation is emerging as a paradigm in which diverse sources contribute to the development of products, services, and processes (Chesbrough, 2003). Universities are central partners in knowledge transfer, supporting regional development through scientific publications, patents, and collaborations (Dieguez, 2020; Dieguez, 2024; Leon and Martinez, 2016). The synergy of multidisciplinary teams promotes open innovation, generating novel products and solutions (Ramírez-Montoya et al., 2018). However, the study of open innovation in the academic and cultural spheres remains comparatively scarce compared to the business and social spheres, which calls for further research (García-Peñalvo et al., 2019).

University innovation is shifting towards academic entrepreneurship, with novel pedagogical approaches fostering collaboration between educators and external sectors (Dieguez et al., 2022a; Dieguez et al., 2023). Entrepreneurship initiatives can have both formal (such as licenses and patents) and informal impacts (like research, consultancy contracts, public workshops, or conferences) across various disciplines, including social sciences, humanities, and arts. (García-Peñalvo et al., 2019). Given the profound impact of universities on community progress and innovation, their integration with external entities facilitates knowledge transfer and technology diffusion, thereby supporting economic and social progress within a quadruple helix model. University engagement in collaborative efforts with industry and research institutions contributes significantly to innovation performance (Thomas et al., 2021).05).

Higher education institutions can develop entrepreneurial skills through partnerships with industry, fostering innovative and socially conscious initiatives (Kumari et al., 2019). With the

rise of social entrepreneurship as a dynamic field that integrates social, financial, and community-centered goals with innovation, education in this area becomes crucial for empowering individuals to enact positive social and environmental changes through inventive business strategies (Dieguez et al., 2023b; Kickul and Lyons, 2020). This education extends beyond traditional business teachings, seeking to instill in learners a deep understanding of societal issues and the importance of sustainable development (Saebi et al., 2019). It encompasses various critical elements, including identifying diverse social and environmental challenges (Arend, 2021), fostering the development of innovative and sustainable business models beyond profit-driven motives (Tykkyläinen and Ritala, 2021), refining essential cross-disciplinary skills like critical thinking, communication, collaboration, and problem-solving (Ramírez-Montoya et al., 2021), promoting ethical behavior, responsible leadership, and accountability to stakeholders (Anh et al., 2022), and integrating sustainability as a fundamental guiding principle in all endeavors and decisions (Tien et al., 2023).

The future trajectory requires acquiring new skills that will reshape the very pillars of the educational framework (World Economic Forum, 2020). Entrepreneurship is emerging as a pathway to move beyond mere survival to prosperity (Devece et al., 2016), with higher education institutions (HEIs) playing a pivotal role in providing entrepreneurship education (Maritz et al., 2020). Despite this, the predominant focus of entrepreneurship education predominantly revolves around cultivating entrepreneurial skills (Dieguez, 2017). According to Lans, Blok, and Wesselink (2014), entrepreneurial skills encompass both cognitive and non-cognitive skills. The current study integrates both dimensions of these competencies, and the following section elaborates on their treatment.

3. Research Methodology

The research framework of this scientific investigation includes the assessment of students' perspectives on the relevance of their current educational training for the acquisition of skills sought by the market, particularly in the field of social entrepreneurship. In addition, the study seeks to gain insight into the students' expectations for their professional careers. A research study was conducted at the Polytechnic University of Cávado and Ave in Portugal. The study aimed to observe how students perceive and encounter the effectiveness of curricular content and teaching methods in developing their soft and social skills. The research was conducted from a positivist perspective and collected relevant data for analysis. In addition, the analysis seeks to identify critical competencies and potentially revise specific curricula or teaching approaches to address barriers and better equip students for future triumphs. To achieve the research objectives, a descriptive and quantitative methodology is used along with a questionnaire as the primary tool for data collection (Farrokhnia et al., 2022). Such an approach is essential to identify cohorts of students with analogous entrepreneurial aptitudes. The fundamental premise of this research is that entrepreneurs and leaders actively shape the future they envision by seizing opportunities that align with their beliefs and ambitions (Donaldson, 2021). Their decisions in pursuit of entrepreneurial value creation are shaped by emotions, perceptions of underlying realities, and their understanding of the potential impact of their decisions (Dieguez et al., 2023a).

The study population consists of students enrolled at the Polytechnic University of Cávado and Ave (IPCA). To collect data, an instrument was created by adapting two validated scales from the literature. The scales used in this context are based on two sources. Firstly, the 21st-century competencies framework was initially proposed by Lans, Blok, and Wesselink in 2014 and later refined by Dieguez, Loureiro, Ferreira, and Basto in 2022. Secondly, the profile of the social entrepreneur, as outlined by Garcia-González, Ramírez-Montoya, De León, and Aragón in 2020, was also taken into consideration. To achieve the research objectives, a comprehensive questionnaire was created, covering four main sections: socio-demographic information, students' perceptions of market-demanded competencies, students' views on social entrepreneurship, and students' career aspirations. Using a Likert scale from 1 to 5,

representing different levels from minimum to maximum, the questionnaire was distributed via Google Forms in April and May 2023. Before deployment, the questionnaire underwent rigorous evaluation by three students and two academic experts to ensure validity and reliability. Data was collected in June 2023 with 111 participants responding. This robust sample size provided a wealth of valuable and relevant information. Therefore, this section of the study will present and analyze the obtained results.

4. Data Analysis and Interpretation

4.1. Socio-Demographic

The survey sample consists of 111 students, representing approximately 2% of the total student population at IPCA in June 2023. Female respondents predominate in the survey, accounting for 51% of the responses. While most respondents were between 18 and 30 (38%), a range of ages were represented, as shown in Figure 1.

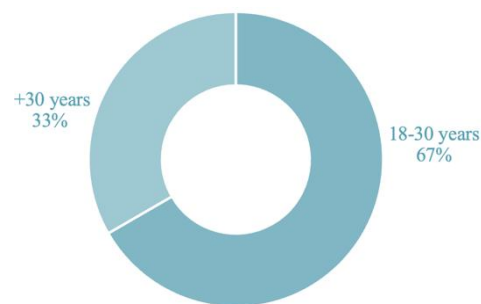


Figure 1: Gender of the respondents

In terms of professional experience, 70% of the respondents have worked in the field. Most respondents (36%) have experience ranging from 1 to 6 years, followed by those with more than 6 years of experience (34%) as shown in Figure 2.

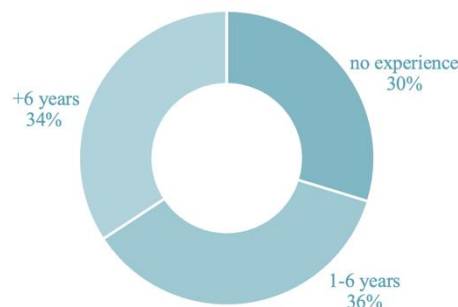


Figure 2: Professional experience

4.2. Students' Perceptions and Expectations

To evaluate how helpful current education is in equipping students with essential 21st-century skills, Figure 3 presents key findings on students' perceptions of its significance. Notably, adaptability emerges as the focus with 79% of responses, closely followed by critical thinking (78%), collaboration (77%), time management (75%), information technology literacy (74%), analytical and decision-making skills (74%), effective communication (73%) and active listening (73%).

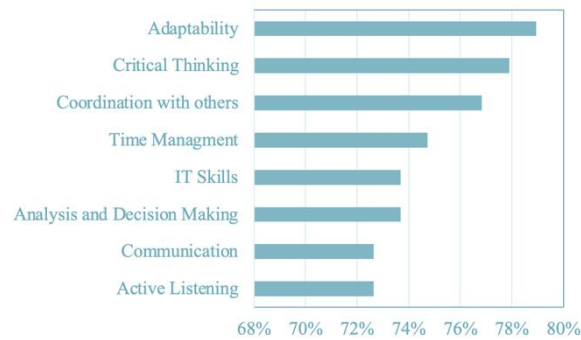


Figure 3: Needed 21st-century skills

The major conclusions of the study on how students view social entrepreneurship are presented in Figure 4. Competence in administrative management emerges as the most critical concern, with 88% of responses, closely followed by competence in accounting and financial acumen at 86%. Tolerance of ambiguity or uncertainty ranks high at 84%, along with the ability to research reliable information at 83%. There is also an ability to set and achieve goals (83%), a passion for working for social causes (79%), a commitment to excellence in work performance (78%), active participation in team collaboration (78%), and an understanding of organizational logistics.



Figure 4: Social Entrepreneur Profile

When asked about their expectations for the future, most students expressed a desire to become entrepreneurs, with 24% wanting to set up their own business. Conversely, 22% of respondents preferred traditional employment with an employer. In addition, a significant proportion, 20% of respondents, have the intention to pursue international career opportunities. In addition, 14% of respondents expressed a preference for continuity in their current employment position. The results are presented in a graphical format, which can be viewed in Figure 5.

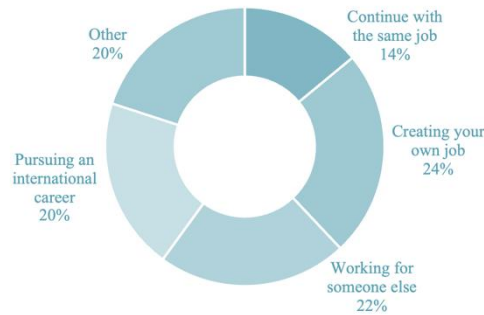


Figure 5: Expectations regarding professional future

Within the sample collected, 35% of participants have not considered starting a business, while the overwhelming majority (65%) have considered it, as shown in Figure 6.

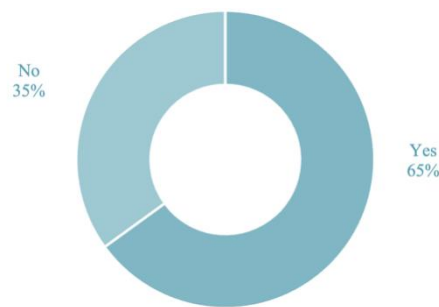


Figure 6: Have you ever thought or thinking about starting a business or working for yourself

Several factors are cited as reasons for not considering starting a business or becoming self-employed by respondents. The most important of these is a lack of financial capacity, cited by 56% of respondents, followed by the perception that the timing is not correct (44%). A significant proportion also cited lack of experience (29%), lack of suitable personal conditions (20%), lack of management and leadership skills (15%), fear of taking risks (15%), lack of time to seriously consider entrepreneurship (12%) and limited support from close acquaintances (5%). Conversely, respondents who were willing to start their own business cited several motivating factors. The most important of these is the prospect of increasing income, cited by 32% of individuals, followed by fulfilling a long-held ambition (25%). A significant proportion of respondents also cited the desire for autonomy as their boss (13%), the recognition of a lucrative business opportunity (8%), the identification of a solution to a market or societal need (5%), and concerns about unemployment (3%).

4.2.1. Classification of Social Entrepreneurship Skill Profiles Using Clustering Algorithms

The study utilized cluster analysis to define distinct profiles of individuals based on their perspectives regarding the importance of their present education in obtaining skills for the labor market, particularly emphasizing social entrepreneurship. Cluster analysis groups cases based on similarity within each cluster and maximizes dissimilarity between clusters. Among various techniques, K-means clustering, a widely used method, delineates clusters based on proximity, with a predetermined number of clusters (Anderson, 2013). Existing literature posits the existence of two dimensions for 21st-century skills - cognitive and non-cognitive skills. To evaluate students' perceptions of these skills, 19 questions were used in the study. A factor analysis identified latent dimensions, resulting in one or two factors.

In addition, the 28 questions assessing students' perceptions of social entrepreneurship underwent prior factor analysis, which revealed three latent variables: Driving, Awareness,

and Leadership. The score for each dimension was calculated by taking the average of its constituent items, which were then used as variables for the subsequent cluster analysis. Both the Bayesian Information Criterion (BIC) and the Akaike Information Criterion (AIC) support a 3-cluster solution when using the log-likelihood distance, and a 2-cluster solution when using the Euclidean distance as the optimal approach. Hierarchical cluster analysis employing Ward's method confirmed a 3-cluster outcome as indicated by the dendrogram. The 3-cluster solutions obtained from hierarchical cluster analysis, two-step clustering, and k-means clustering displayed considerable similarity, with the 3-cluster k-means solution considered more easily interpretable. Moreover, the stability of the 3-cluster k-means solution remained unaffected by the order of cases. The silhouette metric indicated a favorable level of cohesion and separation, thereby validating the 3-cluster k-means solution. The centroids for each cluster are illustrated in Figure 7.

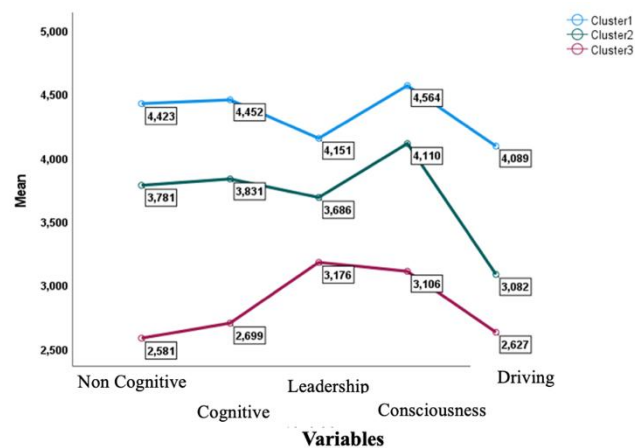


Figure 7: Centroids for each cluster

Cluster 3 shows a negative outlook on non-cognitive, cognitive, and driving skills. This segment constitutes the smallest fraction, comprising only 17 cases (15.3%), who harbor the least favorable attitudes toward 21st-century skills and social entrepreneurship. Conversely, Cluster 2 comprises the largest cohort with 52 cases, followed by Cluster 1 with 42 cases. Cluster 1, encompassing 37.8% of respondents, displays the most optimistic perspective on 21st-century skills and social entrepreneurship. After analyzing the results, we identified distinct skill perception profiles.

- Cluster 1: **Skill Awareness Embracers** - This group consists of students who are actively seeking opportunities to enhance their skills in social entrepreneurship and create meaningful change through self-improvement.
- Cluster 2: **Career Skill Seekers** - Students in this cluster prioritize the acquisition and refinement of skills relevant to the job market. While they may also value social consciousness and aspire to enact social change, their foremost objective is to acquire skills that align with their career ambitions in social entrepreneurship.
- Cluster 3: **Leadership Development Aspirants** - This group of students emphasizes effective leadership to drive social impact and achieve success in social entrepreneurship. They prioritize awareness of social issues and aspire to become influential leaders who guide social ventures to victory.

4.2.1. Variations Across Clusters

To investigate the relationship between gender, age, work experience, and entrepreneurial inclination with perceptions of 21st-century skills and social entrepreneurship, differences between clusters were examined. Table 1 summarizes the results.

		Cluster 1	Cluster 2	Cluster 3	
Gender $p = 0.733$	Female	20 (35,1%)	27 (47,4%)	10 (17,5%)	57 (100,0%)
	Male	22 (40,7%)	25 (46,3%)	7 (13,0%)	54 (100,0%)
Age $p = 0.153$	18-30 years	24 (32,4%)	36 (48,6%)	14 (18,9%)	74 (100,0%)
	31 or more	18 (48,6%)	16 (43,2%)	3 (8,1%)	37 (100,0%)
Professional experience $p = 0.055$	No experience	6 (18,2%)	20 (60,6%)	7 (21,2%)	33 (100,0%)
	1-6 years	17 (42,5%)	16 (40,0%)	7 (17,5%)	40 (100,0%)
	7 or more	19 (50,0%)	16 (42,1%)	3 (7,9%)	38 (100,0%)
Own business $p = 0.585$	No	14 (32,6%)	21 (48,8%)	8 (18,6%)	43 (100,0%)
	Yes	28 (41,2%)	31 (45,6%)	9 (13,2%)	68 (100,0%)

Table 1: Differences in some other variables among clusters

Gender has no significant impact on perceptions of 21st-century skills and social entrepreneurship. While older students, mainly clustered in cluster 1, have a slightly more favorable perception, this difference is not statistically significant. Furthermore, there is no compelling evidence of a correlation between the propensity to start a business and students' perceptions. It is worth noting that Cluster 2 is dominated by students with no work experience, who have positive, albeit slightly less favorable, perceptions compared to Cluster 1, which is dominated by students with work experience ($p=0.055$).

6. Conclusion and Recommendations

In summary, this study identifies three distinct clusters of students, each with different perceptions of 21st-century skills and social entrepreneurship. Cluster 1, represented by Skill Awareness Embracers, emphasizes self-improvement for social impact. Conversely, Cluster 3, represented by Leadership Development Aspirants, has the most negative perception. Notably, Cluster 2, characterized as Career Skill Seekers, prioritizes labor market skills while acknowledging social impact and awareness. This research highlights the central role of higher education in shaping students' perceptions of essential skills for the future. Cognition, conscientiousness, and leadership emerge as the most important skills needed to drive positive change in society. These attributes enable social entrepreneurs to address challenges, mobilize resources and create meaningful change. While work experience shows a significant correlation, factors such as gender, age and entrepreneurial tendencies do not show significant associations. These findings provide valuable insights for tailoring educational interventions to support students' social entrepreneurship aspirations. It is crucial to recognize the limitations of this research, especially the small sample size, and the fact that mostly female respondents participated, as well as the skewed age distribution towards younger students, which could introduce bias into the results. Future studies with larger groups could provide greater insight into these dynamics, aligning implications and findings with existing literature.

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