



# Innovation and profit motivations for social entrepreneurship: A fuzzy-set analysis

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## ABSTRACT

The literature on the motivation for social entrepreneurship focuses mainly on prosocial attitude. Very little research has been undertaken to understand the innovation and profit elements of social entrepreneurship. This study performs a conjoint experiment to reveal the importance of these three elements as motivators for social entrepreneurship, and then employs fuzzy-set qualitative comparative analysis (fsQCA) to identify configurations of motives, self-efficacies, and personal conditions that culminate in social entrepreneurial intention (SEI). Our results reveal asymmetric relationships between SEI and prosocial attitude, innovation attitude, and entrepreneurial self-efficacy, while profit motivation may be either high or low for SEI.

## 1. Introduction

The three “main pillars” of the social entrepreneurship literature are prosocial motivation, innovation, and profit-making (Lepoutre, Justo, Terjesen, & Bosma, 2013; Newbert & Hill, 2014). Prosocial motivation has captured the greater part of scholarly attention (see, e.g. Austin, Stevenson, & Wei-Skillern, 2006; Bacq & Alt, 2018; Choi & Majumdar, 2014; Dacin, Dacin, & Tracey, 2011; Dees, 1998, 2017; Kickul & Lyons, 2016; Littlewood & Holt, 2018; Mair & Marti, 2006; Peredo & McLean, 2006), while relatively little attention has been paid to the profit-making and innovation motivations of social entrepreneurs (Miller, Grimes, McMullen, & Vogus, 2012; Newbert & Hill, 2014; Short, Moss, & Lumpkin, 2009). Regarding profit motivation, scholars have argued whether or not social entrepreneurs do or should make profit (Bacq & Eddleston, 2018; Battilana & Lee, 2014; De Drue & Nauta, 2009; Haigh, Walker, Bacq, & Kickul, 2015; Lumpkin, Moss, Gras, Kato, & Amezcua, 2013; Renko, 2013; Santos, Pache, & Birkholz, 2015; Zahra, Gedajlovic, Neubaum, & Shulman, 2009). Regarding innovation, some social entrepreneurs are demonstrably innovative (Defourny & Nyssens, 2010; Phillips, Lee, Ghobadian, O'Regan, & James, 2015; Seelos & Mair, 2005; Williams & Nadin, 2011), while others exhibit little or no innovativeness (Newbert & Hill, 2014; Shane, Locke, & Collins, 2003; Zahra et al., 2009). This diversity of profit and innovation outcomes indicates that some social entrepreneurs are more strongly motivated to pursue profit and/or innovation outcomes than are others, yet there are few theoretical or empirical studies of this phenomenon.

Miller et al. (2012), Newbert and Hill (2014), and Liñán and Fayolle

(2015) note that the motivation to become a social entrepreneur (apart from prosocial motivation) has received very little attention from scholars. These authors call for more theory-based research on innovativeness among social entrepreneurs, and others have noted the great diversity of social entrepreneurship and called for greater theory development for social entrepreneurship, and/or the integration of social entrepreneurship into a broader model of entrepreneurship that allows for both prosocial motivation, profit motivation, and innovation (see, e.g., Austin et al., 2006; Bacq & Janssen, 2011; Chell, 2007; Dacin, Dacin, & Matear, 2010; Dacin et al., 2011; Fauchart & Gruber, 2011; Martin & Osberg, 2007; Shepherd, 2015; Short et al., 2009; Zahra et al., 2009).

This paper responds to these calls for further research that jointly considers all three main pillars of social entrepreneurship. We focus on social entrepreneurship intention, and seek to understand the role of prosocial, profit, and innovation motivations in the individual's decision to become a social entrepreneur. We adhere to the “holistic” theory of individual decision-making (Magnusson & Torestad, 1993) whereby decisions are made introspectively by considering the “within-person” relationships between and among the personal and contextual factors that interdependently operate to cause people to choose a particular action. Social entrepreneurs are heterogeneous (Martin & Osberg, 2007; Shane & Venkataraman, 2000), and may choose social entrepreneurship for different combinations of reasons. Yet prior research has relied heavily on symmetrical correlational methods to provide only general information about the drivers of social entrepreneurship at the aggregate (sample) level, producing a single dominant “net effects” model

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of the drivers of social entrepreneurship.

A holistic analysis requires a case-based approach to reveal the differences among individuals. A case-based method that aligns with the holistic theory of individual decision-making is fuzzy-set Qualitative Comparative Analysis (fsQCA) (Fiss, 2011; Greckhamer, Furnari, Fiss, & Aguilera, 2018; Muñoz & Dimov, 2015; Ragin, 1987, 2000, 2008; Woodside, 2013; Woodside, Nagy, & Megehee, 2018). FsQCA is an inductive, iterative method that reveals patterns in the data at the case level that tend to be obscured by symmetric methods. This method requires neither data symmetry nor relationship symmetry, both of which may be absent in entrepreneurial situations. FsQCA also investigates the potential interdependency of all antecedent conditions, rather than a limited number of two and three-way interactions. Thus, fsQCA provides a complementary way to examine data that resonates with the holistic decision-making process and reveals additional fine-grained information about the formation of social entrepreneurial intention at the individual level.

Our theoretical lens is the theory of planned behaviour (TPB – Ajzen & Fishbein, 1970) which argues that the best predictor of planned behaviour is the intention to undertake that behaviour. Underlying the formation of the intention is an introspective assessment by the individual of the perceived desirability and perceived feasibility of the act (Ajzen, 1991; Krueger, Reilly, & Carsrud, 2000; Shapero & Sokol, 1982). The perceived *desirability* of entrepreneurial action depends on the individual's attitudes towards the expected outcomes of the entrepreneurial activity, while the perceived *feasibility* of an entrepreneurial action is parsimoniously captured by the individual's entrepreneurial self-efficacy (ESE), which is the self-belief that they can successfully complete the tasks required (Bandura, 1982; Boyd & Vozikis, 1994). The TPB has been used extensively in the entrepreneurship literature (e.g. Kautonen, Gelderen, & Fink, 2015; Schlaegel & Koenig, 2014).

Accordingly, the objective of this research is to examine how the individual's attitudes to prosocial, profit, and innovation outcomes, and their ESE and personal conditions, combine to form social-entrepreneurship intention. Attitudes are measured via a conjoint experiment, and expectancy-valence theory (Vroom, 1964) is applied to generate utility part-worths that can be summed to find the expected utility of the behaviour (see, e.g. Douglas, 2013; Steel & König, 2006), which is representative of the perceived desirability of the behaviour. For perceived feasibility we utilize a measure of ESE that considers separate areas of management competency (McGee, Peterson, Mueller, & Sequeira, 2009).<sup>1</sup>

This paper will make several contributions to the social entrepreneurship literature. Methodological contributions include the conjoint experiment to identify revealed (rather than espoused) attitudes, thus minimizing social desirability bias, and the use of fsQCA to reveal multiple pathways to social entrepreneurship intention (SEI) and expose asymmetric relationships between SEI and some of its antecedents. Theoretical contributions include integrating the motivations for profit and innovation (alongside prosocial motivation) into the theory of social entrepreneurship, and demonstrating differential impact of three sub-areas of management on SEI.

In the following, we first present theoretical support for the conditions to be included in the configural model. Next, we discuss our method, sample, and data collection, including the conjoint experiment, and development of our SEI scale. The fourth section describes the analytical procedures and provides results of both fsQCA and regression analyses. Then we compare and discuss these results and the

<sup>1</sup> Following Krueger et al. (2000) we incorporate the 'subjective norms' antecedent of planned behaviour into the perceived desirability of the behaviour, on the basis that complying with (or violating) social norms will either increase or decrease the expected satisfaction from (i.e. perceived desirability of) the focal behaviour.

implications for theory that are identified by the fsQCA. Finally, we summarize our contributions, and note implications for policy, education, and further research.

## 2. Literature review

### 2.1. Prosocial orientation and social entrepreneurship intentions

Although the social entrepreneur's primary purpose (*qua* entrepreneur) is to improve the wellbeing of others, social entrepreneurs can be expected (*qua* individual) to gain personal wellbeing from their generation of wellbeing for others (Andreoni, 1990; Austin et al., 2006; Bacq & Alt, 2018; Batson & Shaw, 1991; De Drue & Nauta, 2009; Mair & Marti, 2006). The importance to individuals of providing social benefits to others is known as their "prosocial attitude" which is a higher-level construct encompassing a variety of underlying attitudes and feelings such as altruism, empathy, moral judgement, caring, compassion, guilt, self-aggrandizement, self-esteem, status, and personal satisfaction (see, e.g., Austin et al., 2006; Bacq & Alt, 2018; Choi & Majumdar, 2014; Dacin et al., 2011; Dees, 1998; Mair & Marti, 2006; Miller et al., 2012; Peredo & McLean, 2006; Zahra et al., 2009).<sup>2</sup>

In the social entrepreneurship literature it seems almost axiomatic that social entrepreneurs will have a high positive attitude towards the provision of social benefits – implying that prosocial attitude is a necessary condition for the formation of SEI, and conversely, that a person without a prosocial attitude would not want to conduct social entrepreneurship. However, where the expected utility of a decision is the sum of the utility part-worths of the multiple outcomes of the decision, it is theoretically possible that an individual might choose social entrepreneurship for profit and innovation reasons alone – i.e. if the utility part-worths of these two outcomes are sufficiently large to make a social entrepreneurship opportunity more desirable in terms of total utility than any other commercial or social or employment opportunity. As noted by Douglas (2013: 638) "It is the sum of the part-worths that is determining, not any particular attitude, salient outcome, or part-worth, since that attitude, salient outcome, or part-worth might easily be outweighed by the combined effect of the others". With these possibilities in mind, it will be instructive to utilize fsQCA to test whether prosocial attitude is a necessary condition for the formation of SEI, or "unimportant", and whether configurations exist in which the "absence" of prosocial attitude is associated with SEI.<sup>3</sup>

### 2.2. Profit orientation and social entrepreneurship intention

Profit-seekers are generally considered to be "self-centered", seeking profit and psychic income (Gimeno, Folta, Cooper, & Woo, 1997) for their personal and family benefit, while social entrepreneurs are generally considered to be "other-centered," providing benefits to others external to the firm. (Austin et al., 2006; De Drue & Nauta, 2009). This is not to rule out profit seekers using or foregoing salary or profit income for charitable or social purposes, but in general we expect individuals with stronger prosocial motivation to be less desirous of monetary rewards, relative to those with weaker prosocial motivation,

<sup>2</sup> We follow Grant and Berry (2011), Branzei, Parker, Moroz, and Gamble (2018) and others to refer to "prosocial attitude" as a higher-level construct encompassing all the underlying cognitions, such as empathy (e.g. Bacq & Alt, 2018), or compassion (e.g. Miller et al., 2012), since our purpose is not to re-examine prosocial attitude but to examine its interdependence with the motives for profit-making and innovation as drivers of social entrepreneurial behaviour.

<sup>3</sup> Unimportant means that the antecedent condition may be high or low for different individuals characterized by a particular configuration, but is not consistently high or low for those individuals. Alternatively one may say that the configuration "does not care" about that condition. Absence, also referred to as negation, means that the condition is consistently very low (fully-out of the set) for the individuals represented by the configuration.

because higher salaries and profits tend to have an opportunity cost, namely the provision of greater social benefits (Campbell, Gulas, & Gruca, 1999).

The social entrepreneurship literature notes that while the primary purpose of social entrepreneurs is social benefit provision, they may seek profits as a secondary objective in order to provide incentives to invest in social ventures and to facilitate the growth of the social venture. These are commonly called “hybrid” social entrepreneurs (see, e.g., Battilana & Lee, 2014; Battilana, Sengul, Pache, & Model, 2015; Stevens, Moray, & Bruneel, 2015; Wry & York, 2017). We expect that hybrid social entrepreneurs will have a positive attitude to profit, notwithstanding their primarily-social purpose. Similarly other individuals within the sample may be expected to have positive attitudes to profit for their own holistic reasons, such as to pay off debt or save for retirement. Yet others may have no significant attitude to profit in this context due to their possession of sufficient personal wealth, their extreme empathy or altruism, or non-materialistic lifestyle.

Given that disparate attitudes to profit appear to exist in social entrepreneurship, it will be instructive to utilize fsQCA to test whether attitude to profit is a core or peripheral condition<sup>4</sup> for the formation of SEI in any configurations; or is “unimportant” in some configurations; or if the absence of attitude to profit is associated with SEI in some configurations.

### 2.3. Innovation orientation and social entrepreneurship intentions

The motivation to innovate is an important issue for social entrepreneurship (Phillips et al., 2015), because innovative new products and services, and/or innovative production and distribution processes, may be necessary to solve the “market failure” and “government failure” problems (Santos, 2012) that precipitate or allow social problems to persist. Innovation is a potential solution to the market and government failure problem when it provides a source of additional revenue and/or cost-savings. While innovation may be instrumental to the achievement of the prosocial outcomes, the achievement of successful innovation is also expected to be instrumental to the generation of psychic income for the social entrepreneur, arising due to self-satisfaction, self-esteem, and from recognition by others of one's social responsibility (Bacq & Alt, 2018).

Innovativeness is a continuous (not binary) variable, and the motive for innovation must be expected to vary across heterogeneous social entrepreneurs. Thus a social venture may be highly innovative, with innovation in many products, services, and/or business processes, or oppositely, highly conventional in product and processes, exhibiting little or no innovation (Eckhardt & Shane, 2003). We posit that intending social entrepreneurs will differ in the extent to which they prefer to include innovative elements in their business models. Some may see innovation merely as instrumental to achieving their prosocial and/or profit aspirations, and their preference for innovation per se might be relatively low or insignificant. For others, innovation may provide a source of pride, achievement, and the applause of others (Bacq & Alt, 2018). We note that innovation typically will entail risk exposure, since it requires venturing into the unknown where outcomes are difficult to predict. Social entrepreneurs subject to limited budgets may prefer to avoid the greater risk inherent in a more-innovative business model, since unexpected revenue reductions or cost increases could render the venture non-viable and cause them to fail in their primary mission to provide social benefits (Dacin et al., 2010; Weerawardena & Mort, 2006). In addition, if they rely on philanthropic or government funding sources, they may expect that losing the gamble

inherent in adopting an innovation will make them less likely to gain future funding.

Anticipating the probable variability in the strength of innovation motivation, it will be instructive to utilize fsQCA to test whether attitude to innovation is a core or peripheral condition for the formation of SEI in some or all configurations; whether attitude to innovation is unimportant in some configurations; and whether configurations exist where the absence of attitude to innovation is associated with SEI.

### 2.4. Entrepreneurial self-efficacy and social entrepreneurship intention

The theory of planned behaviour posits that both the perceived desirability of an action and the perceived feasibility of that action jointly determine the formation of entrepreneurial intention. Perceived feasibility stems from the self-perception of individuals that they can successfully complete the tasks associated with the contemplated behaviour. We expect intending social entrepreneurs to give forethought to their ability to successfully accomplish the tasks involved in a social entrepreneurship venture, both because they have an innate need for competence (Deci & Ryan, 1985, 2000) and because they will tend to practice “preventative self-regulation” (Brockner, Higgins, & Low, 2004; Fitzsimmons & Douglas, 2011) to avoid failing in their primary mission. “Self-efficacy” is a parsimonious and reliable measure of the individual's self-confidence that they can successfully accomplish the tasks in a specific domain (Bandura, 1982). Measures of entrepreneurial self-efficacy (ESE) specify a series of tasks that the entrepreneur is likely to encounter during the entrepreneurial process, and have been positively associated with entrepreneurial intentions in a variety of studies of commercial entrepreneurship (Boyd & Vozikis, 1994; Chen, Greene, & Crick, 1998; Liñán & Fayolle, 2015; McGee et al., 2009; Schlaegel & Koenig, 2014).

The tasks that are involved in managing a new venture will require people-management, marketing-management, and financial-management skills. We might expect individuals intending social entrepreneurship to foresee the need to be sufficiently competent in these management sub-domains, lest their lack of competency threaten the attainment of the social mission of the new venture. But maybe they do not foresee this, or discount it, instead assuming that they can get help when they need it from fellow team members, advisors, or external professionals, and so they proceed ahead towards social entrepreneurship driven by their prosocial attitude and passion to help needy people. Given that the possibility that a lack of confidence in management capabilities may be associated with SEI, it will be instructive to test whether ESE in particular management areas is a necessary condition; a core or peripheral condition; unimportant; or absent, in some or all configurations that culminate in SEI.

## 3. Methods

### 3.1. Sample and procedure

Our sample comprises members of the Australian public, aged between 18 and 70, who were listed in the database of a large marketing research company. This company maintains the contact details of what they attest is a representative sample of the Australian population. On our behalf they sent our on-line Qualtrix® survey only to people who did not currently own and operate an independent business or franchise. Respondents were thanked and exited from the survey if they answered in the negative to the screening question “Is it likely that you will want to start your own business (not a franchise outlet) sometime in the future?” Subsequently, respondents completing the survey were dropped from the analysis if they finished the conjoint experiment and the survey items within 5 min total elapsed time, which was deemed the absolute minimum time to allow considered responses; or if they were excessively inconsistent in their ratings of the conjoint scenarios presented (discussed below). In the final sample of 324 people who were

<sup>4</sup> Core conditions are more-consistently associated with the outcome, whereas peripheral conditions are less-consistently associated with the outcome, but nonetheless exhibit a consistency above the consistency cut-off level chosen by the researcher. See Fiss (2011).

retained for further data analysis, 45.67% were male, and their mean age was 35 years.

### 3.2. Measures

#### 3.2.1. Prosocial, profit, and innovation motivations

Particularly when investigating attitudes which may provoke social desirability bias, it is important to ascertain revealed rather than espoused attitudes (Shepherd & Zacharakis, 1999), and this can be achieved by a conjoint experiment. We follow the approach outlined in Douglas (2013), who utilized conjoint analysis to reveal the attitudes of intending commercial entrepreneurs. Respondents were presented with a series of scenarios describing new venture situations in which three outcomes of social entrepreneurship (namely social benefit, profit, and innovation outcomes) were set variously at “high” or “low” levels in  $2^3 = 8$  different hypothetical scenarios. Each scenario was repeated once in the experiment (not in the same order and using a different code name) to allow a check for consistency across pairs of scenarios. Respondents were asked to rate the desirability of each scenario on a 7-point scale where 1 indicates “not at all desirable” and 7 indicates “highly desirable”. To derive a measure of the attitudes to these three outcomes for each respondent, regressions were run with the dependent variable being the attractiveness score (1–7) on each scenario, and the independent variables being dummy variables set to 1 for “high” outcomes and 0 for “low” outcomes for each of the three outcome variables. For each respondent, the coefficients to the dummy variable representing the “high” outcome provides an estimate of the utility part-worth for (and hence the attitude towards having more of) each of prosocial, profit, and innovation outcomes. At this point, respondents with  $R^2 < 0.5$  for their individual regression equation were deemed insufficiently reliable<sup>5</sup> and were dropped from the analysis, leaving  $n = 324$ .

#### 3.2.2. Entrepreneurial self-efficacy

ESE was measured using the 19-item scale proposed by McGee et al. (2009). That study found five main skill areas perceived to be needed by entrepreneurs, namely searching, planning, marshalling resources, people management, and financial management, thereby providing finer-grained detail about constituent elements of ESE. In contrast to the five factors found by McGee et al., our data revealed only three factors with eigenvalues above or close to one. In effect, the searching, planning and marshalling activities collapsed into a factor that we identified as marketing skills (after deleting items with correlations  $< 0.4$ ).<sup>6</sup> As shown in Table 1, these factors were identified as relating to human resource management skills, marketing management skills, and financial management skills, with Cronbach alphas of 0.85, 0.81, and 0.78 respectively, after elimination of items that cross-loaded excessively ( $> 0.4$ ). The average factor scores for each sub-construct were used to measure the individuals' ESE for each of these management subtasks in the subsequent analysis.

#### 3.2.3. Social entrepreneurship intention

While several scales have been developed to measure commercial entrepreneurial intention (e.g. Lee, Wong, Foo, & Leung, 2011; Liñán &

<sup>5</sup> Conjoint analysis allows researchers to identify respondents whose responses are insufficiently reliable, since (e.g.) a scenario where all three desirable outcomes are set as high should logically be rated more highly than another scenario where the three settings are high, high, and low. Perfect consistency is not expected, due to possible intransitivity and the interdependence of the attitudes, but unreliable responses are surely indicated by a relatively low proportion of the variance explained by the regression equation. Accordingly, those with  $R^2 < 0.5$  were deemed to have provided insufficiently consistent responses.

<sup>6</sup> We note that earlier testing of this scale on MBA student samples had similarly returned only three factors with acceptable properties.

Chen, 2009; Thompson, 2009) it would be inappropriate to use those in this study of SEI. Douglas (2013) argued that a single entrepreneurial intention construct obscures interesting information given the heterogeneity on both sides of the individual-opportunity nexus, and developed scales to measure both growth-oriented and independence-oriented entrepreneurial intention, which were found empirically to be separate and distinct constructs. Given that the primary purpose of social entrepreneurship is to provide social benefits (rather than to gain private benefits), it is logical that SEI would also be a separate and distinct construct from the above two. As confirmed by Liñán and Fayolle (2015), prior measures of SEI are very few. Mair and Noboa (2006) proposed a scale which reflects the theory of planned behaviour, with items for empathy, moral obligation, social entrepreneurial self-efficacy, and perceived availability of social support. The first two constructs effectively measure the perceived desirability of the behaviour, and the latter two effectively measure the perceived feasibility of the behaviour. Hockerts (2015) developed and validated 5-item scales for each of these constructs, and recently (2017) added prior experience with social problems as a determinant of SEI. These scales are not suitable for this study due to endogeneity issues associated with having perceived desirability and feasibility measures on both sides of the causal relationship.

Given the lack of a suitable pre-existing scale for SEI, we drew upon existing scales and the relevant literature and developed a new scale to measure social entrepreneurial intentions.<sup>7</sup> An expert panel comprising fellow researchers and doctoral students created an initial list of 40+ items which was winnowed through several iterations to yield 8 items expected to be associated with SEI. These items were then interspersed within a 32-item “self-employment” survey (which also included 8 items each for profit-oriented and independence-oriented new ventures, from Douglas, 2013, and 8 items referring to the purchase of a franchise). These “non-social” items served to disguise the specific (SEI) purpose of the questionnaire and thereby reduce social desirability bias. The 32-item survey was tested on 180 undergraduate business students who were asked “How likely is it that you would want to start and manage a new business venture that allowed you to” (e.g.) “solve social & economic problems that cause others to suffer”. Respondents rated the 32 items on a 7-point scale where “1” represents “extremely unlikely” and “7” represents “extremely likely”. Items were discarded for low correlations ( $r < 0.4$ ) with other items in the same construct, or for high correlations ( $r > 0.4$ ) with items for a different construct, leaving seven items for the SEI construct and five items for each of the other three constructs.

The revised 22 item survey was then tested on a sample of 107 MBA and Master of Business students. Principal components analysis with oblique rotation resulted in only three factors with eigenvalues above 1.0 (together explaining 87.2% of the variance), in contrast to the four factors expected. A forced four-factor solution revealed that many of the franchise-intention items cross-loaded excessively, so all franchise items were deleted from the analysis. The recalculated three-factor solution led to the elimination of 2 items and identified reliable factors corresponding to social, independence, and growth intentions. The remaining 15 items in each of the three scales were subsequently employed in the online survey of the general public, and the factor loadings for this sample are as shown in Table 2. The sum of the scores on the five items for SEI was subsequently used as the dependent variable in the regression analysis and for the focal outcome in the fsQCA.

<sup>7</sup> Bacq and Alt (2018) more recently provide a comprehensive SEI scale, but we were unaware of their scale at the time of data collection and had by then chosen to develop and use a new scale for SEI. Carraher, Welsh, and Svilokos (2016) test an 11-item scale for social entrepreneurship that seeks to measure the cognitions of existing social entrepreneurs, rather than SEI.



**Table 1**

Factor loadings for ESE dimensions.

Source: Scale items taken from McGee et al. (2009).

Item	How confident are you that you could successfully:	ESE-people	ESE-marketing	ESE-finance
4	Recruit and hire employees?	0.69		
6	Supervise employees?	0.75		
3	Delegate tasks and responsibilities to employees in my business?	0.62		
13	Train employees?	0.73		
2	Estimate customer demand for a new product or service?		0.57	
3	Design an effective marketing/advertising campaign for a new product or service?		0.60	
1	Brainstorm (come up with) a new idea for a product or service?		0.61	
17	Identify the need for a new product or service?		0.70	
5	Manage the financial assets of my business?			0.62
9	Read and interpret financial statements?			0.71
14	Organize and maintain the financial records of my business?			0.70
	Cronbach's alpha	0.84	0.79	0.78

**Table 2**

Factor loadings for different entrepreneurial intentions (EI).

Please rate how likely it is that you would want to start a new venture that would allow you to:	Social-purpose EI	Psychic-income EI	Profit-seeking EI
1. Pursue a high-risk opportunity that has the possibility of very high profits			0.55 <sup>a</sup>
4. Grow the firm to be very large and profitable			0.75
7. Pursue profit maximisation above all other objectives			0.74
11. Become a major, globally-recognised corporation			0.71
15. Generate high profits over many years			0.74
2. Locate the business at a place that suits your personal preferences		0.66	
5. Enjoy the lifestyle and benefits of an independent business owner		0.61	
9. Create a business around your personal hobbies or special interests		0.65	
13. Have great flexibility to decide your work hours, your product lines, and so on		0.77	
14. Be your own boss and make all the important decisions yourself		0.77	
3. Gain great satisfaction because you are helping others who are in need	0.62		
6. Solve social and economic problems that cause others to suffer	0.74		
8. Help poor people get enough food, clothing, shelter, and medical assistance	0.85		
10. Serve as a volunteer to help people who have social and/or economic problems	0.78		
12. Help underprivileged people achieve what they are unable to achieve on their own	0.85		
Cronbach's $\alpha$	0.90	0.86	0.85

<sup>a</sup> SEI scale developed for this study. Psychic-income and profit-seeking scales based on Douglas (2013).

### 3.3. Data analysis

The study employs fsQCA to analyse the aforementioned antecedent conditions explaining social entrepreneurial intentions. The fsQCA method can now be regarded as well documented (see, e.g. Fiss, 2011; Misangyi et al., 2017; Prentice & Loureiro, 2017; Ragin, 2008; Woodside, 2013, 2014) and Greckhamer et al. (2018) have recently published a “best practice” guide to its application. The fsQCA method has recently been used in the entrepreneurship context (Beynon, Jones, & Pickernell, 2016; Devece, Peris-Ortiz, & Rueda-Armengot, 2016; Muñoz & Dimov, 2015; Muñoz & Kibler, 2016; Obschonka, Schmitt-Rodermund, Silbereisen, Gosling, & Potter, 2013), but not to our knowledge in the social entrepreneurship literature.

The first step in fsQCA is to choose the antecedent conditions to be included in the configural model. Greckhamer et al. (2018) stress that all conditions included in the model should have a theoretical or strong empirical rationale for being included, since although fsQCA is an inductive, iterative method, it is not a “fishing expedition” (Gelman & Loken, 2014). We have argued earlier that the perceived desirability and feasibility conditions are well-justified theoretically, and have been found empirically at the sample level as potential determinants of SEI. The socio-demographic variables are less-well supported theoretically and empirically as determinants of SEI (see Liñán & Fayolle, 2015). To confirm this, we performed regression analysis to examine the respective effects of these variables. Only sex and age were significantly related to social entrepreneurial intention (see Table 6). Hence, these two variables were included in the subsequent fsQCA analysis.

The next step of fsQCA is to calibrate the data, which we did in accordance with the procedure described by Ragin (2008). The

calibrated scores are representative of truth values to a statement rather than of probabilities in conventional regression analysis. According to Ragin (2008), the researchers must draw upon extant theories and external information to set appropriate anchor points for calibration and assess the degree of membership of each variable. In general, the fuzzy-set scores for antecedent conditions range from 0.00 to 1.00, with 0.00 for full non-membership and 1 (in most cases, 0.95) for full membership. The mid-point 0.50 is treated as the crossover point of membership ambiguity. Table 3 shows the data statistics and calibration cut-off points chosen.

The consistency cut-off was set at 0.80; the proportionate reduction of inconsistency (PRI) cut-off was set at 0.65 (Greckhamer, 2016); and the frequency cut-off was set at 2 cases per configuration, thereby retaining > 80% of total cases, as recommended by Ragin (2008). We also ensured that the solution as a whole exceeded the 0.80 consistency level.

## 4. Results

We first conducted necessity analysis, which revealed that all causal conditions showed < 0.85 consistency, which is below the 0.90 threshold deemed to establish the existence of a necessary condition (Schneider, 2018). Thus we find that the common presumption that prosocial attitude would be a necessary condition for SEI is not supported in our data. Subsequently, sufficiency analysis resulted in 9 configurations for SEI with solution coverage of 0.84. They account for 40% of the individuals in the sample (i.e. overall coverage is 0.40), implying that the remaining individuals exhibited a variety of less-consistent configurations. These nine high-consistency configurations

**Table 3**  
Data statistics and calibration cut-offs.

Variable	Min	Max	Mean	S.D.	Median	Fully in	Max ambig	Fully out
SEI	1.00	7.00	4.75	1.22	4.80	5.80	4.8	4.00
UPWsocial	−0.87	0.98	0.41	0.28	0.41	0.68	0.41	0.18
UPWprofit	−0.78	1.00	0.67	0.28	0.75	0.90	0.75	0.48
UPWinnov	−0.75	0.96	0.25	0.24	0.25	0.45	0.25	0.07
ESEhrm	1.25	5.00	4.03	0.67	4.00	4.75	4.00	3.50
ESEmktg	1.00	5.00	3.78	0.63	3.75	4.25	3.75	3.25
ESEfinance	1.00	5.00	3.86	0.71	4.00	4.33	4.00	3.33
Age	18.00	69.00	35.01	12.25	32.00	47.00	32	23.00
Male	0.00	1.00	0.46	0.50	0.00	1.00	0.50	0.00
Married	0.00	1.00	0.63	0.48	1.00	1.00	0.50	0.00
Family business	0.00	1.00	0.50	0.50	1.00	1.00	0.50	0.00
Prior self empl'd	0.00	1.00	0.27	0.44	0.00	1.00	0.50	0.00
Education level	1.00	5.00	3.39	1.04	3.00	4.00	3.00	2.00

**Table 4**  
Configurations for social entrepreneurship intention.

Recipe	1	2	3	4	5	6	7	8	9
Male	●	●	⊗	⊗	●	●	⊗	⊗	⊗
Age (older)		⊗	⊗	●	⊗	●	●	●	●
UPWsocial	●	●	●	●	⊗	●	⊗	●	●
UPWprofit									
UPWinnovation	●	●	●	⊗	●	⊗	⊗	●	●
ESEhrm	●	●	●	●	●	●	●	●	⊗
ESEmkt	⊗		●	●	●	●	●	●	●
ESEfinance	⊗	⊗	●	●	●	●	●	●	●
Consistency	0.85	0.83	0.91	0.86	0.90	0.88	0.88	0.91	0.90
Unique coverage	0.01	0.01	0.01	0.03	0.01	0.02	0.01	0.01	0.01
Raw coverage	0.14	0.14	0.20	0.11	0.10	0.12	0.09	0.10	0.09
Overall consistency	0.84								
Overall coverage	0.40								

Note that full black circles (●) indicate the presence of a condition, and open circles (⊗) indicate its absence. Large circles suggest “core,” or central conditions, whereas small circles indicate “peripheral”, or contributing conditions (Fiss, 2011). Blank spaces indicate the condition is unimportant for that particular configuration.

are shown in Table 4 and will be discussed subsequently.

A regression analysis was performed to provide a reference point for the additional information that fsQCA derived from this data. Regression analysis finds the unique variance explained by antecedent conditions, and indicates how these conditions relate to the outcome of SEI at the aggregate level. The regression coefficients indicate the average relationships between each discrete independent variable and SEI, and provide a sample-wide summary of the determinants of SEI, while subsuming individual relationships between the variables. We first regressed SEI against the control variables alone, which were chosen on the basis of prior studies revealing correlation with entrepreneurial intention at the sample level (see, e.g. Liñán & Fayolle, 2015; Shane, 2003). We found age to be negatively and highly-significantly associated with SEI, indicating that, other things being equal, younger people are more likely to form SEI than older people, on average. We also found that being male is negatively and significantly related to SEI, supporting the findings of Hockerts (2017) and Ernst (2018) that females are more likely to participate in social entrepreneurship, possibly due to socially-conditioned feminine traits (Ahl, 2006; Bem, 1981; Gupta, Turban, Wasti, & Sikdar, 2009), such as understanding, caring, and compassion, that are integral to the practice of social entrepreneurship. No other control variables were significant at the sample level. Data correlations are shown in Table 5.

Adding the remaining explanatory variables into the regression model revealed that prosocial attitude (UPWsocial) is positively and highly-significantly related to SEI, evidencing the universal expectation that, in general, social entrepreneurs exhibit compassion, empathy, and

other cognitions that seem inherent in the practice of social entrepreneurship (Bacq & Alt, 2018; Miller et al., 2012). Attitude to profit (UPWprofit) is found to be negatively and marginally-significantly related to SEI, on average, indicating that while some social entrepreneurs may prefer profits, the dominant net effect is the opposite. Attitude to innovation (UPWinnov) is not significantly related to SEI, indicating that in general those intending social entrepreneurship do not prefer to be innovative. Regarding the ESE sub-constructs, ESE for people-management skills, and ESE for marketing-management skills are both positively and significantly related to SEI, but ESE for financial-management skills are not significantly related to SEI. Again, these are the dominant net effects and do not preclude some respondents having the opposite sign for these self-efficacies. The age and sex variables retained significance in the full model, apparently indicating that younger females, on average, exhibit greater empathy for the disadvantaged (Bacq & Alt, 2018). Together these control, attitude, and ESE variables jointly explain (adjusted R<sup>2</sup>) 20.37% of the variation in SEI, using only direct effects. The direct effects and their significance levels are shown in Table 6.

A series of interactions (moderating effects) were also explored in the regression analysis. The inclusion of ‘Age × prosocial attitude’ (and the exclusion of the highly-correlated [r > 0.7] prosocial attitude) allowed R<sup>2</sup> = 0.22. The inclusion of ‘Age × profit attitude’ (and the exclusion of profit attitude) allowed R<sup>2</sup> = 0.21. The inclusion of ‘ESEpeople × ESEmarketing’ (and the exclusion of both ESEpeople and ESEmarketing) allowed R<sup>2</sup> = 0.21. The inclusion of ‘Age × prosocial attitude’ and ‘Age × profit attitude’ and ‘ESEpeople × ESEmarketing’ (and the exclusion of prosocial attitude, profit attitude, ESEpeople, and ESEmarketing) allowed R<sup>2</sup> = 0.23. These interaction results are treated as an aside here, for three main reasons. First, they result from exploratory data analysis; second, they are sample-wide averages, implying nothing for specific individuals; and third, the fsQCA method examines all possible interactions in the data set, and identifies which of these are found within the sample at higher levels of consistency.

## 5. Discussion

The study employs fsQCA to demonstrate that prosocial, profit, and innovation attitudes, and ESE in three management sub-areas, plus age and sex, form nine different configurations to explain social entrepreneurship intention (SEI). Multiple regression analysis revealed that SEI is explained at the sample level by all the proposed antecedents except ESE-finance and UPW-innovation (and four other socio-demographic variables). Yet ESE-finance and UPW-innovation emerge in six out of the nine recipes provided by the fsQCA. This discrepancy highlights the advantage of using fsQCA to complement regression analysis of SEI. Detailed discussion of the findings follows.

**Table 5**  
Correlations among study variables.

	SEI	UPW social	UPW profit	UPW innov	ESE people	ESE mktg	ESE finance
SEI	–						
UPWsocial	0.31						
UPWprofit	–0.25	–0.48					
UPWinnov	0.11	0.14	–0.25				
ESEpeople	0.28	0.02	–0.02	0.08			
ESEmktg	0.23	0.03	–0.06	0.07	0.50		
ESEfinance	0.07	–0.02	0.07	–0.04	0.33	0.35	–

**Table 6**  
Regression models for SEI.

Variables	Model 1	Model 2
Age	–0.02***	–0.02***
Male	–0.37***	–0.26**
Married	0.03	0.08
Fam.Bus.background	–0.12	–0.10
Prior Self-employed	0.16	0.01
Education level	–0.10	–0.10
UPWsocial		0.92***
UPWprofit		–0.45*
UPWinnov		0.11
ESEpeople		0.37***
ESEmktg		0.24**
ESEfinance		0.03
Adj.R2	0.05	0.20
Δ Adj. R2	–	0.15
Probability	0.001	0.000

Notes:

- SEI = Social Entrepreneurial Intention;
- UPWsocial = Utility-part-worth for social benefits = Prosocial attitude;
- UPWprofit = Attitude to profit;
- UPWinnov = Attitude to innovation;
- ESEpeople = Self-efficacy re people management;
- ESEmktg = Self-efficacy re marketing management;
- ESEfinance = Self-efficacy re financial management.
- Significance levels: \*p < 0.1; \*\*p < 0.5; \*\*\*p < 0.01

5.1. Prosocial attitude and SEI

Prosocial attitude (UPWsocial) was found to be a core condition in three recipes, a peripheral condition in four recipes, and (surprisingly) was absent (i.e. present in negated form) in the remaining two recipes. An intending social entrepreneur *not* having a prosocial attitude runs contrary to the widespread expectation that all intending social entrepreneurs would have a relatively high prosocial attitude. But these exceptions can be explained by expectancy-valence theory (Vroom, 1964). The perceived desirability (i.e. total utility) of an action can be understood as the sum of the utility part-worths for social benefits, profit, and innovation, such that a weak UPW for prosocial behaviour, if accompanied by relatively strong UPWs for the profit and/or innovative outcomes, could make a particular social entrepreneurial opportunity the most desirable behavioural alternative for that individual, and this is indicated in two configurations. Table 4 reveals that the recipes where prosocial attitude is absent (recipes 5 and 7) also contain high innovation motivation (UPWinnov) as a peripheral condition and ESE in all three management areas as core or peripheral conditions. This implies that these individuals' self-confidence in management skills, and their motivation to innovate, underpins their intention to be a social entrepreneur, notwithstanding that they do not expect to derive utility from providing social benefits. For them, their expected total utility seems to depend more on achieving innovative outcomes and from managing competently, than it does on enjoying the social impact they can achieve. This accords with Bacq and Alt (2018) who posit that social entrepreneurs gain satisfaction from social-entrepreneurship-self-efficacy. In summary, fsQCA reveals that prosocial attitude is not a

necessary condition for social entrepreneurial intention, and moreover, that the absence of prosocial attitude may be found in some configurations that culminate in SEI. This empirical finding is the first to support the theoretical possibility that prosocial attitude is not necessary for SEI, and that the absence of prosocial motivation could nonetheless result in SEI. This repudiates the widespread presumption that prosocial attitude is invariably exhibited by social entrepreneurs, and provides new information for subsequent theory building and empirical studies in this field.

5.2. Profit orientation and SEI

Attitude to profit was found to be “unimportant” (i.e. “do not care”) in all of the nine configurations revealed by fsQCA, indicating that for these nine configurations, the attitude to profit score might be high, low, or intermediate for different individuals in the same configuration, but it is not a defining characteristic of that configuration.<sup>8</sup> We note that the regression results indicated that attitude to profit was marginally negatively associated with SEI at the sample level, using direct effects only, but when interactive variables were added (constrained by multi-collinearity concerns), attitude to profit became insignificant for SEI. The fsQCA method confirms that when considered conjuncturally with all other antecedent conditions (not just in 2- or 3-way interaction between a limited number of other discrete variables), attitude to profit is unimportant to SEI (in high-consistency configurations). Note that high profit motivation may well be causal for SEI for some individuals within each of these configurations but was not consistently exhibited across the individuals in any configuration. In summary, attitude to profit was not present in any of the nine configurations that culminate in SEI, indicating no evidence for a configuration representing hybrid-social entrepreneurs. Yet high profit motivation is doubtless exhibited by some individuals within each configuration, following the logic that underlies the unimportance of a condition in a configuration. Similarly, although the absence of profit attitude was not found in any configuration, a very low or negative attitude to profit may be important for some individuals within any of these nine configurations.

5.3. Innovation orientation and SEI

Attitude to innovation was not significantly associated with SEI in the regression model, but at the case level, fsQCA found it to be a core condition for one recipe, a peripheral condition for five other recipes, and to be absent (i.e. negated) for the remaining three recipes. So, although insignificant on average, attitude to innovation, or its absence, is important in each of the nine subgroups in conjunction with other conditions. The opportunity to act innovatively is perceived as desirable in two-thirds of the configurations, and conversely the absence of that opportunity is perceived as being desirable for the remaining one-third

<sup>8</sup>The fsQCA method operates such that if conditions A, B, and C inter-dependently cause the focal outcome, and A, B, and ~C (i.e. the absence of C) also cause the focal outcome, the configuration is stated parsimoniously as A and B cause the outcome, with the magnitude of C being unimportant to the focal outcome.

of the configurations. We can theorize that, for the six configurations where attitude to innovation is present, individuals see innovation as instrumental to the achievement of their social purpose, and thus personally gratifying, while for the remaining configurations individuals see innovation as risky (and thus not gratifying) and potentially threatening the achievement of their social purpose.

Our analysis may have indirectly revealed the respondents' attitudes to risk, as two of the three salient outcomes of entrepreneurship, namely profit and innovation, have adverse risk implications. If the individual is strongly averse to risk one would expect that person to have a lesser attitude to profit. Similarly, one would expect a strongly risk-averse individual to have a lesser positive (or negative) attitude to innovation. These interdependencies are likely to be manifested in the configurations revealed.

In summary, while regression analysis found no significant relationship between attitude to innovation and SEI at the sample level, fsQCA revealed that innovation motivation is asymmetrically related to SEI, such that at the sample level the configurations who prefer innovation effectively cancel out those who prefer its absence. This demonstrates that fsQCA is complementary to regression analysis, providing more-nuanced information about the determinants of SEI.

#### 5.4. Self-efficacy and SEI

In the regression analysis, marketing- and people-management self-efficacies (ESEmktg and ESEpeople) were significant, indicating the predominance of higher scores on these discrete variables correlating with higher scores on SEI. Oppositely, ESEfinance was not significantly associated with SEI at the sample level. But at the individual level of analysis, fsQCA reveals that ESEpeople was core in one recipe; peripheral in six recipes; absent in one; and unimportant in one, demonstrating not only the heterogeneity of the configurations that culminate in SEI but also the asymmetry of the relationship between ESEpeople and SEI. Thus, in 7 of 9 configurations self-perceived people-management skills supported the formation of SEI, while in one configuration, the absence of these skills supported the formation of SEI, and in one it was unimportant.

Similarly, ESEmktg was core in five configurations, peripheral in two, absent in one and unimportant in one. Again, although a predominant pattern emerges of ESEmktg being associated with SEI (as found by regression analysis) one configuration associates the absence of ESEmktg with SEI and in two others it is unimportant. Finally ESEfinance, while not statistically significant at the sample level, was core in three configurations; peripheral in three; absent in two, and unimportant in one. Again, an asymmetrical relationship between self-efficacy in a management area and SEI is revealed by the fsQCA. Thus, all the intending social entrepreneurs represented by the nine configurations felt confident about at least one, but more commonly all three, of the management skill sets.<sup>9</sup> Conversely, three configurations – recipes 1, 2 and 9 – include individuals who are *not* self-confident about at least one management skill area, yet intend to undertake social entrepreneurship notwithstanding that skill deficiency. This empirical result, identifying individuals who intend entrepreneurship despite low ESE, supports the finding by [Fitzsimmons and Douglas \(2011\)](#), in the context of commercial entrepreneurs, that high ESE is not necessary for the formation of entrepreneurial intentions.

We can theorize why some individuals would form SEI despite lacking confidence in their ability to successfully complete tasks in a particular management area. The “absence” of ESE in a skill area indicates a very low (fully out) score on that area, and that the individual

would probably prefer not to be managerially responsible for that area. Instead they would prefer that another member of the management team take care of that functional area. So, one possible reason for forming SEI despite a skill deficiency is that the individual expects that their weakness in a particular skill set can be complemented by a fellow manager's expertise in that skill set. Alternatively, and for single-person ventures, the intending social entrepreneur may expect to outsource that functional area to a professional and/or seek guidance from mentors.

#### 5.5. Demographics and SEI

The regression analysis indicated that being male was negatively related to SEI in the main-effects-only model, and indeed it remained negative when a series of interaction terms were introduced experimentally. Conversely, the fsQCA result demonstrates that being male was a core condition in three configurations, peripheral in one, and absent in the remaining five, which implies that being female was present in five of the nine configurations. Thus, as suggested by casual observation of social entrepreneurs, these results demonstrate that it is not a case of either/or, but a case of both males and females being desirous of, and feeling capable of, social entrepreneurship.<sup>10</sup> Again we see an asymmetrical relationship between SEI and one of its determinants.

In the regression analyses, age was negatively related to SEI, implying that older individuals are less likely than younger individuals to form SEI. At the individual level of analysis, however, fsQCA revealed that age (being older) was peripheral in five of the nine configurations, absent in three, and unimportant in the remaining one. Thus, both younger and older individuals form SEI when age is considered in conjunction with other antecedent variables, revealing an asymmetrical relationship between age and SEI. For example in recipe 3, being not older (i.e. younger) and female is core to SEI (in conjunction with self-efficacy in all three management skill sets), while in recipe 4, being an older female is core to SEI (in conjunction with core prosocial motivation, *not* innovation motivated, and core ESE-marketing). Similarly, recipes 2 and 6 contrast younger and older males.

## 6. Implications and conclusions

### 6.1. Theoretical implications

This paper makes the following theoretical and methodological contributions to the entrepreneurship literature. First, we respond to calls (e.g. by [Bacq & Alt, 2018](#); [Chell, 2007](#); [Dacin et al., 2010](#); [Dacin et al., 2011](#); [Hockerts, 2017](#); [Newbert & Hill, 2014](#), and others) for new theory building in the social entrepreneurship literature, by specifying a model that includes prosocial, profit, and innovation motivations to explain the diversity of profit and innovation outcomes in social entrepreneurship ([Martin & Osberg, 2007](#)). Innovation as a motivating factor, as distinct from its instrumental value for the generation of profit or prosocial outcomes, has not been previously integrated into the social entrepreneurship literature. The three-motives model argued here not only conforms to the three pillars of social entrepreneurship, but is also applicable to commercial entrepreneurs who wish to innovate, make profits, and serve a social purpose (practising corporate social responsibility). Thus we have contributed to theory building by suggesting a model that not only expands our understanding of the motivation for social entrepreneurship but also applies to both

<sup>9</sup> We note that ESEs are not necessarily validated in subsequent entrepreneurial action, and it may be that intending social entrepreneurs tend to be over-confident, as is evident with commercial entrepreneurs ([Forbes, 2005](#); [Hayward, Shepherd, & Griffin, 2006](#))

<sup>10</sup> We note that the male-female dichotomy glosses over individual cognitive differences relating to their socially-conditioned gender identities ([Ahl, 2006](#); [Gupta et al., 2009](#)). We expect that measures of masculine and feminine traits would result in a more nuanced explanation of the role of gender in explaining SEI.



primarily-social and primarily-commercial new ventures.

Our inclusion of profit and innovation motivation alongside prosocial motivation provides an explanation of why some social ventures are more innovative than others and why some are more profitable than others – we contend that these outcomes are driven by the preference structure and managerial self-efficacies of individual social entrepreneurs in conjunction with the ability of specific social ventures to supply the social, profit, and innovation outcomes that best suit the individual's preferences for these outcomes. We found no (high-consistency) configurations that represented the “hybrid” social entrepreneur, but given the “unimportance” of profit motivation in all configurations found, we know there must be at least some high-profit-motive entrepreneurs in at least some of the configurations exhibiting high prosocial motivation (or a negated result would be returned for profit motivation).

Interestingly, we found an asymmetrical relationship between SEI and every antecedent condition included in the configural model, in contrast to the supposition implicit in the prior literature that these relationships would be symmetrical (i.e. only positive or only negative). This asymmetry is also in violation of the symmetrical relationships assumed for regression analysis. The most surprising finding was that SEI does not necessarily require high prosocial attitude, despite the common presumption that it must. The finding that some people intending social entrepreneurship would have a “fully out” attitude to innovation also contradicts the general wisdom that social entrepreneurs would not be averse to innovation.<sup>11</sup> We also found that sex and age have asymmetrical relationships with SEI, as both male and female, and younger and older individuals, are found in different recipes for SEI, in contrast to the findings of symmetrical analyses which often find a net effect in favour of one sex or the other.

We found multiple pathways to social entrepreneurship, in contrast to the single dominant net-effects result of symmetrical analysis. Given the heterogeneity on both sides of the individual-opportunity nexus (Martin & Osberg, 2007; Shane & Venkataraman, 2000), and expectancy-valence theory (Vroom, 1964), this could mean that people with different attitudes, expectancies, and self-efficacies might choose the same type of social venture opportunity, and also that many different types of social ventures would be chosen by different people. These empirical results provide a theoretical rationale for the great diversity of social entrepreneurship, and a basis for further theory building in the social entrepreneurship domain.

As a methodological contribution we introduce fsQCA, an analytical method that is congruent with the holistic theory of individual decision making, into the social entrepreneurship literature, which made possible most of the above theoretical contributions. Prior empirical testing implicitly assumes that individuals conform to a single dominant “net effects” explanation of the phenomenon, and that any non-conformance is due to random deviations. FsQCA considers the within-person (rather than the within-sample) relationships among the data, and the conjunctural interdependence of the antecedent conditions at the case level, rather than the correlations between discrete variables at the aggregate level. FsQCA does not presume symmetrical relationships and finds asymmetrical relationships when they occur. It also finds multiple configurations that lead with equifinality to the same focal outcome, if they exist, rather than presuming a single prescription for the focal outcome.

As a second methodological contribution, we utilized a conjoint experiment to estimate the attitudes of respondents to prosocial, profit, and innovation outcomes, avoiding to some substantial degree the risk of data contamination due to social desirability bias that is more likely

<sup>11</sup> Note that those averse to innovation might nonetheless practice innovation if that innovation is instrumental to the attainment of their social and profit goals, and/or if the utility part-worths (UPWs) of the social and profit goals heavily offset the negative UPW of the innovation outcome.

to occur with “espoused data” obtained by survey methods (particularly in questions relating to issues such as greed and empathy). Conjoint analysis also allows respondents to be eliminated from further analysis if the logical consistency of their responses falls below a minimum level selected with reference to the length and difficulty of comprehension of the scales utilized and the trade-offs involved in the conjoint experiment. A third methodological contribution, which has relatively little value given the recent publication by Bacq and Alt (2018), is the development of a new scale to measure SEI, but at least it offers researchers a different perspective on the measurement of SEI.

## 6.2. Practical implications

Implications for policy and education include that public funding bodies and philanthropists might screen applicants for social-venture funding on the basis of their self-efficacy sub-dimensions and their attitudes to ensure that relatively scarce funds are allocated for maximal social benefit. In entrepreneurial education, students should be schooled in the three motives for entrepreneurship, rather than viewing entrepreneurship in binary terms as either commercial or social entrepreneurship. Educators should also adopt a more holistic approach to the teaching of entrepreneurship, emphasizing the heterogeneity of the individual-opportunity nexus and the range of configurations that underlie the intention to act entrepreneurially.

## 7. Limitations and future research

This study has several main limitations that offer suggestions for further research. First, our findings may not generalise to other countries and our sample may not be representative of nascent entrepreneurs who are currently taking steps to start a new social venture. Future research may attempt to confirm our results by utilizing a panel of nascent entrepreneurs who have already completed tangible steps towards launching a new social venture, and also examine longitudinally their subsequent behaviour. Second, researchers might analyse the subsequent behaviour of intending entrepreneurs who exhibit above median ratings on all three attitudes (and/or self-efficacies), to ascertain whether such individuals are indeed more likely to launch new ventures, to survive, to grow, to be profitable, and so on. By selecting their samples from within a particular type, researchers might discover the finer nuances of different types of social entrepreneurs.

Finally, while fsQCA finds multiple configurations of conditions that consistently relate to the focal outcome, it is an inductive method that does not offer any theory on why specific conditions interact with each other in any configuration. That is for the researcher to hypothesize and test for in future studies. In this study we suggest several issues for possible investigation, including the asymmetry of prosocial and innovation motivation in association with SEI, and the “unimportance” of profit attitude in association with SEI. We also suggested that individuals might form SEI despite lacking self-efficacy in management sub-disciplines because they presuppose working in a management team and/or having professionals or mentors to redress their management deficiencies. There remains much scope for theory development and empirical work in social entrepreneurship.

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