

A Model for the Development of Entrepreneurship Ecosystem and Technology Integration

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Abstract

In this writing, a model for the development of entrepreneurship ecosystems in school communities, which is based on four pillars, is proposed. These four pillars are Empowerment, Action, Visibility and Sustainability. The model proposes to begin with an understanding of the school community's environment and its context to be able to personalize its approach and make way for effective entrepreneurial initiatives. Then, the mentioned four pillars are developed. The empowerment aspect recognizes the importance of instructing educators and students with the necessary knowledge and tools for the development of an entrepreneurial mentality and innovation skills. This gives way for action, guiding the participants to develop entrepreneurial initiatives. Visibility highlights the importance of divulging project accomplishments through different channels to obtain support, attract resources, and improve the community's esteem. Finally, sustainability reinforces the framework of the model, which goes further than economic sustainability.

Keywords: entrepreneurship, business ecosystems, community development, empowerment

Resumen

En este escrito se propone un modelo para el desarrollo de ecosistemas de emprendimiento en comunidades escolares que se basa en cuatro pilares. Estos son: empoderamiento, acción, visibilidad y sostenibilidad. El modelo propone iniciar con un entendimiento del ambiente de la comunidad escolar y su contexto, para poder personalizar su aplicación y dar paso a iniciativas de emprendimiento efectivas. Luego se desarrollan los cuatro pilares mencionados. El apoderamiento reconoce la importancia de capacitar a los educadores y estudiantes con las herramientas y conocimientos necesarios para desarrollar una mentalidad emprendedora, y destrezas de innovación. Luego da paso a la acción, guiando a los participantes a desarrollar iniciativas emprendedoras. La visibilidad destaca la importancia de divulgar los logros del proyecto por diferentes canales para obtener apoyo, atraer recursos y mejorar la estima de la comunidad. Por último, la sustentabilidad refuerza el marco del modelo, que va más allá de la viabilidad económica.

Palabras clave: emprendimiento, ecosistema empresarial, desarrollo comunitario, apoderamiento

Introduction

The recognition of entrepreneurial education as a vital component that promotes innovation, economic growth and social development in communities has been increasing. Particularly, the integration of entrepreneurial projects and initiatives in schools presents itself as a unique opportunity for cultivating innovation and empowerment in students and teachers.

Proposed Model: Development of Entrepreneurship Ecosystems in School Communities

The model for the development of entrepreneurship ecosystems in K-12 school communities that is proposed is based on four fundamental pillars: Empowerment, Action, Visibility, and Sustainability. The development of these pillars requires an understanding of the environment and the context being faced by the school community. Because of this, the model

proposes analyzing the situation faced by the school community, considering both internal and external factors. This type of analysis is essential in social projects to be able to comprehend the nature and magnitude of social issues, identify the subjacent causes, and determine the most adequate and effective interventions to address them. (DiClemente, Crosby & Kegler 2019). It's important to highlight that the environmental analysis in community projects, according to Cnaan and Milofsky (2018), doesn't just implicate comprehending the local geography and demography. It's also about recognizing power relations, cultural dynamics, and historical factors that have an influence in the community.

Environmental Analysis

An environmental analysis is not only pertinent in the beginning of a community project, but also a dynamic process that should be integrated in each phase of the project life cycle to guarantee its success and sustainability (Kretzmann and McKnight, 2017). Similar arguments about environment analysis can be found in previous works such as Weiss (1995), and Butterfoss, Goodman, and Wandersman (1996). These authors direct their arguments at long term sustainability, relevance, and effectiveness elements that can be derived from an exhaustive environment analysis.

Comprehending the internal factors of a community is crucial to design effective social interventions (Putnam, 2016). Among the internal factors suggested for consideration in the situational analysis are organizational structure, distribution of power (formal and informal), leadership style, access to resources, and the differential factors of the school community. Additionally, factors from the three dimensions of organizational behavior are considered: the individual, the groups, and the social system (Robbins & Judge 2019). This analysis provides specific information about the strengths, areas of opportunity, and needs of the community.

The rigorous analysis of external factors in community projects allows a deep comprehension of intersectoral dynamics and the interconnection within the community, the institutions, and a broader environment, thus facilitating effective collaboration and the achievement of sustainable results (Minkler, 2020)., Demographic, social and economic factors are included among the external factors considered as part of the situational analysis. It's also recommended to review legal, regulatory, and compliance aspects that could positively or negatively impact the implementation of the model.

It is advised to evaluate the school community's technological development and the use of technological tools in communication processes. This is because technology can be a catalyst for community empowerment by providing tools and platforms that enable citizens to actively participate in solving local problems and decision-making (Benkler, 2017). With this analysis, the goal is to build a picture of the environment surrounding the school community and identify opportunities and/or risks that may arise in the development of the model's implementation.

Pillar 1: Empowerment

The first pillar of the model is empowerment. Through different training initiatives, the teachers are equipped with the necessary tools to modify their perceptions about entrepreneurship, strengthen their entrepreneurial skills, and direct their attitudes toward a desire of protagonism as they take part in positive changes in the environments that surround them. According to Seelos and Mair (2005) and Falloye and Matlay (2021), modifying perspectives about social entrepreneurship can contribute to the creation of more inclusive and collaborative ecosystems, fostering local innovation and promoting sustainable economic development.

Tailored Training Initiatives

These training initiatives take into consideration the profile of the community that is developed with the information obtained in the situation analysis, and based on it, the content of the empowerment efforts is adjusted and modified. These processes often take some time as they frequently require individuals to relearn or deconstruct concepts that may have different variations in other concepts. As Jorques (2015) explains, empowerment as a social process involves establishing relationships with other members of the community, making it a long and continuous process.

The workshops and seminars include content about entrepreneurial mindset, diverse entrepreneurship methodologies, and business tools like Business Model Canvas, Design Thinking, and Elevator Pitch, among others. Teaching Business Model Canvas in community projects provides the participants with an effective tool to visualize and communicate their ideas in a clear and structured manner, facilitating the planning and execution of entrepreneurial initiatives (Osterwalder and Pigneur 2010). Design Thinking is highly useful for entrepreneurial purposes, as its objective is to generate solutions to problems by focusing on the user and being action oriented. The Elevator Pitch has gained relevance in the development of entrepreneurial skills, communication, brand development and value creation.

Empowering Teachers and Students

Content related to the application of technologies and innovative tools in the classroom is also included. The training efforts are designed by specialists and aim to guide the participating teachers to embark on their teaching and learning processes, include entrepreneurship content within the various subjects they teach, motivate their students to become entrepreneurs, and help them lead their own entrepreneurial initiatives. As stated by Kickul & Lyons (2012) and Hockerts & Wüstenhagen (2010), the participation of the students in social entrepreneurship

initiatives can empower them to generate a change in their communities by providing them with the opportunity to identify social issues, develop innovative solutions, and gain a more profound understanding of social and economic challenges they may encounter in their environments. Additionally, it can inspire a sense of purpose and empowerment among the youth, providing them with a platform to make a tangible difference in their environment and beyond (Mair, Robinson and Hockerts, 2016).

The model proposes the integration of the whole school community, which is why the workshops and seminars are also taught to the students. As proposed by Ceballos (2015), the integral development of a community can be strengthened by the active and leading participation of its members, taking community development supported by social empowerment as a starting point. In our model, the students are one of the main beneficiaries, as they represent the continuity of the entrepreneurial culture. The integration of the school community in community projects not only benefits the students and their families, but also contributes to the socioeconomic and cultural development of the community as a whole (Epstein, Sanders, Simon, Salinas, Jansorn and Van Voorhis, 2019).

For these purposes, teachers select a group of students with the potential or interest in entrepreneurship, and training efforts are designed for the student community. The model stipulates that the workshops and seminars provided to students are complemented by extracurricular activities that promote entrepreneurship. Among these activities are field trips and entrepreneurship fairs, as well as the creation of student clubs and organizations.

In implementing the model in the community of the Manuel Martínez Dávila Secondary School in Vega Baja, 30 hours of seminars and workshops on entrepreneurship and modern technologies were designed to meet their need for a more dynamic and innovative educational

program. Nineteen teachers from the school participated, committed to the goal of becoming agents of change for the benefit of their community. This group of teachers was named “Coalition of Entrepreneurial Teachers” and they play an important role as a driving force of change. The commitment the teachers have as agents of change in the community projects is crucial given that it can transform education into a powerful tool for social change (Cram and Chilisa, 2018). According to Sen (2000), agents of change in social communities are catalysts for innovation and transformation, as they challenge the status quo, mobilize resources, and lead collective efforts to generate a positive impact on society.

Pillar 2: Action

The second pillar of the model is action. Collective action in community projects is essential for promoting social cohesion and generating change among community members (Cnaan and Milofsky, 2018). Through different initiatives, the model surpasses the barrier of mere knowledge transfer and supports the application of new tools in entrepreneurial initiatives. It’s important to highlight that, as indicated by Mintzberg & Waters (1985), these action elements in social projects are essential for translating the vision and mission of an initiative into concrete and measurable actions, setting clear goals and deadlines to achieve meaningful results in the social sphere. In other words, participants are not only taught about entrepreneurship but are also guided in identifying opportunities and in developing and integrating entrepreneurial initiatives in their classes and other areas of the school community. This identification of opportunities in social projects involves a deep understanding of the community’s needs and dynamics, as well as the available resources and capacities, which facilitates the creation of innovative solutions that are tailored to the local context (Short, Moss, & Lumpkin, 2009). Meanwhile, developing and incorporating entrepreneurial initiatives in community projects

strengthens local autonomy and resilience when faced with socioeconomic challenges (Ratten and Jones, 2020).

Individualized Support and Extracurricular Activities

One of the practices proposed by the model is the coordination of *one-on-one* sessions with the workshop participants. According to Brown and Jones (2020), individualized sessions in social projects provide a safe and confidential space where the participants can explore their worries, strengths, and goals, promoting a greater sense of self efficacy and autonomy. Additionally, Colquitt, LePine, & Noe (2000) indicate that this personalization allows a better alignment between development goals and objectives, which results in a more significant impact on performance. In these sessions, specific needs and opportunities of the teachers are identified to turn either lessons or courses into entrepreneurial courses. The identification of these needs provides a solid foundation to align the training objectives, thereby ensuring relevance and direct contribution (Swanson and Holton, 2001). This can be easily tied with the use of Artificial Intelligence (AI), which provides an easy and versatile way of creating and developing educational content. Although teachers can be skeptical of AI and its uses, the demonstration of apps like SlidesGo, Canva, EducaPlay, and more, help them navigate a more accessible and user-friendly AI experience.

It is also suggested to provide teachers with support in the development of extracurricular activities that foster entrepreneurship in and out of school. Participation in extracurricular activities is related to a greater school satisfaction and emotional wellbeing since it provides the students with a sense of purpose, social connection, and personal achievements (Denault & Poulin 2009), while supporting the development of essential abilities for academic and professional success (Mahoney, Cairns, & Farmer, 2003). These activities also influence

academic performance, school engagement, and student retention, and they reinforce the learning that was acquired in the classroom, according to Fredricks & Eccles (2006). More aligned to the purposes of the proposed model, participation in extracurricular activities in community projects promotes the development of soft skills like teamwork, leadership, and communication, which are essential for the personal and professional success of young people (Mahoney, Harris, and Eccles, 2020).

Creation of Social Enterprise

Another important element of the action pillar is the creation of a social enterprise administered by the school community. Social enterprises in school environments have the potential of promoting experiential learning and the development of entrepreneurial and leadership abilities among the students while addressing social and environmental problems that are relevant to the school community (Brown, Bull, and Cromie, 2018). Students' participation in the creation and management of social enterprises can empower them by providing them with practical and meaningful experience in solving real world problems (Irvine and Anderson, 2004). This social enterprise should be created based on the strengths and opportunities identified in the community situational analysis, considering the capacities, resources, and preferences of the teachers and students. The purpose of this social enterprise surpasses the objective of generating revenue for the school. This social enterprise should also serve as model of entrepreneurship and should be integrated into the school's teaching process.

It is worth noting that the model proposes the development of commercial initiatives and academic enterprises based on the areas of expertise and strengths of the school community. These initiatives generate a series of additional benefits, as presented by Pittaway & Cope (2007). The benefits include the reduction of juvenile unemployment by fostering the

development of entrepreneurial skills and mindset among the students, preparing them to create their own job opportunities instead of relying on traditional employment.

As we have discussed, social entrepreneurship stands out as a driving force for social change by offering innovative and sustainable solutions to deeply rooted societal issues. These initiatives not only drive economic growth but also promote inclusion and social equity (Sánchez, C. & Martín, M., 2023). Entrepreneurial initiatives can include activities focused on art, agriculture, educational support services, and even nonprofit organizations that address the needs of the communities. This diversity of entrepreneurial opportunities is aligned with the findings of Gómez, Y. & Lebrón, A. (2021), who emphasize the importance of defining specific profiles of entrepreneurs. Additionally, according to Kickul & Gundry (2002) entrepreneurial initiatives in school education can encourage a proactive and action-oriented mentality among the students, empowering them to identify opportunities, take calculated risks, and follow their goals with determination and confidence.

Pillar 3: Visibility

The pillar of visibility aims to disseminate the achievements obtained from the implementation of the model and to give exposure to the various entrepreneurial initiatives. The visibility of the achievements of social projects is crucial for increasing the recognition and legitimacy of social initiatives, which can attract more financial support, resources, and strategic collaborations for the sustainability and the continuous growth of the project (Phillips, Smith, 2011). Additionally, it can generate a positive impact on the public perception and the community image, promoting greater social cohesion and a sense of belonging among its members (Bornstein, 2007). The model proposes the use of different communication channels, among which are academic forums, social media, and the communication platforms used by the

schools. For said purposes the model contemplates the creation of an integrated communication plan with the most suitable strategies and tactics for each community, including AI generated content and facilitating media planning among project directors.

Communication and Public Relations

Furthermore, the pillar of visibility requires a series of efforts in public relations. The establishment of partnerships with both governmental and private entities is proposed. Partnerships for social projects can facilitate access to new networks, audiences, and resources that might otherwise be beyond the reach of an individual organization (Peredo & McLean 2006). These alliances should be aimed at supporting training efforts, providing exposure to various entrepreneurial initiatives, and promoting the commercialization of products and services from the school community's social enterprise. In addition, the model proposes the presentation of good practices and results in forums. According to Bornstein (2007), the participation in academic forums about social projects facilitates the exchange of knowledge, experiences, and practices between researchers, professionals, and policymakers, thus promoting collaboration and cooperative learning in the field of social action.

Pillar 4: Sustainability

Finally, the model for developing entrepreneurship ecosystems in school communities includes the element of sustainability, which according to Hopwood, Mellor, and O'Brien, G. (2005), in social projects is closely linked to the ability to generate a lasting and transformative impact in the community, promoting resilience and long-term well-being. Therefore, the initiatives carried out as part of the model's implementation must contribute to the sustainability of the community in which it is implemented. It is true that social enterprises are designed to generate income, which in itself contributes to the sustainability of the entrepreneurial

community. However, the model includes the definition of sustainability from a broader perspective, going beyond the barrier of economic well-being.

One of the main strategies to ensure the sustainability of the initiative is through the development of human capital with an entrepreneurial mindset and good business practices. This mindset, applied to social projects, can enhance the capacity for adaptation and resilience in the face of changes and challenges, empowering individuals and communities by fostering self-management, autonomy, and the ability to create positive and sustainable changes (Mair & Noboa, 2006), (Seelos and Mair, 2005).

The approach to educate and empower beneficiaries, along with the economic benefits derived from the social enterprise, generates the sustainability the project needs to prevail long-term. According to Elkington (1998), the incorporation of sustainability elements in social projects is crucial to ensure long-term viability by addressing current needs without compromising the ability of future generations to meet their own needs. This combination of efforts generates results that creates a sense of ownership, belonging, and motivation in the members of the school community, strengthening the commitment and participation and fostering a sense of shared responsibility towards project objectives, which can enhance their confidence and capacity to take positive actions (Haslam, Jetten, Postmes, and Haslam, 2009), (McMillan and Chavis, 1986).

In summary, the model considers sustainability from the economic aspect, the development of an entrepreneurial mindset, integration of entrepreneurship in academic initiatives, collaborations with various institutions, and the empowerment of the community regarding their own initiatives. All these outcomes are key to achieving real change in the community.

Conclusion

Making a change in society is not a transformation that happens overnight; rather, it requires the investment of time and effort directed towards initiatives that foster participation and collaboration. A society must be transformed through the communities that comprise it and as a consequence of the changes that arise within them. This is why community projects are the foundation that alters the reality of society. With projects that educate, provide tools, drive change, and seek to create a legacy, resilient communities capable of responding to societal challenges can be built. Additionally, a structure like the one presented in this model is required to create a community capable of shaping its own changes and bringing entrepreneurship into its fullest expression.

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