

# *Perceived Success of Hybrid Micro-Organizations in a Contested Category*

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# ***Perceived Success of Hybrid Micro-Organisations in a Contested Category***

## ***Abstract***

*The organisational literature privileges objective performance indicators often selected by researchers. There is scarce research on legitimacy challenged hybrid and micro-organisations and on perceived success under exigent conditions. To fill in this gap, the study, conducted among complementary and alternative medicine (CAM) micro-organisations, explores success as a subjective measure originating from managers' perceptions. For the purpose, it integrates Cognitive Mapping and Multiple Criteria Decision Analysis (MCDA) – a methodological contribution to construct a subjective success framework that can be helpful for contested hybrid micro-organisations. Seven factors emerged, of which human capital is recognised as critical while external factors are considered unimportant.*

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## **Keywords**

Micro-organisations; Subjective Perceived Success; Hybrid Organisations; Complementary and Alternative Medicine (CAM); Cognitive Mapping; Multiple Criteria Decision Analysis (MCDA).

## ***1. Introduction***

The liability of smallness is a well-known phenomenon (Bruderl and Schussler 1990). Inserting “micro” and “hybrid” prefixes to organisations adds an extra layer of precariousness. Most micro-organisations have extremely limited resources (Gorgievski, Ascalon, and Stephan 2011; Lonial and Carter 2015) and, when present, legitimacy hurdles pile even more constraints (Ruffo et al. 2018; Wang, Thornhill, and Castro 2017). Legitimacy deficiency leads to stakeholders questioning the very existence of the organisation ensuing limited customers, financing sources, and community support. As a result, small organisations from contested market categories are stuck in a micro framework, which turns into a constant struggle for survival (Galvin, Ventresca, and Hudson 2004; Ruffo et al. 2018). Hybrid micro-organisations are confined by lack of both resources and legitimacy. They have several goals and merge diverse institutional logics leading to legitimacy ambivalence (Battilana and Lee 2014; Doherty, Haugh, and Lyon 2014). The combination of multiple organisational forms departs from socially accepted templates leading to unique obstacles for hybrid organisations (Battilana and Lee 2014; Hahn and Ince 2016). Consequently, hybrid micro-organisations comprise the most disadvantaged and contested group across the spectrum of organisations. As such, they have been overlooked by researchers, too.

Further, there is no consensus about the appropriate assessment of organisational success (Gorgievski et al. 2011; Maltz et al. 2003; Reijonen and Kompulla 2007; Singh, Darwish, and Potocnik 2016). Past research tends to use either objective or subjective indicators as opposed to bringing them together (Staniewski 2016). Moreover, most studies focus on organisational performance or success from the researcher’s point of view (e.g. Amato et al. 2017; Gunasekaran et al. 2017; Singh, Darwish, and Potocnik 2016; Staniewski 2016). In contrast, only a small number of studies examine perceived

success from managers' point of view (e.g. Gorgievski et al. 2011; Wach, Stephan, and Gorgievski 2016). The literature is even less vocal when it comes to micro businesses (Gherhes et al. 2016).

This study targets the gap of knowledge of helpful frameworks for disadvantaged firms by investigating hybrid micro-organisations' perceived path to success from the managers' point of view in a category that lacks legitimacy – complementary and alternative medicine (CAM). It may be particularly taxing for hybrid micro-enterprises to assess the fit between internal capabilities and external market conditions at two levels (commercial and non-commercial), and yet be consistent with their dual purpose (Battilana and Lee 2014; Reijonen and Komppula 2007; Sharma, Miller, and Reeder 1990). Defining a set of success factors leading to survival and longevity would be challenging for managers of hybrid micro-organisations in low legitimacy market categories (Dobrev and Gotsopoulos 2010; Ruffo et al. 2018). Because they face clashing demands – the reconciliation of multiple, and often conflicting objectives is an arduous task – individual managers may not know if they are succeeding or not.

This research gives voice to marginalised decision-makers' notion of success by using techniques that capture the criteria's complexity. The perceived success factors framework is built by integrating cognitive mapping and a Multiple Criteria Decision Analysis (MCDA) approach. The joint use of these constructivist tools has been shown to be helpful to decision-makers to think through and discuss multifarious problems, guiding them in finding the best options in complex environments (Belton and Stewart 2002; Ferreira et al. 2015). The decision to employ cognitive mapping and MCDA is motivated by the intricate dual-identity nature of hybrid micro-organisations operating in contested categories.

The study's contributions are twofold. First, it sheds light on the most overlooked type in organisational research – hybrid micro-organisations in contested markets – and responds to Battilana and Lee's (2014) call for the construction of hybrid performance measures as one of the most prominent challenges to researchers in the field. Second, it demonstrates how a MCDA approach can be useful in exploring perceived success drivers by combining it with cognitive mapping. The study creates a unique map of key success factors that can be of particular value to managers of contested hybrid micro-organisations. The features of the method (*e.g.*, interactivity and learning-oriented processes) allowed the participating decision-makers to debate and structure the evaluation framework in an open atmosphere, identifying fundamental points of view (FPVs). The joint use of these techniques further contributes to practice through the framework's real-world application. The participants were managers with limited resources who found the evaluations of their organisations, grounded in the constructed framework for success, very helpful and insightful.

The remainder of this article is structured as follows: the next section outlines the theoretical background, the third section presents the context of the study, the fourth section describes the methods and the data, followed by main findings and discussion. Finally, conclusions, limitations and future research are presented in the last section.

## ***2. Theoretical Background***

### **2.1. Organisational Success**

Organisational success is tracked by operational criteria and financial measures. Operational criteria are non-financial indicators that might lead to financial performance and often require qualitative assessment by managers (Maltz, Shenhar, and Reilly 2003; Kotey and Meredith 1997; Reijonen and Komppula 2007; Singh, Darwish and Potocnik

2016). Financial measures are at the core of the organisational effectiveness, reflect the fulfilment of the economic goals of the organisation (Maltz, Shenhar, and Reilly 2003; Reijonen and Komppula 2007; Singh, Darwish and Potocnik 2016) and are the most frequently used measures by managers (Gorgievski, Ascalon, and Stephan 2011; Kotey and Meredith 1997; Lonial and Carter 2015).

Several authors have discussed the difficulty of adequately assessing how to evaluate success (Gorgievski, Ascalon, and Stephan 2011; Reijonen and Komppula 2007; Singh, Darwish and Potocnik 2016). The choice of success factors is complex as they may be based on the organisations' goals and objectives (Kotlar et al. 2018; Singh, Darwish and Potocnik 2016), context (Kotlar et al. 2018), and characteristics of the managers (Bouchikhi 1993; Gorgievski, Ascalon, and Stephan 2011; Kotlar et al. 2018). Nevertheless, studies have mainly focused on a single performance goal – profitability (Kotlar et al., 2018). Some researchers have looked at success criteria and measures from their own perspective. For instance, Maltz, Shenhar, and Reilly (2003) suggest five dimensions for assessing organisational success: financial measures, customer/market measures, process, people development, and preparing for the future measures; while Gorgievski, Ascalon, and Stephan (2011) list ten criteria of business owners' success: profitability and growth, innovation, firm survival/continuity, contributing back to society, personal satisfaction, satisfied stakeholders, good balance between work and private life, public recognition, and utility or usefulness.

Ultimately, success is a subjective measure – managers have their own perceptions of the meaning of success, but research on subjective organisational success is rare (Gorgievski, Ascalon, and Stephan 2011; Reijonen and Komppula 2007; Rogoff, Lee, and Suh 2004; Wach, Stephan, and Gorgievski 2016). One way of defining success is “*generating an effective firm in the long term*” (Bouchikhi 1993, p. 561). In order to

adequately address the demands of various stakeholders (Maltz, Shenhar, and Reilly 2003; Rogoff, Lee, and Suh 2004), the definition can include both subjective and objective elements (Staniewski and Awruk 2019: 434). Wach, Stephan, and Gorgievski (2016) define managers' perception of organisational success "as the individual understanding and assessment of the achievement of criteria that are personally important" to him or her (p. 1099). This is especially relevant for managers of micro-organisations who may have different notions of success and who may not be interested in growth (Gorgievski, Ascalon, and Stephan 2011; Reijonen and Komppula 2007; Staniewski 2016). For example, a manager can see its organisation as successful in achieving a given purpose, while from a financial point of view, the firm might not be that successful (Gorgievski, Ascalon, and Stephan 2011; Staniewski 2016). Subjective measures have been used in past research mostly applied to performance in organisational (Singh, Darwish, and Potocnik 2016) and entrepreneurial contexts (Wach, Stephan, and Gorgievski 2016; Wang, Thornhill, and Castro 2017). The current study is closer to the subjective measures used to assess "entrepreneurial subjective success" often examined through the self-reporting of an entrepreneur's satisfaction with the business's performance, growth and status" (Staniewski and Awruk 2019, p. 434). Although objective performance measures are of extreme importance as they identify dimensions that might not be obvious to managers, "organisational success" as a subjective framework, holistically capturing managers' perceived success factors, is also critical as most managerial decisions are based on it rather than on a comprehensive list of objective indicators.

## 2.2. Hybrid Micro-Organisations and Contested Categories

Micro-organisations have been defined in various ways, including structure, sales volume, management degree of centralisation, endemic lack of resources, among others (Courrent and Gundolf 2008; Sharma et al. 1990). This study borrows the European Commission (2005) definition of micro-organisations – fewer than 10 employees and annual revenues of 2 million euros or less. Micro-organisations include sole-proprietorships or individuals operating with business licenses (Wong and Bustami 2019). There has been little theoretical advancement on the success factors of micro-organisations (Gorgievski, Ascalon, and Stephan 2011). The survival rates of micro-organisations are low due to barriers such as resource constraints, market inexperience and lack of legitimacy, vulnerability, risk and uncertainty (Courrent and Gundolf 2008; Markman and Waldron 2014; Reijonen and Komppula 2007). Further, micro-organisations do not behave like large organisations and their approach to business problems is distinct (Lonial and Carter 2015; Wong and Bustami 2019). Because the decision-making process is mostly single-person centred (Birley and Westhead 1990; Gorgievski, Ascalon, and Stephan 2011; Reijonen and Komppula 2007; Wong and Bustami 2019), it is embedded in the manager's personal and subjective business goals (Gorgievski, Ascalon, and Stephan 2011; Jacobs et al. 2016; Reijonen and Komppula 2007; Wach, Stephan, and Gorgievski 2016).

If micro-organisations are hybrid, the understanding of success becomes even more problematic. Hybridity has been defined as “the mixing of core organisational elements that would not conventionally go together” (Battilana et al. 2017, p. 129) and “combinations that violate institutionalised rules about what is appropriate or compatible” (Battilana et al. 2017, p. 138). Hybrids “draw on at least two different sectoral paradigms, logics and value systems” (Doherty et al. 2014, p. 418). Battilana et al. (2008)

conceptualise hybridity as a matter of degree rather than type, because a growing number of organisations exhibit some degree of hybridity such as non-profits commercialising for financial sustainability (Dees 1998) or state organisations implementing business-like procedures (Fotaki 2011; Hayllar and Wettenhall 2013). When organisations have multiple identities/goals, it may be hard to reconcile them (Battilana and Lee 2014; Hahn and Ince 2016). Such consensus deficiency creates a “blurred” vision of success (Battilana and Lee 2014). In the case of social enterprises, for example, success is determined by both their social impact and financial success (Hahn and Ince, 2016; Moss et al. 2011). Hybrids must combine institutional logics, each providing a different “set of assumptions and values, usually implicit, about how to interpret organisational reality, what constitutes appropriate behaviour, and how to succeed” (Thornton and Ocasio 1999, p. 804). Thus, hybrid organisations face conflicting institutional demands (Santos and Eisenhardt 2009), which are bound to limit their potential for success. A hybrid nature augments the hurdles of micro-organisations that can face even more difficulties if they operate in contested categories. Therefore, the question whether high failure rates result not only from resource constraints, but also from a blurred vision of success, should be relevant to both practice and research.

The environmental context of organisations has been widely acknowledged as an important determinant of business success (Kotey and Meredith 1997; Rogoff, Lee, and Suh 2004; Ruffo et al. 2018; Wang, Thornhill, and Castro 2017). It has also been identified as an important external antecedent of hybridity (Battilana et al. 2017). Institutional environments are not static and regulatory or cultural changes may create pressures for organisations to develop models that combine elements of multiple identities. For example, the market logic has permeated several domains in Western societies (Davis and Marquis 2005), such as medicine (Reay and Hinings 2005), that were

historically dominated by the professional logic. Hybrid micro-organisations operating within a contested market category face further limitations because they experience a legitimacy vacuum, due to the lack of a "socially familiar categorical type" (Dobrev and Gotsopoulos 2010, p. 1153). Legitimacy vacuum is understood as an “environmental deficiency” (Dobrev and Gotsopoulos 2010, p. 1157). Stakeholders are more reluctant to support organisations with deficient legitimacy, because they struggle to assess their potential for success due to limited institutional consent (Dobrev and Gotsopoulos 2010; Ruffo et al. 2018; Wang, Thornhill, and Castro 2017).

A summary of the literature review is compiled in Table 1.

[Insert Table 1 about here.]

### ***3. Context of study***

CAM hybrid micro-organisations comprise the context of the study. They position themselves as “complementary” and/or “alternative” medicine offering therapies embedded in “holistic” and “whole person” values, patient empowerment, and use of natural remedies (Frass et al. 2012; Hirschkorn 2006; Keshet 2010). CAM spans unconventional, alternative, or unorthodox therapies designed to address health problems and heal patients. CAM services include: (1) alternative medical therapies (*e.g.*, homeopathy, acupuncture and naturopathy); (2) mind body approaches (*e.g.*, hypnosis and biofeedback); (3) biologically-based treatments (*e.g.*, iridology and aromatherapy); (4) body manipulative methods (*e.g.*, osteopathy, massage and reflexology ); and (5) energy rehabilitation (*e.g.*, healing and reiki) (Frass et al. 2012; Keshet 2010). CAM organisations in this study are very small, with self-employed therapists or up to ten employees and a balance sheet total that does not exceed 2 million euros, which classifies them as micro-organisations (European Commission 2005). CAM organisations target a

market niche – customers who look for alternative or complementary services to conventional “scientific” medicine (Markman and Waldron 2014).

CAM establishments are good examples of contested hybrid organisations. First, CAM’s legitimacy is publicly questioned – it is described as non-scientific quackery (Almeida 2016; Almeida and Gabe 2016; Winnick 2005). Certain CAM practices are considered an inappropriate option for healthcare, since they challenge some basic assumptions of orthodox medicine (Mizrachi, Shuval, and Gross 2005). CAM is often surrounded by controversy and scrutiny, caused to a large extent by the inappropriate safeguards to minimise the potential harm for CAM users (Wardle and Adams 2014). Several risks associated with the use of CAM include financial exploitation of patients, unnecessary treatments, and patient harm, among others (Bodeker and Kronenberg 2002; Wardle and Adams 2014). Many CAM treatments have not been tested following the standard methods of biomedicine (Almeida 2016; Wardle and Adams 2014). Hence, one of the main reasons for the contestation of CAM is related to the rigid boundaries between conventional and unconventional medicine. CAM is largely defined by exclusion from conventional medicine, which impedes the legitimisation of organisations within the category (Almeida and Gabe 2016; Wardle and Adams 2014). It has been seen as a “residual category”, since it has grown not because of the existence of consistent and clear categorical boundaries, but as a result of being excluded by conventional medicine (Wolpe 2002). Because they do not follow the scientific method, CAM organisations are ostracised and marginalised by biomedicine and societal institutions situating them in a legitimacy vacuum (Dobrev and Gotsopoulos 2010). A second reason for contestation of CAM practices is the lack of regulation, which is an important issue for CAM managers/practitioners (Almeida and Gabe 2016; Battilana and Lee 2014; Hirschhorn 2006; Wardle and Adams 2014). Wardle and Adams (2014, p. 412) state that “failure to

regulate a CAM profession can lead to a steady decline in training standards, particularly when combined with professional fragmentation or lack of a defined standard for CAM practitioners.” As managers have to deal with the lack or insufficient training of CAM practitioners, regulatory and legal mechanisms of CAM practice, and the unclear demarcation of health/business categories, they may find themselves in a legal limbo. Third, being for-profit health-services providers spans the category boundaries and logics of “business/profit” and “health/care” creating ethical dilemmas for managers and practitioners. Depending on the predominant logic in their background, they may feel uncomfortable running a for-profit establishment or making decisions whether to treat a patient who cannot afford a treatment. Such clashes of logics would reflect on their notion of success (Wardle and Adams 2014). Fourth, CAM hybridity extends beyond the health/business boundaries as CAM combines practices and techniques from the West such as medicine and the East such as healing (Keshet, 2010). Its hybrid nature mixes core aspects that convention would not allow to be together by drawing on different sectoral paradigms (Doherty et al. 2014) from two separate knowledge categories (Keshet 2010) – biomedicine (based on the scientific method) and “complementary or alternative” medicine (not based on the scientific method). CAM practitioners attempt to respond to the demands from biomedicine, such as following medical like procedures (e.g. collecting detailed clinical information, keeping records of the patient medical history or identifying patient symptoms) (Keshet, 2010), and from “complementary or alternative” medicine that focuses on treating the cause instead of symptoms and healing through natural procedures (Wardle and Adams 2014).

In sum, CAM practices are in a market category without clear boundaries and their existence is contested. The complex hybridity of the business logic, the scientific logic, and the healing logic creates an extremely difficult terrain for CAM micro-organisations.

Such conditions of fluid boundaries, competing logics, slack regulations, and scarce resources are bound to influence decision-making of CAM managers and their vision of success.

#### **4. *Methods***

By combining cognitive mapping and MCDA, the current study aims to address the complexity of CAM organisational hybridity and micro size together with adverse environmental conditions in revealing managers' concept of success. The development of a collective cognitive map allows the decision problem to be structured, while the application of MCDA allows weights to be assigned to perceived success factors, so that an assessment mechanism can be developed for CAM organisations' profile analysis.

##### **4.1. *Cognitive Mapping***

Cognitive mapping is a simple, interactive and extremely versatile problem structuring tool, which facilitates and encourages discussion among decision-makers (Eden 2004). Although subjective and strongly dependent on the participants' willingness and availability, this constructivist approach allows for increased transparency and a reduction of omitted criteria in the decision-making framework, leading to a better understanding of the decision problem at hand (Marques et al. 2013). Cognitive maps are graphic representations of nodes and links that can assume diverse visual and interactive forms and they are well accepted in the decision-making field (Eden 2004; Eden and Ackermann 2004). At the top of the hierarchy we can find the goal of the decision problem. Then, the maps follow a network of nodes and arrows as links, where the direction of an arrow implies a cause-and-effect relationship between two linked concepts (Eden and Ackermann 2004; Tegarden and Sheetz 2003).

#### **4.2. MCDA and MACBETH**

The advantage of applying MCDA and Measurement Attractiveness by a Categorical-Based Evaluation Technique (MACBETH) to micro-organisations is due to the characteristic of our study – the development of an evaluation framework of key success factors from the point of view of managers of contested micro-organisations. As discussed, micro-organisations often struggle to survive and do not have a clear vision of success. The integrated use of cognitive mapping and MCDA helps the group of decision-makers discuss the factors that in their vision best assure organisational success.

MCDA is described *as* “a collection of formal approaches which seek to take explicit account of multiple criteria in helping individuals or groups explore decisions that matter” (Belton and Stewart 2002, p. 2). It is applied when there is a desire for a formal procedure to assist with decision-making (Ferreira and Santos 2018; Montbelier and Belton 2006) and is an established and well-supported approach in decision science (Ferreira and Santos 2018; Ferreira et al. 2018). As an MCDA technique, MACBETH quantifies differences of attractiveness among elements of a certain set based on semantic value judgments (Bana e Costa and Vansnick 1997). Through a constructive learning process, MACBETH uses simple qualitative question-answer procedures that allow decision-makers to enter the domain of cardinal measurement. Due to its intrinsic characteristics as a humanistic decision-making tool based on mathematical background, the technique has been successfully applied in different decision-making contexts (Bana e Costa et al. 2012).

#### **4.3. Participants**

The high level of interaction between the decision-makers and the nature of the problem requires a panel of relevant and experienced participants, since they are the ones

responsible for the development of the evaluation framework. The role of the researchers is to facilitate the application of the methodologies and conduct the negotiation process (Ackermann and Eden 2001; Belton and Stewart 2002).

This study was conducted in Portugal where CAM is still emerging as it witnesses the slow legalisation of some of its practices (Almeida and Gabe 2016) but remains marginalised and contested in the Portuguese healthcare system (Almeida 2016; Almeida and Gabe 2016). In setting up the panel of decision-makers, the aim was to ensure participants who: (1) had started or managed legally registered CAM organisations; (2) had worked in the field for more than 10 years; (3) have less than 10 employees and; (4) were available for three face-to-face group meetings with an average duration of four hours. To ensure that CAM organisations were legally recognised, a more systematic approach to the participants' selection was used. The sampling frame was the AMADEUS database that identifies registered CAM organisations under the economic activity code "86906 – other human health activities". After applying the three selection criteria above, the list resulted in 48 organisations. The time commitment necessary for participation was a major challenge that reduced the final group to seven decision-makers. Two of the participants (*alpha 6 and alpha 7*) were unable to attend the last two sessions. This situation has happened in other studies using the MACBETH method (Ferreira 2011). Nevertheless, the inputs of these two participants were taken into account in the collective cognitive map (Ferreira et al. 2015). The profiles of the participants as well as their organisations appear in Table 2. The academic background of the panel members varies including physiotherapy, public relations and advertising, and nuclear medicine. The participants' CAM specialisations are mostly based in osteopathy, Chinese medicine, ayurvedic medicine and reiki.

[Insert Table 2 about here.]

While a group of seven managers is not large, it should be noted that: (1) it falls within the recommended guidelines for this type of study – between 5 and 12 participants (Ackermann and Eden 2001); (2) other studies applying cognitive mapping and MACBETH have also addressed the respective decision problems with smaller groups (Ferreira et al. 2015; Filipe, Ferreira, and Santos 2015); (3) this study is process-oriented (Bell and Morse 2013) (*i.e.*, although the output reflects the ideas and experience of this particular group of participants, due to the constructivist stance of this research, the procedures followed can be replicated in other contexts and/or with other participants). Two of the authors – both with practical experience as group facilitators in different contexts – conducted the meetings. Anonymity was promised to the participants; thus their organisations were labelled “Alphas”.

## ***5. Application and Results***

The multidimensional framework developed in this study went through three main phases: (1) the *structuring phase*; (2) the *evaluation phase* and (3) the *recommendations phase*. The procedures followed in each of these phases are presented in Figure 1.

[Insert Figure 1 about here.]

During the structuring phase, the factors underlying the decision problem were specified. In this case, the aim was to identify the success factors of CAM organisations by applying cognitive mapping techniques. In the evaluation phase, MACBETH was used to obtain value functions and calculate trade-offs between evaluation criteria. In the recommendations phase, recommendations and improvement suggestions were formulated based on the obtained results.

### **5.1. The Structuring Phase**

The structuring phase involved the construction of the cognitive map, as well as the development of a tree of fundamental points of view (FPVs), the development of the

descriptors and respective performance impact levels (Ferreira et al. 2015; Filipe, Ferreira, and Santos 2015). Two workshop sessions of about 4 hours each were conducted with this aim.

*5.1.1 Building the Cognitive Map.* This phase consists of identifying the criteria and building the collective cognitive map. Cognitive mapping usually begins with a “trigger question” to elicit participants’ perceptions. For the current study, it was: “Based on your own values and professional experience, what should be the goals and characteristics of a CAM organisation so that it can be considered successful?”. Methodologically, the Strategic Options Development and Analysis (SODA II) approach was followed, where the decision-makers are jointly involved in a workshop (Belton and Stewart 2010; Eden 1995). The first session proceeded with the application of the “post-its technique” (Eden and Ackermann 2001), where participants were encouraged to brainstorm on the subject through active discussion until a saturation point was reached. During that process, participants wrote relevant criteria for a successful organisation on post-its and stuck them on a white board for easy visualisation (Ackermann and Eden 2001). The facilitators instructed the participants to write only one main idea per post-it. The next step was to identify key areas of concern and build clusters from the post-its (Belton and Stewart 2002). Subsequently, the clusters are given a name, which should capture the unifying concept of the cluster and should be positioned hierarchically, where the most general concepts are at the top of the cluster, and the more specific at the bottom (Belton and Stewart 2002). To conclude the first stage of the structuring phase, all the decision-makers were asked to agree on form and content of the cognitive map. The final version of the cognitive map contains 187 nodes, above the minimum of 100 nodes suggested by Eden (2004), which were grouped into 7 clusters (*i.e.*, *infrastructure*; *management*; *marketing*; *professional development*; *training*; *external factors*; and *organisational aspects*). This

final version was analysed and validated by the group in a collective discussion (see Figure 2).

[Insert Figure 2 about here.]

The map was constructed in the *Decision Explorer* software – a popular software for cognitive mapping (Belton and Stewart 2002; Eden 2004). The collective cognitive map has been considered a valuable tool to both structuring and understanding of complex decision problems (Eden and Ackermann 2001; Tegarden and Sheetz 2003). It allowed the panel members to share their perspectives and experiences, significantly reducing the rate of omitted criteria in the decision-making process (Montbelier and Belton 2006; Tegarden and Sheetz 2003).

*5.1.2 Tree of Fundamental Points of View (FPVs).* The second group session started with a review of the cognitive map. The decision-makers were asked again to agree on the content and form of the cognitive map (they suggested one minor change, which was incorporated in the final version). After they all agreed that the map contained the most relevant aspects of the goals and characteristics of a successful CAM organisation, the study proceeded to the next stage – the creation of a tree of FPVs (Bana e Costa et al. 2012). Following Keeney's (1992) methodological guidelines, the M-MACBETH software ([www.m-macbeth.com](http://www.m-macbeth.com)) was used to pass from the cognitive map to the tree of FPVs. The value tree was built from the branches of the cognitive map, and each FPV was composed of relevant criteria chosen by the panel of decision-makers (Montbelier and Belton 2006). To ensure the value tree's properties, mutual preferential independence tests among FPVs were carried out until reaching a non-redundant set of FPVs (Bana e Costa, De Corte, and Vansnick 2012). The seven FPVs composing the value tree and their meaning are presented in Table 3. The decision-makers considered

the tree of criteria containing these FPVs complete and representative of the group consensus.

[Insert Table 3 about here.]

*5.1.3. Descriptors and Impact Levels.* Descriptors were carefully defined by the decision-makers and served as the basis for the evaluation phase. Impact levels are performance levels that allow for local evaluations in each descriptor (*e.g.*,  $L_i$  with  $i = 1, \dots, n$ ). For instance, the panel of decision-makers collectively decided to define the descriptor as numerical intervals for each of the impact levels previously defined (*e.g.*, L1: [16-24]; L2: [10-15]). The creation of descriptors in this study resulted from an adaptation of Fiedler's (1967) scale, considered a very consistent psychometric tool in the field of MCDA (Ferreira et al. 2018; Filipe, Ferreira, and Santos 2015). Previous research suggests that in order to prevent cognitive fatigue, it is important to set Good and Neutral reference levels (Bana e Costa et al. 2012). As can be seen in Figure 3, FPV<sub>2</sub> becomes operational through a professional development (PD) index that contains six ordered impact levels ( $L_i=1, \dots, 6$ ) based on the decision-makers' value preferences. For instance, their preferences within organisational aspects are: (1) between 10 and 20 years of active experience; (2) continuous training perfectly suited to professional skills; (3) technical mastery inherent to the profession; (4) total availability in the clinical monitoring; (5) effective and regular monitoring of the results of users; and (6) excellent perception of users and colleagues of interpersonal qualities of professionals.

[Insert Figure 3 about here.]

As shown in Figure 3,  $L_1$  represents the best performance possible, while  $L_6$  represents the worst performance level. This procedure was repeated for all FPVs, as each descriptor represents a different dimension and can present a different number of impact levels. According to the literature, the construction of descriptors and impact levels

constitutes the final stage of the structuring phase (Montbelier and Belton 2006). After sorting the descriptors and impact levels for the FPVs, a value function for each FPV was obtained, reflecting the decision-makers' preferences (Belton and Stewart 2002). This allowed the start of the evaluation phase.

## 5.2. The Evaluation Phase

The third and last session consisted in the application of MACBETH, aiming at obtaining: (1) value judgments and local value scales; (2) trade-offs among criteria; and (3) overall scores for evaluated Alphas.

*5.2.1. Value Judgments and Local Value Scales.* The session started with the creation of local value scales. This step consists of filling matrices of value judgment for each of the descriptors (Ferreira et al. 2015; Filipe et al. 2015) using the semantic categories of difference of attractiveness proposed by the MACBETH approach, namely:  $C_0$  – null;  $C_1$  – very weak;  $C_2$  – weak;  $C_3$  – moderate;  $C_4$  – strong;  $C_5$  – very strong; and  $C_6$  – extreme (Bana e Costa et al. 2012). The value judgment is facilitated by non-numerical pairwise comparisons of difference of attractiveness between the impact levels (Bana e Costa et al. 2012; Ferreira et al. 2015). This means that the decision-makers are asked to make comparisons between the impact levels of each FPV and then attribute a semantic category to this comparison (Bana e Costa et al. 2012). Figure 4 shows the value judgments provided for professional development (FPV<sub>2</sub>).

[Insert Figure 4 about here.]

As can be seen, the decision-makers attributed a semantic category of *weak* ( $C_2$ ) to the difference of attractiveness between  $L_2$  and  $L_1$ . By applying linear programming to the value judgments projected, a partial value function (or cardinal value function) is obtained for each FPV (Bana e Costa and Vansnick 1997). The value judgments expressed by the

decision-makers for each descriptor were then entered in the M-MACBETH software, and incompatibility between semantic judgments was automatically verified. In case of inconsistencies, the judgements were reanalysed, and the inconsistencies resolved (Bana e Costa et al. 2012; Filipe, Ferreira, and Santos 2015). As exemplified in Figure 4, the value scale obtained for *professional development* (FPV<sub>2</sub>) attributed a partial score of 300 points to L<sub>1</sub> (highest level), whereas the lowest level (L<sub>6</sub>) was assigned a negative score of -125 points. It should be noted that the allocation of 100 points to the *Good* level and 0 to the *Neutral* level is a standard procedure carried out in all descriptors, which facilitates the cognitive comparisons made by the decision-makers (Bana e Costa et al. 2012; Filipe, Ferreira, and Santos 2015).

*5.2.2. Trade-off Procedures.* After obtaining a cardinal scale for each descriptor, the next step entailed obtaining the trade-offs (i.e., weights or substitution rates) between the FPVs (Bana e Costa and Oliveira, 2012). First, the decision-makers fill in an ordering matrix of pairwise comparisons to rank the seven FPVs. Whenever an FPV was considered more attractive than another, it was assigned a value 1; and 0 otherwise (Filipe, Ferreira, and Santos 2015). The matrix of overall attractiveness ranked *professional development* (FPV<sub>2</sub>) in first place, while *external factors* (FPV<sub>5</sub>) were ranked last (see Table 4).

[Insert Table 4 about here.]

Once the FPVs were ordered, the next step was filling in a matrix of differences of attractiveness between FPVs, based on the MACBETH semantic categories previously defined. This process is interactive and allows the trade-offs among FPVs and the respective value functions to be obtained, discussed and approved by the panel members. Figure 5 represents the results.

[Insert Figure 5 about here.]

The results indicate that *professional development* (FPV<sub>2</sub>) has the highest weight, with 23.24 percent, followed by *training* (FPV<sub>1</sub>) with 22.22 percent. The lowest weight (1.01 percent) belongs to *external factors* (FPV<sub>5</sub>). It is interesting to note the low importance assigned to *infrastructure* (FVP<sub>6</sub>) and *external factors* (FPV<sub>5</sub>). These results contrast with prior findings on the importance of external factors for the success of a business (Rogoff, Lee, and Suh 2004). Because these are factors derived from managers' perceptions, it can be conjectured that due to their limited resources, hybrid micro-organisations do not pay enough attention to environmental factors. Due to the inherent subjectivity in the process, the defined weights should have sufficient flexibility (*e.g.*, confidence intervals) so that the weights do not miss the consistency of judgments made by the decision-makers in case of variation within certain parameters. Next, the evaluation framework was tested.

*5.2.3. Measuring perceived Success: A Practical Application of the Evaluation Framework.* Using information provided by the panel members, partial and overall scores for each of the CAM organisations (Alphas) were obtained. Table 5 presents the levels of partial performance of each Alpha.

[Insert Table 5 about here.]

For example, the partial values show that Alpha 3 is the worst performer on *management* (FPV<sub>4</sub>), and that Alpha 2 is the best performer on *marketing* (FPV<sub>3</sub>). The scores obtained in each descriptor also show that, except Alpha 3, all Alphas score above the *Good* reference level in terms of *professional development* (FPV<sub>2</sub>). The next step was to aggregate the partial performances and obtain an overall score for each Alpha (see Table 6). For the purpose, a simple additive aggregation model was used, where *Good* and *Neutral* stand for two fictitious CAM organisations that were defined by the panel members to serve as “anchors” and facilitate cognitive comparisons (for details, see Bana e Costa et al. 2012). *Good* represents a CAM organisation that performs at a good level

in all FPVs, while *Neutral* is a CAM organisation that performs at a neutral level in all FPVs.

[Insert Table 6 about here.]

As can be seen in Table 6, Alpha 2 presents the highest overall score (155.57), while Alpha 3 is the worst performance (1.01). More important than the Alphas' ranking, however, is the profile analysis that can be carried out for each Alpha, which allows well-focused intervention priorities to be immediately detected. Figure 6 presents the cases of Alpha 2 and Alpha 3.

[Insert Figure 6 about here.]

The analysis emphasises in which FPVs the Alphas need to improve in order to increase their chances for success. Even though the participants spent a total of more than 12 hours in group sessions, they appreciated the results and thought it was time well spent.

*5.2.4. Analysing and Validating the Results.* Exploring the sensitivity and robustness of the evaluation system provides a deeper understanding of the decision problem (Bana e Costa et al. 2012). Both analyses intend to investigate the model outputs in light of some type of data uncertainty (Bana e Costa et al. 2012; Belton and Stewart 2002). Sensitivity analysis aims to explore the impact of changes in a criterion's weight on the system's output. For example, the sensitivity analysis of professional development (FPV<sub>2</sub>) (the weight attributed is 23.24) reveals that its weight can vary significantly (approximately to the boundary level of 14 and 25) without violating the decision-makers value preferences nor the position of the ranking of each Alpha, as shown in Figure 7.

[Insert Figure 7 about here.]

Robustness analysis, in turn, works with effects in the model outputs caused by simultaneous changes in different criteria (Ferreira et al. 2015). Two types of dominance were analysed: (1) absolute or classical ( $\blacktriangle$ ), where alternative  $a$  is globally better than

alternative  $b$  and partially better or equal to  $b$  in all identified FPVs; and (2) additive ( $\oplus$ ), where alternative  $a$  is globally better than alternative  $b$ , but is not partially better than  $b$  in at least one FPV (Bana e Costa et al. 2012; Ferreira et al. 2015; Filipe et al. 2015). A battery of robustness analyses was carried out and, as exemplified in Figure 8, the model created can be considered robust, since significant simultaneous variations (e.g. of +5%, +10%, +5%, +2% and +1% in the weights of FPV1, FPV3, FPV4 and PPV5, respectively) are required to produce changes in the Alphas' ranking. In other words, we can say that the analyses carried out confirmed the robustness of the evaluation framework, because the stability is verified under simultaneous changes in the weighting coefficients.

[Insert Figure 8 about here.]

Such results reveal a high degree of consistency (Ferreira et al. 2015). The results of the sensitivity and robustness analyses indicate that the evaluation framework is adequate and the ordering of the importance of the major factors would not change despite the underlying subjective manner of their derivation.

In a follow up stage, the participants had to answer a short survey to help the researchers gain further insights into the extent to which the evaluation system was preferred to other practices in place. This exercise aimed to assess the perception of the panel members regarding the potential practical adoption of the proposed framework and followed the four stages of performance measurement process (*i.e.*, design; measurement; analysis; and improvement) discussed in Filipe, Ferreira, and Santos (2015). A five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) was used to collect the participants' perceptions (see Table 7). The participants showed strong agreement regarding the value of the evaluation system proposed to assist them in successfully carrying out the four stages of the performance measurement process.

[Insert Table 7 about here.]

### 5.3. The Recommendations Phase

One of the main advantages of the adopted approach is its constructive nature. The framework was built together with and validated by the panel members, where their experiences and knowledge contributed from the beginning until the final solution. In addition, the participants received assessment of their organisations based on the constructed framework for success. The evaluation system presented in this study should not be considered an optimal and final solution. Even though this might be seen as a limitation of the methodology, one must keep in mind that the evaluation framework is process-oriented and reflects the agreement of the decision-makers throughout the process (Bell and Morse 2013).

## 6. Main Findings and Discussion

This study set out to explore how contested hybrid micro-organisations conceptualise success. For the purpose, an expert panel developed an evaluation framework of perceived drivers affecting organisational success. Cognitive mapping and MACBETH were combined to identify and quantify perceived factors leading to the success of CAM hybrid micro-organisations. The expert panel identified 187 success criteria, which were grouped into 7 clusters: *external factors*, *infrastructure*, *management*, *marketing*, *professional development*, *organisational aspects*, and *training*. The final perceived success factors framework shows that *professional development* and *training* are the most important indicators and represent 46 percent of the success framework. *Management* and *marketing* factors account for 36 percent. *Organisational aspects* represent 11 percent and *infrastructure* – 6 percent. *External factors* represent only 1 percent of the overall success framework (see Figure 5).

The conclusion is that the participants emphasise human capital as the related three factors taken together represent more than 50 percent of the perceived success factors: *professional development* (i.e., professional skills and know-how required from the human capital, as well as their continuous professional development); *training* (i.e., academic, scientific and technical qualifications), and *organisational aspects* (i.e., appropriateness of human capital to the organisational needs). These findings are in line with previous research (Gorgievski, Ascalon, and Stephan, 2011; Maltz, Shenhar, and Reilly 2003; Rogoff, Lee, and Suh 2004; Wach, Stephan, and Gorgievski 2016; Staniewski 2016). The organisational perspective advocates that adequate human capital and organisational design are linked to the survival and success of organisations (Birley and Westhead 1990; Combs et al. 2005; Hopp and Sonderegger 2015). Hybrid establishments may be particularly constrained in choosing an adequate workforce as it would need to address multiple institutional logics demands. Consequently, specialised training and development appear to be a major instrument of “hybridising” personnel. It is not surprising that CAM micro-organisations are concerned with delivering a good service since CAM seeks to respond to society’s search for more personalised services and “whole person” approach (Winnick, 2005). For example, organisations in legitimacy vacuum have to offer a set of recognisable practices that will increase the organisation’s ability to decrease its environmental deficiency (Wang, Stewart, and Castro 2017; Dobrev & Gotsopoulos, 2010). Confirming prior research, education and professional experience are perceived to contribute to increased legitimacy as they provide credibility (Ruffo et al. 2018; Tornikoski and Newbert, 2007; Wang, Stewart, and Castro 2017). For example, educational and professional certifications are a way of complying with established regulations and standards (Wang, Stewart, and Castro 2017). Accordingly, human capital

and professional image are seen as crucial for success for hybrid organisations in the contested CAM category.

Next in importance success factors are: *management* (i.e. the organisation's financial condition, managers' skills and leadership abilities as well as their moral and ethical conduct), and *marketing* (i.e. strategic (market research, and positioning) and tactical actions (product/service, communication, distribution and price)). The *management* indicators identified by the panel comprise both financial (e.g. annual turnover) and non-financial measures (management and marketing, leadership and ethics); most of the measures are operational (see Figure 2 – Cognitive Mapping). The only financial measures mentioned by the managers were financial sustainability and annual turnover. This is surprising, as financial measures such as sales growth and return on equity (ROE) are commonly used and considered to be the most important measures in organisational success (Birley and Westhead, 1990; Maltz, Shenhar, and Reilly 2003; Reijonen and Komppula 2007; Singh, Darwish and Potocnik 2016; Staniewski 2016; Staniewski and Awruk 2019). The small business literature indicates growth and profitability as the two most often used performance measures (Gorgievski, Ascalon, and Stephan 2011; Lonial and Carter 2015). The micro-organisations in this study do not consider profit and growth as the main factors in their success. While many quantitative studies use financial measures as dependent variables (Birley and Westhead 1990; Combs et al. 2005; Lonial and Carter 2015), the current findings agree with Gorgievski, Ascalon, and Stephan (2011) who state that many organisations are not preoccupied with maximising financial performance, but are rather more concerned with indicators such as “contributing back to society, personal satisfaction, satisfied stakeholders (employees and customers), work-life balance, public recognition, and utility or usefulness” (Gorgievski, Ascalon, and Stephan 2011, p. 212). These findings extend the belief that business success

is related to organisational goals (Kotlar et al. 2018). While the legitimacy literature argues that stakeholders appreciate organisations that are financially sustainable for the long run (Ruffo et al. 2018), the participants do not consider financial indicators as their primary mechanism to measure success. In line with the literature, managers' skills and abilities are other important factors increasing legitimacy (Tornikoski and Newbert 2007; Überbacher 2014; Ruffo et al. 2018; Wang, Stewart, and Castro 2017). This is particularly relevant in a contested category context, as the competence and credibility of managers may be crucial in promoting and creating a favourable image of the organisation (Galvin, Ventresca, and Hudson 2004, Überbacher 2014).

Regarding *marketing*, previous research in small business success suggests that it is fundamental, because it aims to understand the market and promote the business (Rogoff, Lee, and Suh 2004). The findings confirm these claims as, for example, participation in events, promotion, and communication initiatives may be used to endorse the legitimacy of the organisation (Tornikoski and Newber, 2007; Rogoff, Lee and Suh 2004). Surprisingly, the least important factors for success are *infrastructure* (facilities and its physical surrounding) and *external factors* (social, political, economic, legal and competitive factors). The participants in the study perceive the facilities' conditions and location as secondary to the business success of CAM micro-organisations. This contradicts previous studies, which report that *infrastructure* significantly affects success and the performance of organisations (Birley and Westhead 1990; Reijonen and Komppula 2007). Finally, *external factors* are perceived as the least important factor for success (1 percent of the overall evaluation framework). The expectation was that *external factors* such as economic and competitive context, public beliefs about CAM practices, and regulations would be of particular relevance due to the hostile environment constricting CAM organisations' legitimacy. One tentative explanation is that CAM

managers pragmatically focus on what is under their direct control, which excludes most external factors. Also, short term survival might imply a forced focus on internal ability rather than long term and strategic decisions as would be the case in larger organisations with more resources and capabilities. It is important to note that the managers did not have access to the success indicators identified in the literature, and the indicators that appear in the evaluation framework resulted from the discussion among the decision-makers and represent their collective view of success of a hybrid micro-organisation in a contested category.

## **7. *Conclusions***

Crossover research between micro-organisations and organisational struggle for legitimacy is still in its infancy. This study addresses the gap of research on success of hybrid micro-organisations in contested market categories. It also responds to a wider scarcity of research on subjective perceived organisational success factors. Most prior studies are based on measures selected by the researcher, rather than on the managers' point of view. In order to explore how managers perceive the success of their hybrid micro-organisations in a market category that lacks legitimacy, this study uses the context of complementary and alternative medicine (CAM).

The main contribution is the documentation of the process of a success framework construction from the point of view of managers of hybrid micro-organisations. In addition, the study applies cognitive mapping and MACBETH to construct the framework – a methodological contribution to the small business literature. As opposed to survey methods, this constructivist approach: (1) identifies subjective and objective components of success (FPVs) along with cause-and-effect linkages between criteria, which are hard to identify exclusively by statistical approaches; (2) calculates the trade-offs between

these components based on managers' practical experience and collective perceptions to achieve negotiated rankings of the different components of success; (3) provides the study participants the opportunity to reflect on the assessments and suggest focused improvements; and (4) develops an easy to replicate process-oriented framework that can be used in other contexts. The MCDA approach leads to a justifiable evaluation framework from the managers' point of view, because the decision-makers exchange ideas and learn in an open and interactive environment.

The findings also add some valuable insights to the small business literature. First, hybridity, size and scale disadvantages mark to a great extent the decision-making process of managers. The results show that hybrid micro-organisations, especially ones in a contested category, assess success in a different way compared to traditional businesses. Namely, they prefer non-operational indicators to financial measures. While growth is particularly important as a measure of success for larger companies, the fragile nature of the micro-organisations prompts them to be more tactical and short-term oriented. Second, managers of micro-organisations with legitimacy deficit do not perceive external factors to be major determinants of success. This result disagrees with the notion that environmental conditions are of utmost importance for the success of organisations.

In practical terms, this study allows managers of hybrid micro-organisations to use the resulting framework to reflect on their own perceptions of success as it provides a reference to collective perceived success in organisations with similar characteristics. This research brings to light what possible success criteria and factors can be used to individually or collectively understand success.

## **7.1. Limitations and Future Research**

The major limitation of this research is the lack of generalisability. The final evaluation framework cannot be considered a definitive and universal solution as it is context dependent. It reflects the specific values of the participants and it uses the CAM hybrid micro-organisations as a single illustrative example of a contested category. The focus of this study is a multifaceted problem – managers subjective understanding of organisational success – with multiple influences (e.g. internal and external to the organisation). Further investigation of other hybrid micro-organisations’ perceptions of success in a non-supportive environmental context would allow comparability among findings and could aid the delivery of a more generalisable framework. Future longitudinal research could better capture its dynamics namely whether the vision of CAM managers’ success factors change as they develop their business or as it becomes more legitimised. Although the sample of decision-makers was within the sample limits proposed in studies on the topic, larger samples could produce additional insights.

The sampled managers perceive that external factors are not among their primary concerns when thinking about success raises the question, to be further explored in future research, that it is possible that hybrid micro-organisations are prone to failure because they have alternative visions of success which are not fully compliant with expectations from their environment. This research brings to light what possible success criteria and factors can be used to individually or collectively understand success. Future research could test the hypothesis that limited internal and external resources prevent managers of micro-organisations from having a clear sense of the path to long term organisational success.

## 8. References

- Ackermann, F., and C. Eden (2001). "SODA – Journey Making and Mapping in Practice," in *Rational Analysis for a Problematic World Revisited: Problem Structuring Methods for Complexity, Uncertainty and Conflict*. Ed. Rosenhead and J. Mingers. Chichester: John Wiley & Sons, 43–60.
- Almeida, J. (2016). "Complementary and Alternative Medicine's Occupational Closure in Portuguese Healthcare: Contradictions and Challenges," *Health* 20(5), 447-464.
- Almeida, J., and J. Gabe (2016). "CAM within a Field Force of Countervailing Powers: The case of Portugal," *Social Science & Medicine* 155, 73-81.
- Amato, C., R. A. Baron, B. Barbieri, J. J. Bélanger, and A. Pierro (2017). "Regulatory Modes and Entrepreneurship: The Mediational Role of Alertness in Small Business Success," *Journal of Small Business Management* 55, 27-42.
- Bana e Costa, C., and J. Vansnick (1997). "Applications of the MACBETH Approach in the Framework of an Additive Aggregation Model," *Journal of Multi-Criteria Decision Analysis* 6(2), 107–114.
- Bana e Costa, C., J. De Corte, and J. Vansnick (2012). "MACBETH," *International Journal of Information Technology & Decision Making* 11(2), 359–387.
- Battilana, J., M. Besharov, and B. Mitzinneck (2017). "On Hybrids and Hybrid Organizing: A Review and Roadmap for Future Research," in *The SAGE Handbook of Organizational Institutionalism*. Ed. R. Greenwood, C. Oliver, T. B. Lawrence, and R. E. Meyer. London: Sage, 133-169.
- Battilana, J., and M. Lee (2014). "Advancing Research on Hybrid Organizing: Insights from the Study of Social Enterprises," *The Academy of Management Annals* 8(1), 397–441.
- Bell, S., and S. Morse (2013). "Groups and Facilitators within Problem Structuring Processes," *Journal of the Operational Research Society* 64(7), 959–972.
- Belton, V., and T. Stewart (2010). "Problem Structuring and Multiple Criteria Decision Analysis," in *Trends in Multiple Criteria Decision Analysis*. Ed. M. Ehrgott, J. Figueira, and S. Greco. London: Springer, 209–239.
- Belton, V., and T. Stewart (2002). *Multiple Criteria Decision Analysis: An Integrated Approach*. Dordrecht: Kluwer Academic Publishers.
- Birley, S., and P. Westhead (1990). "Growth and Performance Contrast between 'Types' of Small Firms," *Strategic Management Journal* 11(7), 535–557.

- Bouchikhi, H. (1993). "A Constructivist Framework for Understanding Entrepreneurship Performance," *Organization Studies* 14(4), 549–570.
- Bruderl, J., and R. Schussler (1990). "Organizational Mortality: The Liabilities of Newness and Adolescence." *Administrative Science Quarterly* 35(3), 530–547.
- Combs, J., T. Crook, and C. Shook (2005). "The Dimensionality of Organizational Performance and Its Implications for Strategic Management Research" in *Research Methodology in Strategy and Management*. Ed. D. Ketchen and D. Bergh. New York: Elsevier, 259–286.
- Courrent, J., and K. Gundolf (2008). "Proximity and Micro-Enterprise Manager's Ethics: A French Empirical Study of Responsible Business Attitudes," *Journal of Business Ethics* 88(4), 749–762.
- Dees, J. G. (1998). "Enterprising Nonprofits," *Harvard Business Review* 76, 54-69.
- Dobrev, S., and A. Gotsopoulos (2010). "Legitimacy Vacuum, Structural Imprinting and the First Mover Disadvantage," *Academy of Management Journal* 53(5), 1153–1174.
- Doherty, B., H. Haugh, and F. Lyon (2014). "Social Enterprises as Hybrid Organizations: A Review and Research Agenda," *International Journal of Management Reviews* 16(4), 417–436.
- Durand, R., and L. Paoletta (2013). "Category Stretching: Reorienting Research on Categories in Strategy, Entrepreneurship, and Organization Theory," *Journal of Management Studies* 50 (6), 1100–1123.
- Eden, C. (1995). "On Evaluating the Performance of 'Wide-Band' GDSS's," *European Journal of Operational Research* 81(2), 302–311.
- Eden, C. (2004). "Analyzing Cognitive Maps to Help Structure Issues or Problems," *European Journal of Operational Research* 159(3), 673–686.
- Eden, C., and F. Ackermann (2001). "Group Decision and Negotiation in Strategy Making," *Group Decision and Negotiation* 10(2), 119–140.
- \_\_\_\_\_ (2004). "Cognitive Mapping Expert Views for Policy Analysis in the Public Sector," *European Journal of Operational Research* 152(3), 615–630.
- Ensslin, L., A. Dutra, and S. Ensslin (2000). "MCDA: A Constructivist Approach to the Management of Human Resources at a Governmental Agency," *International Transactions in Operational Research* 7(1), 79-100.
- European Commission (2005), "What is an SME?," <http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition/>

(accessed on November 3, 2018).

- Ferreira, F.A.F. (2011). "Multiple Criteria Evaluation of Bank Branches: Decision Analysis Models and Applications," University of Algarve.
- Ferreira, F.A.F, C. S. Marques, P. Bento, J. J. Ferreira, and M. S. Jalali (2015). "Operationalizing and Measuring Individual Entrepreneurial Orientation using Cognitive Mapping and MCDA Techniques," *Journal of Business Research* 68(12), 2691–2702.
- Ferreira, F.A.F, and S. P. Santos (2018). "Two Decades on the MACBETH Approach: A Bibliometric Analysis," *Annals of Operations Research*, 1-25.
- Ferreira, F.A.F, R. W. Spahr, M. A. Sunderman, and M. S. Jalali (2018). "A Prioritisation Index for Blight Intervention Strategies in Residential Real Estate," *Journal of the Operational Research Society* 69(8), 1269-1285.
- Fiedler, F. (1967). *A Theory of Leadership Effectiveness*. New York: McGraw-Hill.
- Filipe, M., F. A. F. Ferreira, and S. Santos (2015). "A Multiple Criteria Information System for Pedagogical Evaluation and Professional Development of Teachers," *Journal of the Operational Research Society* 66(11), 1769–1782.
- Fotaki, M. (2011). "Towards Developing New Partnerships in Public Services: Users as Consumers, Citizens and/or Co-Producers in Health and Social Care in England and Sweden," *Public Administration* 89(3), 933-955.
- Frass, M., R. Strassl, H. Friehs, M. Müllner, M. Kundi, and A. Kaye (2012). "Use and Acceptance of Complementary and Alternative Medicine Among the General Population and Medical Personnel: A Systematic Review," *The Ochsner Journal* 12(1), 45–56.
- Galvin, T. L., M. J. Ventresca, and B. A. Hudson (2004). "Contested Industry Dynamics," *International Studies of Management & Organization* 34(4), 56-82.
- Galvin, T. L. (2002). "Examining Institutional change: Evidence from the Founding Dynamics of US Health Care Interest Associations," *Academy of Management Journal* 45(4), 673-696.
- Gherhes, C., N. Williams, T. Vorley, and A. C. Vasconcelos (2016). "Distinguishing Micro-businesses from SMEs: A Systematic Review of Growth Constraints," *Journal of Small Business and Enterprise Development*, 23(4), 939-963.
- Gorgievski, M. J., M. E. Ascalon, and U. Stephan (2011). "Small Business Owners' Success Criteria, a Values Approach to Personal Differences," *Journal of Small*

*Business Management* 49(2), 207-232.

- Gunasekaran, A., T. Papadopoulos, R. Dubey, S. F. Wamba, S. J. Childe, B. Hazen, and S. Akter (2017). "Big Data and Predictive Analytics for Supply Chain and Organizational Performance," *Journal of Business Research* 70, 308-317.
- Hahn, R., and I. Ince. (2016). "Constituents and Characteristics of Hybrid Businesses: A Qualitative, Empirical Framework," *Journal of Small Business Management* 54, 33-52.
- Hayllar, M. R., and R. Wettenhall (2013). "As public Goes Private, Social Emerges: The Rise of Social Enterprise," *Public Organization Review* 13(2), 207-217.
- Hirschhorn, K. (2006). "Exclusive Versus Everyday Forms of Professional Knowledge: Legitimacy Claims in Conventional and Alternative Medicine," *Sociology of Health and Illness* 28(5), 533-557.
- Hopp, C., and R. Sonderegger (2015). "Understanding the Dynamics of Nascent Entrepreneurship—Prestart-Up Experience, Intentions, and Entrepreneurial Success," *Journal of Small Business Management*, 53(4), 1076-1096.
- Jacobs, S., B. Cambre, M. Huysentruyt, and A. Schramme (2016). "Multiple Pathways to Success in Small Creative Businesses: The Case of Belgian Furniture Designers," *Journal of Business Research* 69(11), 5461-5466.
- Keeney, L. (1992). *Value-focused thinking: A path to creative decision-making*. Harvard: Harvard University Press.
- Keshet, Y. (2010). "Hybrid Knowledge and Research on the Efficacy of Alternative and Complementary Medicine Treatments," *Social Epistemology* 24(4), 331-347.
- Kotey, B., and G. G. Meredith (1997). "Relationships Among Owner/Manager Personal Values, Business Strategies, and Enterprise Performance," *Journal of Small Business Management* 35, 37-64.
- Kotlar, J., A. De Massis, M. Wright, and F. Frattini (2018). "Organizational Goals: Antecedents, Formation Processes and Implications for Firm Behavior and Performance," *International Journal of Management Reviews* 20, S3-S18.
- Lonial, S. C., and R. E. Carter (2015). "The impact of Organizational Orientations on Medium and Small Firm Performance: A Resource-Based Perspective," *Journal of Small Business Management* 53(1), 94-113.
- Maltz, A. C., A. J. Shenhar, and R. R. Reilly (2003). "Beyond the Balanced Scorecard: Refining the Search for Organizational Success Measures," *Long Range Planning*, 36(2), 187-204.

- Markman, G., and T. Waldron (2014). "Small Entrants and Large Incumbents: A Framework of Micro Entry," *Academy of Management Perspectives* 28(2), 178–197.
- Marques, C., J. Ferreira, F. A. F. Ferreira, and M. Lages (2013). "Entrepreneurial Orientation and Motivation to Start up a Business: Evidence from the Health Service Industry," *International Entrepreneurship and Management Journal* 9(1), 77–94.
- Mizrachi, N., J. Shuval, and S. Gross (2005). "Boundary at Work: Alternative Medicine in Biomedical Settings," *Sociology of Health & Illness* 27(1), 20–43.
- Montbelier, G., and V. Belton (2006). "Causal Maps and the Evaluation of Decision," *Journal of the Operational Research Society* 57(7), 779–791.
- Moss, T., J. Short, G. Payne, and G. Lumpkin (2011). "Dual Identities in Social Ventures: An Exploratory Study," *Entrepreneurship Theory and Practice* 35(4), 805–830.
- Reay, T., and C. R. Hinings (2005). "The Recomposition of an Organizational Field: Health Care in Alberta," *Organization Studies* 26(3), 351–384.
- Reijonen, H., and R. Komppula (2007). "Perception of Success and Its Effect on Small Firm Performance," *Journal of Small Business and Enterprise Development* 14(4), 689–701.
- Rogoff, E. G., M. S. Lee, and D. C. Suh (2004). "'Who Done It?' Attributions by Entrepreneurs and Experts of the Factors that Cause and Impede Small Business Success," *Journal of Small Business Management* 42(4), 364–376.
- Ruef, M., and W. R. Scott (1998), "A Multidimensional Model of Organizational Legitimacy: Hospital Survival in Changing Institutional Environments," *Administrative Science Quarterly*, 43, 877–904.
- Ruffo, O. I., K. Mnisri, C. Morin-Esteves, and C. Gendron (2018). "Judgements of SMEs' Legitimacy and Its Sources," *Journal of Business Ethics*, 1–16, in press.
- Santos, F., and K. Eisenhardt (2009). "Constructing Markets and Shaping Boundaries: Entrepreneurial Power in Nascent Fields," *Academy of Management Journal* 52(4), 643–671.
- Sharma, M., H. Miller, and R. Reeder (1990). "Micro-Enterprise Growth: Operational Models and Implementation Assistance in Third and Fourth World Countries," *Journal of Small Business Management* 28(4), 9–22.
- Short, J., A. McKelvie, D. Ketchen, and G. Chandler (2009). "Firm and Industry Effects on Firm Performance: A Generalization and Extension for New Ventures,"

- Strategic Entrepreneurship Journal* 3(1), 47–65.
- Singh, S., T.K. Darwish, and K. Potočnik. (2016). "Measuring Performance: A Case for Subjective Measures," *British Journal of Management* 27 (1), 214-224.
- Staniewski, M. W. (2016). "The Contribution of Business Experience and Knowledge to Successful Entrepreneurship," *Journal of Business Research* 69(11), 5147-5152.
- Staniewski, M. W., and K. Awruk (2018). "Questionnaire of Entrepreneurial Success—Report on the Initial Stage of Method Construction," *Journal of Business Research* 88, 437-442.
- Staniewski, M. W., and K. Awruk (2019). "Entrepreneurial Success and Achievement Motivation—A Preliminary Report on a Validation Study of the Questionnaire of Entrepreneurial Success," *Journal of Business Research* 101, 433-440.
- Tegarden, D., and S. Sheetz (2003). "Group Cognitive Mapping: A methodology and System for Capturing and Evaluating Managerial and Organisational Cognition," *Omega – The International Journal of Management Sciences* 31(2), 113–125.
- Thornton, P. H., and W. Ocasio (1999). "Institutional Logics and the Historical Contingency of Power in Organizations: Executive succession in the Higher Education Publishing Industry, 1958–1990," *American Journal of Sociology* 105(3), 801-843.
- Tornikoski, E., and S. Newbert (2007). "Exploring the Determinants of Organisational Emergence: A Legitimacy Perspective," *Journal of Business Venturing* 22(2), 311–335.
- Überbacher, F. (2014). "Legitimation of New Ventures: A Review and Research Programme," *Journal of Management Studies* 51(4), 667–698.
- Wach, D., U. Stephan, and M. Gorgievski (2016). "More than Money: Developing an Integrative Multi-Factorial Measure of Entrepreneurial Success," *International Small Business Journal* 34(8), 1098–1121.
- Wang, T., S. Thornhill, and J. O. De Castro (2017). "Entrepreneurial orientation, Legitimation, and New venture Performance," *Strategic Entrepreneurship Journal* 11(4), 373-392.
- Wardle, J., and J. Adams (2014). "Indirect and Non-Health Risks Associated with Complementary and Alternative Medicine Use: An Integrative Review," *European Journal of Integrative Medicine* 6(4), 409–422.
- Wiklund, J., and D. Shepherd (2005). "Entrepreneurial Orientation and Small Business Performance: A Configurational Approach," *Journal of Business Venturing* 20(1),

71–91.

Winnick, T. (2005). “From Quackery to “Complementary” Medicine: The American Medical Profession,” *Social Problems* 52(1), 38–61.

Wolpe, P. R. (2002). “Medical Culture and CAM Culture: Science and Ritual in the Academic Medical Center,” in *The Role of Complementary and Alternative Medicine*. Ed D. Callahan. Washington D.C.: Georgetown University Press, 163-171.

Wong, T. A., and M. R. Bustami (2019). “A Case Study of Micro Businesses in Jelutong Wet Market in Penang, Malaysia: Implications for CSR Scholarship,” *Journal of Business Ethics*, 1-12.

**Table 1**

Summary of literature review

<b>Main concepts</b>	<b>Authors (year)</b>
<p><b>Organisational success</b></p> <p><i>Operational vs financial measures</i></p> <ul style="list-style-type: none"> <li>- Operational criteria are non-financial indicators.</li> <li>- Financial measures are at the core of the organisational effectiveness.</li> </ul>	<p>Maltz, Shenhar, and Reilly 2003; Kotey and Meredith 1997; Reijonen and Komppula 2007; Singh, Darwish and Potocnik 2016.</p>
<p><i>Assessment of success</i></p> <ul style="list-style-type: none"> <li>- The choice of success factors is complex and based on organisations' goals and objectives, context and characteristics of the managers.</li> <li>- Most studies have mainly focused on a single performance goal – profitability.</li> <li>- Some examples of success criteria are: financial measures, customer/market measures, process, people development, and preparing for the future measures; profitability and growth, innovation, firm survival/continuity, contributing back to society, personal satisfaction, satisfied stakeholders, good balance between work and private life, public recognition, and utility or usefulness.</li> </ul>	<p>Gorgievski, Ascalon, and Stephan 2011; Kotlar et al. 2018; Maltz, Shenhar, and Reilly 2003; Reijonen and Komppula 2007; Singh, Darwish and Potocnik 2016; Wang, Thornhill, and Castro 2017.</p>
<p><i>Success as a subjective measure</i></p> <ul style="list-style-type: none"> <li>- Managers have their own perceptions of the meaning of success.</li> <li>- Subjective measures have been used in past research mostly applied to performance in organisational and entrepreneurial contexts.</li> <li>- Subjective success is an individual understanding and assessment of the achievement of criteria that are personally important to the manager, such as business's performance, growth and status.</li> </ul>	<p>Gorgievski, Ascalon, and Stephan 2011; Reijonen and Komppula 2007; Rogoff, Lee, and Suh 2004; Wach, Stephan, and Gorgievski 2016; Wang, Thornhill, and Castro 2017.</p>
<p><b>Hybrid micro-organisations and contested categories</b></p> <p><i>Micro-organisations and success</i></p> <ul style="list-style-type: none"> <li>- Survival rates are low due to barriers such as resource constraints, market inexperience and lack of legitimacy, vulnerability, risk and uncertainty.</li> </ul>	<p>Birley and Westhead 1990; Courrent and Gundolf 2008; Gorgievski, Ascalon, and Stephan 2011; Jacobs et al. 2016;</p>

- Decision-making process is mostly single-person centred and thus success is embedded in the manager's personal and subjective business goals.

Markman and Waldron 2014; Reijonen and Komppula 2007; Wach, Stephan, and Gorgievski 2016; Wong and Bustami 2019.

#### *Hybrid organisations and success*

- Hybridity comprise the mixing of core organisational elements that would not conventionally go together.  
- Hybrid organisations draw on at least two different sectoral paradigms, logics and value systems.  
- Hybrid organisations success is determined by both social impact and financial success, which creates a "blurred" vision of success.

Battilana et al. 2017; Battilana and Lee 2014; Doherty et al. 2014; Santos and Eisenhardt 2009.

#### *Contested categories*

- Environmental context of organisations is an important determinant of success and an external antecedent of hybridity.  
- Hybrid micro-organisations in contested categories lack "socially familiar categorical type" and have "environmental deficiency".  
- Organisations in contested categories struggle to assess their potential for success due to limited institutional consent.

Battilana et al. 2017; Dobrev and Gotsopoulos 2010; Kotey and Meredith 1997; Rogoff, Lee, and Suh 2004; Ruffo et al. 2018; Wang, Thornhill, and Castro 2017.

**Table 2**

Profile of establishments and respondents

	Founding year	Legal form	Number of employees (full-time)	Number of clients in 2014	Sales in 2014 (in '000 €)	Educational background (non-related with CAM)	Educational background (related with CAM)	Years of professional experience (in CAM therapies)	Age	Role
<i>Alpha 1</i>	1995	Limited Company	3	100-250	≥100	Physiotherapy	Osteopathy	12	36-40	Founder/Manager/Therapist
<i>Alpha 2</i>	2004	Sole Proprietors hip	1	50-100	10-35	Sociology	Reiki; Coaching	11	>55	Founder/Manager/Therapist
<i>Alpha 3</i>	2008	Public Limited Company	3	750-1000	75-100	Public Relation and Advertising	Ayurvedic Medicine; Yoga	11	36-40	Founder/Manager/Therapist
<i>Alpha 4</i>	2012	Limited Company	2	100-250	75-100	Business Administration	Iridology	12	>55	Founder/Manager/Therapist
<i>Alpha 5</i>	2014	Limited Company	1	50-100	10-35	Nuclear Medicine	Chinese Medicine	10	36-40	Founder/Manager/Therapist
<i>Alpha 6</i>	2011	Limited Company	2	100-250	75-100	Communication Sciences	Phytotherapy	10	36-40	Founder/Manager/Therapist
<i>Alpha 7</i>	2010	Sole Proprietors hip	2	50-100	10-35	Psychotherapy	Reiki, Yoga	10	30-35	Founder/Manager/Therapist

**Table 3**

Description of Fundamental Points of View (FPV)

<b>Indicator</b>	<b>Description</b>	<b>Criteria extracted from the cognitive map</b>
FPV 1 Training	addresses issues related to academic, scientific and technical qualifications of the human capital	technical training, scientific training
FPV 2 Professional Development	represents adequate professional experience, professional skills and know-how required from the human capital, as well as, their continuous professional development and training	professional experience, clinical monitoring, technical competence
FPV 3 Marketing	underlines the use of strategic (market research, and positioning) and tactical actions (product/service, communication, distribution and price) to market the organisation	market research, communication tools, such as digital marketing, word of mouth and participation in events
FPV 4 Management	comprises the skills of the managers, the financial conditions of the organisation, and the ethical and moral conduct of the leaders and their leadership capacity	marketing and management skills, leadership, ethical values
FPV 5 External Factors	external context related with social, political, economic, legal and competitive factors	economic factors, legal aspects.
FPV 6 Infra-Structures	addresses facilities and its physical surroundings	quality of the facilities, cleanliness and safety, facility access and parking facilities
FPV 7 Organisational Aspects	concerns the appropriateness of the human capital to the organisational needs and structure	front-office (people) with adequate training in the area, (staff's) multidisciplinary work

**Table 4**

Ranking of FPVs by overall attractiveness.

		FPV <sub>1</sub>	FPV <sub>2</sub>	FPV <sub>3</sub>	FPV <sub>4</sub>	FPV <sub>5</sub>	FPV <sub>6</sub>	FPV <sub>7</sub>	Total	Ranking
Training	<b>FPV<sub>1</sub></b>		0	1	1	1	1	1	5	<b>2</b>
Professional Development	<b>FPV<sub>2</sub></b>	1		1	1	1	1	1	6	<b>1</b>
Marketing	<b>FPV<sub>3</sub></b>	0	0		0	1	1	1	3	<b>4</b>
Management	<b>FPV<sub>4</sub></b>	0	0	1		1	1	1	4	<b>3</b>
External Factors	<b>FPV<sub>5</sub></b>	0	0	0	0		0	0	0	<b>7</b>
Infrastructures	<b>FPV<sub>6</sub></b>	0	0	0	0	1		0	1	<b>6</b>
Organisational Aspects	<b>FPV<sub>7</sub></b>	0	0	0	0	1	1		2	<b>5</b>

**Table 5**

Partial performance revealed by the Alphas (each CAM organisation).

<b>Options</b>	<b>FVP1</b>	<b>FVP2</b>	<b>FVP3</b>	<b>FVP4</b>	<b>FVP5</b>	<b>FVP6</b>	<b>FVP7</b>
<b>Alpha 1</b>	Good	L2	Good	Neutral	Good	Good	Good
<b>Alpha 2</b>	L1	L1	L2	Neutral	L4	L1	Good
<b>Alpha 3</b>	Good	Neutral	Neutral	L4	Neutral	Good	Good
<b>Alpha 4</b>	Good	L2	Good	Good	Neutral	L1	Good
<b>Alpha 5</b>	L1	L1	Good	Neutral	L4	Good	Good

**Table 6**

Overall and partial scores revealed by the Alphas (each CAM organisation).

<b>Options</b>	<b>Overall</b>	<b>FVP1</b>	<b>FVP2</b>	<b>FVP3</b>	<b>FVP4</b>	<b>FVP0</b>	<b>FV6</b>	<b>F07</b>
<b>Alpha 2</b>	155.57	166.67	300.00	166.67	0.00	-150.00	175.00	100.00
<b>Alpha 5</b>	139.58	166.67	300.00	100.00	0.00	-150.00	100.00	100.00
<b>Alpha 4</b>	138.40	100.00	250.00	100.00	100.00	0.00	175.00	100.00
<b>Alpha 1</b>	115.67	100.00	250.00	100.00	0.00	100.00	100.00	100.00
<b>Good</b>	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
<b>Alpha 3</b>	1.01	100.00	0.00	0.00	-200.00	0.00	100.00	100.00
<b>Neutral</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Weights:</b>		0.2222	0.2324	0.1717	0.1919	0.0101	0.0606	0.1111

**Table 7**

Perceptions of the panel members regarding the potential practical adoption of the proposed framework.

<b>Design</b>		<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b>Mode</b>	<b>Standard Deviation</b>
Cognitive maps and MACBETH are helpful in identifying appropriate success drivers and grouping them in a way that makes them easier to be understood.		3.0	5.0	4.2	5.0	0.7
Cognitive maps and MACBETH increase consensus, ownership and commitment among the participants involved in the assessment process of CAM success.		3.0	5.0	4.6	5.0	0.8
Overall, cognitive mapping and MACBETH can be valuable to design assessment mechanisms reflecting the strategic priorities of CAM organisations.		4.0	5.0	4.2	4.0	0.4
<b>Measurement</b>						
Cognitive mapping and MACBETH increase the understanding of how each CAM organisations. performs against each FPV and what its overall performance is.		3.0	5.0	4.2	5.0	0.7
The evaluation system developed is quick to implement and adds transparency to the evaluation of CAM organisations. making it easier to justify to others why a particular level of performance is observed.		3.0	5.0	4.4	5.0	0.8
Overall, the assessment framework developed using cognitive mapping and MACBETH assists CAM managers in gaining a greater understanding of success drivers.		3.0	5.0	4.4	5.0	0.8
<b>Analysis</b>						
The proposed framework is very valuable in assisting CAM managers to gain an improved understanding about their success drivers.		3.0	5.0	4.0	4.0	0.7
<b>Improvement</b>						
The evaluation mechanism created assists CAM managers test the impact of their decisions and identify corrective actions consistent with their objectives.		3.0	5.0	4.2	5.0	0.7
<b>Comparative Evaluation</b>						
Understanding, Transparency and Functionally	Existing Practices	2.0	3.0	2.4	2.0	0.5
	Proposed System	3.0	5.0	4.2	5.0	0.7
Time Spent and Practical Use	Existing Practices	2.0	3.0	2.8	3.0	0.4
	Proposed System	3.0	5.0	4.0	4.0	0.6
Robustness of the Results	Existing Practices	2.0	3.0	2.4	2.0	0.5
	Proposed System	3.0	5.0	4.0	4.0	0.6
Overall Assessment	Existing Practices	2.0	3.0	2.8	3.0	0.4
	Proposed System	3.0	5.0	4.2	5.0	0.7