



University-Based Entrepreneurship Ecosystems: The Role of the Sustainable Family Business Theory and Entrepreneurship Education

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1 INTRODUCTION

Entrepreneurship is still a promising tool for sustainable development in any country. For this reason, it has attracted the attention of researchers to find models and frameworks that explain and promote such phenomena. Therefore, studies discussing the interaction between entrepreneurship and universities have increased in recent years (Gibb & Haskins, 2013; Tarling et al., 2016). Studies claim that demographic characteristics (e.g.

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gender, perceived skills) and family background are essential variables that influence the university students' inclination towards entrepreneurship (Keat et al., 2011; Mustapha & Selvaraju, 2015). Besides, family influence is an essential factor that provides students with background experience and motivation to lead entrepreneurial activities (Bagheri & Pihie, 2010). This idea is supported by Anderson et al. (2005), who agree that social relations and networks play an essential role in developing promising entrepreneurs.

In the same line, Robson and Bennett (2000) establish that families and friends usually act as the preferred source of advice for small-medium enterprise owners. Family businesses are also known to inspire fresh graduates by providing a supportive environment that gives them resources to start a business after graduation. For example, parents play an essential role in developing students' entrepreneurial self-efficacy by encouraging them to get involved in their family owned businesses to foster their entrepreneurial intention (Bagheri & Pihie, 2010; Saiz-Alvarez et al., 2020). Some researchers demonstrated that students rely on informal sources such as family members, colleagues, social networks, and the same universities they are enrolled in (Greene & Saridakis, 2007; Mustapha & Selvaraju, 2015) for support and guidance in developing new business.

Universities have played a significant role in human capital formation and the production of new knowledge. Therefore, aiming to encourage family business education, degree-granting programmes that institutionalise family business in their curricula emerged in several notable business schools in recent years (Sharma et al., 2007). Moreover, family business centres and family business Institutes affiliated with well-known universities proliferated. At the same time, entrepreneurship became the third mandate of universities (Etzkowitz, 2001). As a result, university-based entrepreneurial ecosystems (U-BEEs) emerged as good detonators of sustainable development.

According to Jansen van de Zande et al. (2015), a U-BEE is “the organizations and climate that support students to build a successful enterprise.” The core of a U-BEE is the students' startups and the University's exertions to generate, develop, nurture, promote, and commercialise such ventures (Shil et al., 2020). The U-BEE's conceptualisation is based on the entrepreneurial ecosystem approach (Mason & Brown, 2014; Moore, 1993), where several actors interact with each other integrating highly qualified human capital. This interaction also facilitates the

access to resources needed in the creation of new ventures (Rodríguez-Aceves et al., 2019). Among such actors and elements, it is possible to identify incubators, accelerators, private and public funds, technology transfer offices, entrepreneurship events (bootcamps, pitch competitions, and networking), entrepreneurship professors and mentors, and undergraduate students in their role of entrepreneurs. From this perspective, the phenomena are analysed as a social process embedded in broader contexts, aiming to explain how the regional economic and social factors influence it (Bahrami & Evans, 1995).

Even though the importance of the interaction between family businesses and the U-BEEs, little is known about these two issues' relationship. Consequently, it is not well understood how U-BEEs can increase their support for the creation of family business spin-offs or the consolidation of family firms and vice versa, how family firms can contribute to U-BEEs. It is well-known that a considerable number of undergraduate students in business schools are related to a family business and are precisely preparing to step into and take a protagonist role in the short run. Therefore, entrepreneurial education represents a suitable element that may connect both systems, U-BEEs, and family businesses.

We aim in this chapter to explore how entrepreneurship education can connect elements of U-BEEs with the Sustainable Family Business Theory (SFBT) as a way to define the role of family firms in the U-BEEs and vice versa. The SFBT is suitable to be considered because it describes a dynamic, behaviour-based, multidimensional theory of family businesses that accommodates complex family/firm interactions (Zachary et al., 2013).

Therefore, in this chapter, we review the fundamentals of the SFBT, the development, and recent contributions of this approach. Afterwards, we offer an overview of entrepreneurship education. Then, we present current conceptualisations of U-BEEs. Finally, we propose a model in which entrepreneurship education may connect SFBT and U-BEEs.

2 THE SUSTAINABLE FAMILY BUSINESS THEORY

A systems perspective is not a new approach to the study of family businesses (e.g. Tagiuri & Davis, 1996); however, literature has focused on whether family businesses are more accurately viewed as a single or dual system of family and business. The Sustainable Family Business Theory (SFBT) allows both points of view (Stafford et al., 1999).

Current family firm theories focus on the dynamics of the relationship between family members, based on love and trust that, in the long term, are perceived as adaptive capacity. A central premise of the SFBT is that “the use of resource patterns during times of stability creates adaptive capacity for challenges during times of change or unexpected internal and external disruptions” (Danes, 2015, p. 187).

SFBT was first developed by Stafford et al. (1999) and later refined in several studies (Danes et al., 2008, 2009). This theory argues that family businesses can be understood as resource systems and processes that produce results that affect family businesses’ long-term viability. In other words, the family business is a connection point where the resources and procedures at the family level are intermingled with the resources and strategies at the company level to produce results (Mallon et al., 2018). SFBT is a theory based on the resources and interpersonal processes used to achieve the family business’s long-term sustainability (Danes et al., 2008). For family business members, the company can be a source of income and, at the same time, the context of family activity and a source of family pride and identity (Shepherd, 2003).

SFBT is founded in Systems Theory. “The fundamental concepts of General Systems Theory related to families are the mutual influence of system components, hierarchy, limits, equifinality, and feedback” (Stafford et al., 1999, p. 199). In a word, reliance on parametric methodologies has hampered the development of sustainable family business theory by limiting empirical research on the mutual influence of system components (i.e. resources) and the possibility of equifinality of multiple combinations of elements leading to the same result. For example, parametric methodologies such as regression are adequate for determining the net effects of independent variables but not for understanding how several independent variables interact or combine to produce multiple pathways to the same result (Gudmunson & Danes, 2013).

A fundamental principle of SFBT is that short-term achievements and long-term sustainability depend on the support of functionally stable and strong families. The model defines family capital as the set of total resources of the owner families composed of human, social, and financial capital (Danes et al., 2009). According to the SFBT, family capital is more than the sum of individual capital because it can be combined in different circumstances (Oughton & Wheelock, 2003).

SFBT has two general assumptions that distinguish it from many other theories that have been applied to family businesses: (a) family is rational

versus an irrational system; and (b) family is not in competition with business. In contrast to traditional models of firm and entrepreneurial success that focus on the business and portray the family as a component of the firm's environment, SFBT, Family, and firm are represented in equal detail, as is their interplay in achieving mutual sustainability. SFBT finds entrepreneurship in both business and owning family within the community's social context (Olson et al., 2003).

Traditional business performance literature is based on the assumption that individuals make economic decisions without considering their context. In opposition to this conventional perspective, the SFBT establishes that entrepreneurship within the family's social context and its social network are the core where family members initiate and grow their ideas (Danes et al., 2008). One of the main propositions of SFBT is that there is a positive symbiosis between the family, the firm, and the community host, which is, of course, productive for both the firm and the community (Stafford et al., 2010). In this chapter, we propose that U-BEES, conceptualised as social processes occurring as a part of one Supra System, could be a fundamental link between family, businesses, universities, and communities.

3 UNIVERSITY-BASED ENTREPRENEURSHIP ECOSYSTEMS (U-BEES)

Entrepreneurship ecosystems can vary by technology, network intensity, and organisational support. However, ecosystem conceptualisations generally focus on networks' role and their function to provide firms with resources and information to navigate in a competitive environment. Hayter et al. (2018) proposed that the efficacy of academic entrepreneurship ecosystems depends on constituent elements' interconnectivity and their collective ability to provide information and resources for new firms' success. Nevertheless, the ecosystem concept has only recently been used within the context of academic entrepreneurship. Some authors anticipate the emergence of ecosystem perspectives, focusing on individual and inter-organisational networks (O'Shea et al., 2004).

Even though some authors believe that there is no reason to sustain that formal education in entrepreneurship leads to more successful firms (Isenberg, 2014), universities have responded with various strategies to what entrepreneurship education requires to improve the businesses. In the 1980s, the study of university-based entrepreneurship was

mainly focused on the technology transfer process through patents and licensing (Siegel & Wright, 2015). In 2001, Etzkowitz suggested that entrepreneurship had become the third mandate of universities. Consequently, over the years, universities have developed new approaches to teaching and encouraging entrepreneurship among their students, faculty, and staff (Rodríguez-Aceves et al., 2019). In these programmes, the focus was the student and its involvement in real entrepreneurial scenarios, developing in the process competencies such as critical thinking and decision making in complex environments (Mandel & Noyes, 2016). According to Greene et al. (2010), a more recent and impactful approach incorporates an entrepreneurial mindset and a skill set for entrepreneurs, resource providers, suppliers, customers, and policymakers that are somehow related to the University. In this comprehensive approach that embraces a set of stakeholders, an entrepreneurship ecosystem perspective is pertinent.

In 2010, Fetter et al. coined the term University-Based Entrepreneurship Ecosystem (U-BEE), conceptualised as a multistakeholder environment in which entrepreneurs are centered on a field of university-related resources surrounded by supporting or contributing stakeholders that ultimately results in outputs and outcomes.

Due to their relevance, U-BEEs have attracted the attention of various scholars. Previous studies on U-BEEs address its key components (Perkmann et al., 2013; Rideout & Gray, 2013), interaction enablers (Silveyra, Rodríguez-Aceves et al., 2021), assessment methods to develop strategies for successful U-BEEs (Meyer et al., 2020), and analysis of U-BEEs key elements like university-based venture development organisations (VDOs) (Hsieh & Kelley, 2019; Yang et al., 2018). Furthermore, U-BEEs have been studied in resource-constrained contexts (Bedó et al., 2020), in developed economies (Lahikainen et al., 2019), as well as their expansion into under-represented communities (O'Brien et al., 2019).

U-BEEs main components are entrepreneurship courses, engagement with alumni entrepreneurs, incubators, prototyping services, funding support, and technology transfer services (Perkmann et al., 2013; Rideout & Gray, 2013). Moreover, according to Siegel and Wright (2015), the critical elements influencing the success of a U-BEE are (1) the creation of incubators/accelerators and science/technology/research parks to support technology transfer and entrepreneurship, (2) substantial growth in the number of entrepreneurship academic courses and programmes on campus, (3) the establishment and growth of

entrepreneurship centres, (4) a rise in the number of entrepreneurs on campus to stimulate commercialisation and startup creation, and (5) a rapid increase in alumni support, including alumni commercialisation funds and student business plan competitions.

Although there is substantial literature in U-BEES, to our knowledge, little attention has been paid to understanding how family businesses can play an enriching role in such arrangements. In Business Schools, it is common to find undergraduate students preparing to step into the family business who have a particular profile in terms of the resources they have at hand, such as previous experience, contacts, and funds. Whose interactions within the U-BEES are inevitable. Due to the importance of both the U-BEES and the family business's social and economic sphere, it is relevant to understand their interrelationships. In line with Siegel and Wright (2015) and Hameed and Irfan (2019), who affirm that U-BEES can further improve their effectiveness through substantial growth in the number of entrepreneurship academic courses and programmes, we believe that entrepreneurship education can be the bridge between both Systems. Thus, in the following section, we present how entrepreneurial education may become the link between the SFBT and U-BEES.

4 ENTREPRENEURSHIP EDUCATION

Nowadays, entrepreneurship education (EE) research has grown exponentially (Hameed & Irfan, 2019; Solomon, 2007). However, the areas of “what” should be taught and “how” still lack both consensus and devoted attention (Sirelkhatim & Gangi, 2015). EE in universities is highly relevant because entrepreneurs who create an enterprise within a university have a higher impact on their ecosystem's economic development (Silveyra, Herrero et al., 2021; Von Graevenitz et al., 2010) and perform better in contrast to entrepreneurs outside a university (Godsey & Sebor, 2010). This is because academic institutions provide entrepreneurs with skills, attitudes, knowledge, and entrepreneurial competencies such as business opportunity recognition and assessment, risk management, creative problem solving, value creation, and using networks (Balan et al., 2018; Morris, Webb et al., 2013; Piperopoulos & Dimov, 2015). Today, three aims may approach EE: learning to understand entrepreneurship, learning to become entrepreneurial, and learning to become an entrepreneur (Hytti & O’Gorman, 2004; Seikkula-Leino et al., 2010). Aligned with the latter, learning to become an entrepreneur may occur

through formal and informal EE in diverse environments (Edwards & Muir, 2005).

Sexton and Smilor (1984) define EE as a formal-structured instruction that conveys entrepreneurial knowledge and develops in students-focused awareness relating to opportunity recognition and new ventures. Formal structured instruction is usually guided by well-defined aims, goals, and objectives of a specific programme (Mwangi, 2011). Formal EE commonly occurs within education institutions at different school levels, starting from primary school but most prominently at the university level (Edwards & Muir, 2005).

Another approach is out-of-school EE which is characterised as an informal instruction and is essential in youngster's development. Informal education takes place naturally, is disorganised, and non-systematic (Rogers, 2007). Within the family environment, informal education is not programmed and scheduled and does not require assessment so that continuity can occur at any time (Rogoff et al., 2016). The role model and parents' daily attitude and the intensity of communication between children and parents in family life are fundamental (Inanna et al., 2020). In the entrepreneurship education context, informal education forms youngsters' character both physically and spiritually. Consequently, informal EE provided by the family is carried out between parents and children in the domestic environment or the family business environment, in which parents offer knowledge, experience, and skills to their children.

One of the objectives of informal EE provided by the family is to prepare the next generation to step up in the family business to become corporate entrepreneurs. Corporate entrepreneurship (or intrapreneurial activities) allows family firms to preserve their legacy and react to changing customer demands. Particularly in small- and medium-sized firms and family firms, the level of corporate entrepreneurship is primarily affected by their managers, who are often members of the owning family. Regarding formal EE at the university level, "students are criticized for their inability to handle the ambiguity of high rates of change facing many industries today" (Bell et al., 2018, p. 233), while that ability is a prerequisite for corporate entrepreneurship and a firm's success.

Despite the apparent relevance of these constructs (corporate entrepreneurship and EE), we lack an understanding of how informal EE inside a family business could be a complementary approach to formal EE within the universities, and training can help future family managers build up the required entrepreneurial capabilities (Wiedeler & Kammerlander, 2021).

5 TOWARD A NEW CONCEPTUALISATION OF U-BEES BASED-ON SFBT

SFBT is based on Systems Theory, the Social Capital proposed by Bourdieu (1986), and the Resource-Based View (Barney, 1991). The SFBT approach recognises family capital's potential (including social capital) to have simultaneous positive or negative effects on business performance (Danes et al., 2008; Dyer, 2006). Danes and colleagues (2009) concluded that resilience processes are more critical to the company's sustainability than capital availability.

High levels of social capital create greater flexibility, allowing family firms to address better internal and external disruptions (Danes & Brewton, 2012). Increased social capital builds trust that promotes cooperation and team collaboration (Bourdieu, 1986) and attracts another family human and financial capital resources. The family's adaptive capacity, seen as family capital, is combined with its social capital in a way that creates and strengthens a type of resilience that facilitates the transport of resources during the change between the "porous boundaries" of the family and the company (Rodriguez & Zapata, 2019). Adaptive capacity or resilience sustains companies when disruptions occur, either in the family or in the company (Yang & Danes, 2015).

Studies about family businesses "require a theory that recognizes the heterogeneous nature of both the family and the business, which need not only direct structures and processes in both systems, but also consider structures and processes necessary in times of stability and change" (Danes, 2015, p. 185). SFBT is inclusive in these characteristics (Danes & Brewton, 2012; Danes et al., 2008; Stafford et al., 1999). SFBT controls both family and business structures while emphasising heterogeneity of processes and links them to family business processes (Danes et al., 2007). In the framework of the SFBT, "sustainability of the business over time is its primary result rather than (...) profits because its essential principle is that sustainability is a function of successful business performance and healthy family functioning" (Danes, 2015, p. 185).

The SFBT seeks to identify the resources, constraints, processes, and business transactions most likely to lead businesses and families to achieve sustainability (Stafford et al., 1999, p. 203). Although research has been conducted on the independent effects of human, social, and financial capital (e.g. Chang et al., 2009; Danes et al., 2009), to our knowledge,

no study has confirmed any configuration of these resources that improve the results of family businesses (Mallon et al., 2018).

One of the most critical resources is intellectual capital (which includes human, structural, and relational or social capital) because any investment in intangible assets and knowledge-based resources is crucial for the wealth-creation process of companies. Under the Resource-Based View, human capital is the most valuable and complex kind of resource to duplicate because it results from complex social structures that have been realised over time (Dawson, 2012). Increasing the human capital in a family firm is essential to prepare the later generation using formal and informal entrepreneurship. A recent study found that the later generation in family firms was positively related to intellectual capital performance (Ginesti & Ossorio, 2020).

Through formal and informal EE, attitudes can be modified to change the intention to carry out a particular behaviour or action (McNally et al., 2016). The heirs tend to receive an informal transfer of business knowledge and methods in the family (Zellweger et al., 2011). This process of human capital transfer (mainly formed by the set of conversations, parent education, social networks, and practical experience) is complemented by the formal education obtained in HEIs (higher education institutions), connecting in this way both systems: U-BEES with Family business (Saiz-Alvarez et al., 2020).

Therefore, we propose the following model (Fig. 1) to show the connection between the Family Business and U-BEE Systems. In System

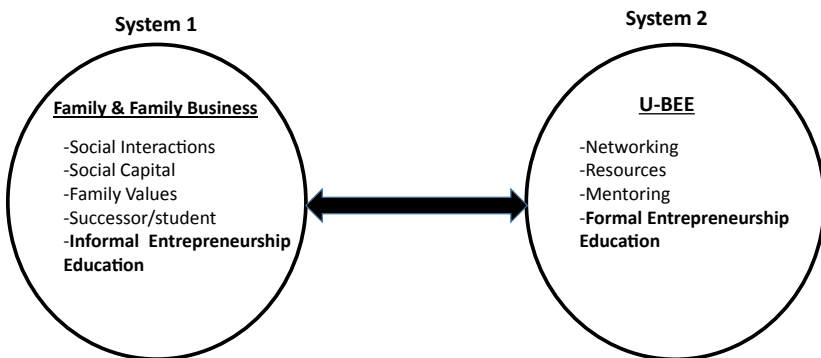


Fig. 1 The relationship between family business and U-BEE systems

1, the family business capital and its process flow are central in the SFBT, referring to the inventory and flow of the package of family owned resources, made up of human, financial and social capital (Danes et al., 2009). The SFBT assumes that “business and family systems are functional subsystems of the family business system and identify parallel family capital resources and interpersonal ones plus resource processes” (Danes, 2015, p. 187). It also assumes that experience in one system informs the other system because the focus on inventory and flow of resources over time leads in the short term the achievements of the family and the company and, in the long term, the sustainability of the family business (Danes, 2015, p. 187).

On the other hand, in System 2, the U-BEE is integrated by all the interactions within the HEI and its stakeholders such as mentors, professors, entrepreneurs, internal and external organisations, etc. We propose that the core element of this relationship is the formal (given by the HEIs) and informal (provided by the family) entrepreneurial education.

New ventures or startups, generally led by younger generations, are built through knowledge-based resources, including the social capital that must connect to other capitals and capabilities (Brush et al., 2001). In response to uncertainty, the new venture must be a learning organisation, requiring teaching by mentors, advisers, entrepreneurial leaders, and research to solve uncertainties. It must engage in outreach to access expertise and resources that do not reside in the venture (Rice et al., 2014).

As we mentioned earlier, the U-BEE’s conceptualisation in literature is based on the entrepreneurial ecosystem approach, where actors facilitate access to resources for young entrepreneurs. Companies and startups are central actors in U-BEEs and can be classified by a variety of attributes, for example, whether they are family owned and managed or not. The importance of such recognition derives from the value generated to both systems, in two directions, back and forth. In one direction, for example, via the development and alignment of specific programmes offered by incubators or accelerators aiming to provide particular support to the family firms (i.e. succession plan, institutionalisation, protocol) may promote their consolidation and growth. In the other direction, U-BEE and its actors may be enriched by family businesses’ expertise, contacts, and even by their funds as sponsors of open innovation challenges that encourage new ventures.

Based on all of the above, we understand U-BEE as a set of university actors (i.e. students, staff, teachers, community, graduates) who intentionally carry out entrepreneurial activities (such as teaching, consulting, financing, generation of networks) and depend on internal areas (i.e. incubators, accelerators, technology transfer offices, family business centres) that link with external organisations (such as government offices, business associations, family firms) aiming to support the creation of new high-impact businesses in the community.

Understanding and intentionally designing and implementing initiatives that enhance the interrelation between these systems (family firms and U-BEEs) are a relevant task. Above all, it is essential to recognise the importance of family businesses in U-BEEs.

6 CONCLUSIONS

Universities vary substantially in the extent to which entrepreneurship has been embraced as an academic discipline or central area of study and in their relative investments in developing learning environments that support the pursuit of entrepreneurial activity (Matlay, 2008; Morris, Kuratko et al., 2013). As previously mentioned, the university climate can serve to constrain and enable entrepreneurial behaviours (Welter & Smallbone, 2011). The purpose of U-BEEs is to become a rich pool of knowledge-based resources, networking possibilities, and even financial capital that are needed to successfully venturing within a family business (Guenther & Wagner, 2008; Zhao et al., 2005).

In this chapter, we explore a new conceptualisation of the U-BEEs, based on the SFBT. We use the primary systems involved in its operation: family firms (adding its human, financial and social capital) and universities (with its networking of different departments, mentors, and general guidance) to explain a launch platform for the entrepreneur's new ventures.

Family guidance is an essential factor that provides experience and motivation for students to become entrepreneurs. Moreover, Family businesses are providers of a supportive environment which nurtures graduates with information and resources to start their own business (Bagheri & Pihie, 2010). Furthermore, U-BEEs provide students and graduates with social relations and networks that complement what is offered by family members, playing an essential role in developing promising entrepreneurs.

As we have mentioned, the SFBT only considers the resources and the links between the different resources that are intimately interwoven between family business and family. However, the SFBT does not consider the heir or successor as an element that, in turn, is part of other systems as U-BEEs. There is also a disconnection between the family business system and the university system; with our proposed U-BEE definition, we want to fill this literature gap.

We believe that it is essential that subsequent research focuses on the individual, as we have already stated in the paragraphs above. Family businesses have to be seen as the base and source of future entrepreneurs who will study in universities that will provide them with their U-BEEs' resources, thus generating a virtuous circle where the individual, family business, family, and university benefit.

Due to the importance of family businesses in emerging economies (Nordqvist & Melin, 2010), more training for all students should be integrated into academic programmes. We believe that, in any university, it is necessary to incorporate students from all disciplines (i.e. business, engineering, humanities, design, medicine) into a U-BEE.

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