Measuring and predicting the double bottom line in social entrepreneurial ventures: A Partial Least Squares approach

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Summary

Social entrepreneurial ventures (SEVs) have a double bottom line, that is, they attempt to achieve social impact and financial performance concurrently. Governance has been shown to be a crucial issue for firm performance. However, this issue has been neglected in the social entrepreneurship literature. Using the resource–based view (RBV) and both agency and stewardship theories, this study addresses this gap empirically by proposing a mediational model that describes the relationships between agency– and stewardship–oriented mindsets and financial performance and social impact. Using a Partial Least Squares approach to structural equation modeling, we find that a senior decision–maker’s stewardship–oriented mindset is positively related the double bottom line whereas an agent’s self–interested mindset negatively relates to social impact and financial performance. We confirm mediation of these relationships by SEVs’ organizational capabilities and stress the key role of communication, staffing abilities, and earnings–generation. These innovative findings contribute to understanding the linkages between mindsets, capability development and their outcomes within SEVs, and offer interesting implications for the practice of social entrepreneurship as well as the management of hybrid organizations.

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1. Introduction

“Social Entrepreneurial Ventures” (SEVs) are organizations that primarily answer a social (or environmental) need that is not properly encountered by the local system, by means of entrepreneurial strategies. As a result, SEVs concurrently strive for both the highest social impact on the communities they serve, as well as for sustainable revenue-generating activities. Such a “double bottom line” (Alter, 2004; Boschee & McClurg, 2003; Dees, 1998; Flannery & Deiglmeier, 2000; Nicholls & Cho, 2008; Robinson, 2006; Thompson & Doherty, 2006) involves the concurrent achievement of social impact and financial performance – one does not prevail over the other. We define social impact as the creation of social wealth for the communities and stakeholders of the SEV by resolving a particular social problem and increasing the number of beneficiaries served by the SEV’s activities. Financial performance refers to the SEV’s achievements in terms of profitability, and sales level and growth.

SEVs are not a homogeneous group of organizations. Rather, they vary in terms of legal forms (nonprofit, for-profit, or hybrid structures), sizes, activity sectors (healthcare, renewable energy, recycling, employment, housing, education), ownership (concentrated, dispersed), as well as management (independent management, owner-managed). Regardless of the structure, the double bottom line poses an important organizational challenge, i.e., implementing a promising “social” idea into an operational, plausible, sustainable business model (Guclu, Dees, & Battle Anderson, 2002). Whether the operations be for-profit entities explicitly designed to serve a social purpose (e.g., “For-Profit Social Ventures”, in Dees & Battle Anderson, 2003), or nonprofits using entrepreneurial strategies to fund their social mission, SEVs search for a balance between social value creation and financial viability.

However, social entrepreneurship research so far has focused primarily on explaining the emergence of these hybrid forms of organizations, describing the social entrepreneurs, or attempting to identify characteristics distinguishing social from commercial entrepreneurship (Austin, Stevenson, & Wei-Skillern, 2006; Di Domenico, Tracey, & Haugh, 2009), both at the conceptual and at the exploratory empirical levels. Despite Battle Anderson’s (2005) call for more effort to better understand social entrepreneurship from a strategic and organizational approach, little research has focused on the underlying organizational systems that influence the economic and social/environmental impact. Consistent with Dacin, Dacin, and Tracey (2011), we believe that the context of social entrepreneurship provides a unique setting in which to investigate the role of governance in achieving the double bottom line. In social entrepreneurship research, a tension between the two bottom lines is usually cast as the maintained hypothesis. Indeed, as Harjula (2006) demonstrates, the tensions in balancing economic and social returns are very real for the SEVs who rely on venture capitalist funding, and addressing this balancing act manifests, at least in part, in the governance systems of these organizations. Governance systems can be defined as the mechanisms “that induce or force management to internalize the welfare of stakeholders” (Tirole, 2001: 4). In this paper, we address ways to resolve the dilemma generated by the double objective from a governance perspective. We also argue that if the appropriate organizational capabilities are developed, the tension can be managed.

More precisely, the objective of this study is to investigate the effects of agency- and stewardship-oriented mindsets on the achievement of the double bottom line. Using the resource-based view (RBV) of the firm, we also question the role of organizational capabilities in the relationships between these mindsets and the double bottom line. We argue that capabilities can be seen as the material consequences of mindsets. The nature of those mindsets matter in that we believe that agency-oriented mindsets impede the achievement of the double bottom line, whereas stewardship-oriented mindsets foster organizational success on both fronts. Our main hypothesis is that the relationships between social entrepreneurs’ agency- or stewardship-oriented mindsets and the organization’s social impact and financial performance are mediated by organizational capabilities. As such, capabilities may act as facilitators or hurdles between the social entrepreneurs’ mindsets and their success on both social and financial fronts.

This study contributes to the on-going discussion of how to achieve the double bottom line by addressing two gaps in the social entrepreneurship literature, as identified by Short, Moss, and Lumpkin (2009). First, we examine “the strategic and managerial consequences of trying concurrently to satisfy economic and social objectives” (Short et al., 2009). In particular, our study enhances our understanding of the direct and indirect effects of agency-oriented and stewardship-oriented mindsets on achieving the double bottom line. Our study also reveals the key role played by organizational capabilities in these relationships. This research opens up the floor to an in-depth discussion about the presence of other-regarding behaviors among SEVs’ senior decision-makers, or whether the traditional agency rationale dominates. Second, by using Partial Least Squares modeling to address our research question, we also tackle the lack of quantitative predictive models in the extant social entrepreneurship literature.
Our paper proceeds as follows. Section 2 examines the issue of governance in SEVs from an agency and a stewardship perspective. Section 3 investigates the importance of organizational capabilities and RBV in the field of social entrepreneurship and introduces the mediational model linking agency- and stewardship-oriented mindsets to organizational capabilities to social impact and financial performance. Section 4 details the research methodology. Section 5 presents our results, which are discussed in Section 6. Contributions as well as implications for theory and practice are developed in Section 7. Section 8 discusses the study’s limitations and offers several avenues for future research. Section 9 concludes the study.

2. Governance As A Path To Balance Double Bottom Line

Governance is an important aspect of SEVs as these “hybrid” organizations might potentially require specific governance mechanisms of which their success depends (Mason, Kirkbride, & Bryde, 2007). Indeed, as a result of the tensions between social and economic objectives (Low, 2006), Light (2009: 22) finds that these organizations “neglect organizational infrastructure, possibly resulting in underinvestment in measurement and governance”. Similarly, Spear, Cornforth, and Aiken (2009: 269) warn that, in the case of newly started “social enterprises”, governance issues are disregarded given the entrepreneur’s focus on the successful implementation of his or her business ideas. In their discussion of the application of market discipline to SEVs, Austin, Stevenson and Wei-Skillern (2006: 9-10) stress that “funders and board members focus on the organization’s social mission and fail to emphasize accountability and high performance for the organization”. Those studies indicate that the goals of the different constituencies of an SEV vary widely and need to be monitored by means of governance mechanisms.

In their case study analysis, Tracey and Jarvis (2007) find that the double bottom line in SEVs means that goal incongruence is more likely to characterize these organizations than traditional businesses. Goal incongruence can be defined as the “divergence of principal and agent interests” (Roth and O’Donnell, 1996: 682). Despite the acknowledged importance of governance in dealing with goal incongruence (Jegers, 2009), the emerging literature on social entrepreneurship governance tends to be overly prescriptive (Cornforth, 2004). Besides, the amount of empirical research is limited. Exceptions include Sharir and Lerner (2006) who find weak importance in the involvement of board members in planning, decision-making, personal financial investment, and expanding the social network, suggesting that “the functioning of board members was problematic” (Sharir & Lerner, 2006: 10). Spear, Cornforth, and Aiken (2009) confirm that one of the most interesting governance challenges facing social enterprises lies in balancing social and economic goals, while managing entrepreneurial and financial risk. Moreover, Smith and Lewis (2011) argue that conflicting demands intensify with the globalization and increased complexity of organizational environments. Therefore, the issues of governance and goal incongruence in SEVs deserve further investigation. We address them in this study from two complementary perspectives: agency theory and stewardship theory.

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On the one hand, agency theory adopts an economics-based approach to governance and depicts managers as individualistic and opportunistic (Jensen & Meckling, 1976). In contrast, the sociological stewardship theory depicts managers as collectivist, trustworthy and behaving in accordance with organizational objectives. Thus, stewardship theorists assume that senior decision-makers are motivated not only by self-interest, but also by altruism and/or generosity (Davis, Schoorman, & Donaldson, 1997). Consistent with Le Breton-Miller and Miller (2009), we argue that agency and stewardship perspectives offer complementary views on the governance of SEVs. Our objective is not to reconcile agency and stewardship theories, but rather to argue and empirically investigate the outcomes (i.e., financial performance and social impact) of agency and stewardship perspectives in the social entrepreneurship context. In this paper, we focus on the agent’s or steward’s motivations and propensity to behave towards the personal or organizational goals, which we refer to as a senior decision-maker’s “mindset”.

We focus on agency and stewardship theories to shed light on governance issues in SEVs for several reasons. First, our primary interest in this paper lies in the relationship between a senior decision-maker’s mindset and organizational performance (social and financial); agency and stewardship theories are believed to have different predictions regarding the effects of mindsets on different types of outcomes (e.g., Lee & O’Neill, 2003; Wasserman, 2006). In addition, these two theories have been jointly discussed in the context of social entrepreneurship (Short et al., 2009). However, this is the first study, to our knowledge, to empirically test them together.

In the following subsections, we discuss the agency and stewardship rationales in the context of social entrepreneurship and link them to both social and financial organizational outcomes.
2.1 Agency mindset in SEVs: A threat to the double bottom line?

Agency theory addresses, usually in the for-profit corporate context, relationships that take place between a principal and an agent, who has the responsibility for performing a specific set of tasks. The assumption underlying agency theory is that the principal and the agent are both self-interested and have divergent motivations. Given information asymmetry between the two parties, and/or the impossibility and cost of writing complete contracts, agency problems such as adverse selection or moral hazard arise. To ensure that the agent’s interests are aligned with his or her own, the principal might need to adopt monitoring or incentive actions. The costs of these actions are referred to as the “agency costs” (Fama & Jensen, 1983). Consequently, close alignment of interests lowers agency costs, whereas misalignment increases these costs.

However, in the absence of such controlling actions, the agent is likely to behave in accordance with his or her personal, self-serving objectives. Yet, those personal motives are not restricted to the pursuit of financial interests, as traditionally assumed in the strategic management literature on agency. We argue, in line with Wiseman, Cuevas-Rodriguez, and Gómez-Mejia (2012), that agency may still hold its explanatory power in the present domain of investigation when some economic assumptions are relaxed. That is, we believe that an agent’s self-interest is not necessarily selfish and profit-driven. For instance, a social entrepreneurship agent may perceive that what is best for the SEV is to focus on the social mission or on profitability separately. As a result, the agent’s interests diverge from the organization’s double objective – without all that being self-interested. Put differently, in this application of agency theory, what defines an agent is the fact that he or she pursues objectives and perceives the organizational needs that differ from the principal’s – the latter wanting to achieve the double bottom line (Emerson, 2003). Therefore, we define an agency-oriented mindset as a senior decision-maker’s propensity to show motivations and attitudes that foster the realization of personal goals. Agency theorists argue that when an agent’s behaviors are left unmonitored by governance mechanisms (e.g., a board of directors or trustees, incentives), they negatively affect the realization of organizational objectives. In addition, the achievement of social impact usually occurs over a certain period of time, and entails the engagement of multiple stakeholders in the community. This, combined with profit imperatives of the SEV’s market activities, will not be positively influenced if the SEV’s senior decision-maker has an agency mindset – unless the latter is forced or motivated to do so. Based on our argumentation and on agency theory precepts, we thus expect a negative association between uncontrolled agency behaviors and financial performance and social impact. Therefore, we formulate the following first hypothesis:

**Hypothesis 1**: An agency-oriented mindset is negatively related to the double bottom line.

In the next subsection, we discuss stewardship theory as a complementary approach to the agency perspective.

2.2 Stewardship mindset in SEVs: Benefiting the double bottom line?

Stewardship theory depicts the behaviors of senior decision-makers as being driven by collective interests, self-actualization and altruism (Donaldson, 1990; Zahra, 2003). This motivation leads them to adopt an “involvement-oriented management philosophy” and to act with a view to organizational, rather than personal, objectives (Short et al., 2009: 176). Thus, we define a stewardship-oriented mindset as a senior decision-maker’s propensity to show motivations and attitudes that are aligned with the goals of the organization and their proper achievement.

Such other-regarding and altruistic behaviors have been argued to be part of a social entrepreneur’s mindset (Mair & Marti, 2006; Tan, Williams, & Tan, 2005) and both stewardship theory and collective activity have been revealed in several case studies of social enterprises in the UK (Low, 2006; Mason et al., 2007; Shaw & Carter, 2007). In contrast to agency theory predictions, stewards are also believed to orient their actions towards the long run rather than favoring short-term decisions (Davis et al., 1997). In the case of social entrepreneurship, that is, they are more prone to pursue a long-term double mandate that includes both social impact and financial sustainability. Therefore, we expect a stewardship-oriented mindset to be positively related with the achievement of an SEV’s double bottom line. We formulate the following hypothesis:

**Hypothesis 2**: A stewardship-oriented mindset is positively related to the double bottom line.

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4 Indeed, in this paper we do not discuss, nor measure, the effects of governance mechanisms on the relationship between agency-oriented mindsets and SEVs’ double bottom line.
In the next section, we further investigate the effects of those agency- and stewardship-oriented mindsets on the organizational capabilities that are associated with social impact and financial performance, and propose an original theoretical framework that links all these elements together.

3. Theoretical Framework

3.1 The resource-based view in SEVs and the SCALERS model

The RBV considers the firm as a nexus of resources that are expected to improve the firm’s efficiency and effectiveness, leading to a competitive advantage (Barney, 1991). The RBV has been applied to social entrepreneurship in several studies (e.g., Meyskens, Robb-Post, Stamp, Carsrud, and Reynolds, 2010; Robb-Post, Stamp, Brännback, Carsrud, & Östermark, 2011). Meyskens et al. (2010: 663) view SEVs as “competitive organizations whose ability to attain their goals and create social value is impacted by being able to combine and convert acquired resources”. Key mechanisms to combine and convert resources into (social and financial) value creation include the organizational capabilities. These intangible processes (e.g., skills, abilities, know-how, expertise, designs, management, etc.) enable a firm to exploit resources in the execution of its operations (Newbert, 2008) and therefore to achieve its intended results. In the particular context of social entrepreneurship, Bloom and Smith (2010) find that the success of SEVs depends on seven specific capabilities, referred to as the “SCALERS”. As displayed in Figure 1, “SCALERS” is an acronym for Staffing, Communicating, Alliance-building, Lobbying, Earnings-Generation, Replicating and Stimulating Market Forces. According to Bloom and Smith (2010), “Staffing” refers to the SEV’s ability to fill its labor needs with skilled people. “Communicating” encompasses an SEV’s effectiveness in persuading key stakeholders of the value of its “theory of change” – i.e., how the SEV plans to have a social impact on the communities served by its social mission. “Alliance-Building” is the SEV’s capability of creating alliances, partnerships, coalitions, or joint-ventures, which help to develop and to capitalize on social capital (Austin, 2000). “Lobbying” is expressed as the SEV’s advocacy power to influence government and political actions in the favor of its social mission. The SEV’s ability to generate positive revenues, “Earnings-Generation”, is defined as the effectiveness with which the organization generates a stream of revenue that exceeds its expenses. An SEV’s ability to replicate its programs and initiatives to other regions or to another variant of the social problem is called “Replicating”. Finally, an SEV’s ability to create incentives that encourage people or institutions to pursue private interests while also serving the public good is called “Stimulating Market Forces”.

Figure 1. The SCALERS Model.

Source: Bloom and Smith (2010)
In the following sections, we describe and develop hypotheses regarding the relationships between the SCALERS and their outcomes (Section 3.2.) and antecedents (Section 3.3.).

### 3.2 Outcomes of the SCALERS: The double bottom line

Organizations in social entrepreneurship intend to create the largest social impact possible while they strive to achieve financial viability through the sale of products and services, and other market-based activities. SEVs’ efficiency and effectiveness can thus be understood as achieving their double bottom line. One can look at this issue from an RBV perspective. Indeed, the RBV suggests that an SEV needs to develop a competitive advantage that creates social and financial value through unique products and services that satisfy the consumers or beneficiaries (Barney, 1991). In line with Barney’s (1991) arguments and previous studies (Bradach, 2003; LaFrance et al., 2006; Sherman, 2006), we predict that SEVs’ key organizational capabilities are positively associated with the scaling of social impact, but organizational financial viability – i.e., positively related to the double bottom line.

A positive relationship between capabilities and financial performance has been demonstrated in numerous management studies (e.g., Abell, Felin, & Foss, 2008; Teece, 2007; Wu, 2006; Zott, 2003). For instance, the literature on strategic human resources management offers considerable evidence of the relationship between human resources capabilities and financial achievements (e.g., Becker & Huselid, 2006; Huselid, Jackson, & Schuler, 1997; Lengnick-Hall & Lengnick-Hall, 1988). On the other hand, Bloom and Chatterji (2009) find that an SEV’s ability to fill its managerial posts, attract the necessary number of volunteers and employ people with the appropriate skills (“Staffing”) is likely to be positively related with social impact. “Communicating” is also fundamental for an SEV to achieve its double bottom line. Indeed, an SEV’s effectiveness in persuading key stakeholders of the value of its theory of change is key for scaling social impact (Bloom & Chatterji, 2009). In addition, communication skills about the SEV’s social mission are also likely to positively influence its sales and, hence, its financial profitability. “Alliance-Building” helps to develop the social capital necessary to the achievement of the double bottom line. For instance, thanks to its ability of building alliances and finding partners in local communities, the SEV KaBOOM! reached its mission of building playgrounds for every US child. In addition, partnering and building alliances is also key to the development of a competitive advantage on the markets – expected to further yield financial profitability. Similarly, the SEV’s advocacy power of “Lobbying” is also likely to be positively associated with the double bottom line. The SEV’s ability to generate positive revenues, “Earnings-Generation”, has been increasingly recognized as a key capability to an SEV’s social impact (Bloom and Chatterji, 2009) and it is as well for the achievement of its financial viability – hence, it positively relates to its double bottom line. Along those lines, an SEV’s ability of “Stimulating Market Forces” is another possible positive antecedent of the double bottom line. Finally, an SEV’s capability of “Replicating” its programs and initiatives to other regions or to another variant of the social problem might also be at the source of higher social impact and improved financial performance (considering its business model is sustainable).

Given realistic expectations of positive associations between organizational capabilities and both financial performance and social impact, we formulate the following set of hypotheses regarding the relationships between an SEV’s seven types of SCALERS organizational capabilities and its double bottom line:

- **Hypothesis 3a**: Staffing is positively related to the double bottom line.
- **Hypothesis 3b**: Communicating is positively related to the double bottom line.
- **Hypothesis 3c**: Alliance-building is positively related to the double bottom line.
- **Hypothesis 3d**: Lobbying is positively related to the double bottom line.
- **Hypothesis 3e**: Earnings-Generation is positively related to the double bottom line.
- **Hypothesis 3f**: Replicating is positively related to the double bottom line.
- **Hypothesis 3g**: Stimulating Market Forces is positively related to the double bottom line.

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In the next subsection, we examine the antecedents of the SCALERS, in particular, senior decision-makers’ mindsets and their relation to the development of capabilities in SEVs.

3.3 Antecedents of the SCALERS: Agency and stewardship mindsets

In a 2001 special issue of the Journal of Management, several authors identify the links between corporate governance and RBV, addressing the question of the conditions under which corporate governance can be a source of sustained competitive advantage. As the editors of the special issue note, it seems unlikely that corporate governance, by itself, can be a source of competitive advantage. However, there is increasing recognition that governance mechanisms (managers’ incentive system, board effectiveness) may affect the realization of the resources’ benefits and rent generating potential (Barney, Wright, & Ketchen, 2001). More specifically, the agency theory perspective has been frequently used as a complement to the RBV (Harrison, Hitt, Hoskisson, & Ireland, 2001; Lockett & Thompson, 2001), sometimes combined with other perspectives, including human capital (Castanias & Helfat, 2001), the problem of opportunism (Mahoney, 2001), and subsidiary management (Peng, 2001). Similarly, Carney (2005) argues that family firms’ systems of governance (including incentives, authority patterns, norms of legitimization) generate organizational propensities that create competitive advantage. Makadok (2003) shows that performance is strongly related with governance and capabilities embedded in the firm’s human capital. Given the relative newness of research on the linkages between RBV and governance, the exact type of influence that governance has on resources and capabilities is still unclear.

Nevertheless, the objective of this paper is not to examine the effectiveness of governance mechanisms on the development of organizational capabilities but rather focuses on managerial mindsets of two types – agency-oriented and stewardship-oriented. We would argue that agency theory predicts that uncontrolled opportunistic mindsets hamper the development of capabilities. Recently, Le Breton-Miller and Miller (2009: 1173) have shown that agency behaviors have a negative effect on the development of capabilities. They relate agency problems to the shortage of managerial talent or staff “demotivation” (“Staffing”) and limited association with stakeholders (“Alliance-building”). On the other hand, Miller and Le Breton-Miller (2006) argue that managers’ stewardship attitudes generate far-sighted contributions that feed distinctive capabilities. Based on this early research, we predict that agency- and stewardship-oriented mindsets of SEVs’ senior decision-makers have differing effects on organizational capabilities. More specifically, we formulate two hypotheses that capture those divergences:

Hypothesis 4: An agency-oriented mindset is negatively related to organizational capabilities, in particular to: Staffing (H4a), Communicating (H4b), Alliance-building (H4c), Lobbying (H4d), Earnings-Generation (H4e), Replicating (H4f), and Stimulating Market Forces (H4g).

Hypothesis 5: A stewardship-oriented mindset is positively related to organizational capabilities, in particular to: Staffing (H5a), Communicating (H5b), Alliance-building (H5c), Lobbying (H5d), Earnings-Generation (H5e), Replicating (H5f), and Stimulating Market Forces (H5g).

The next subsection introduces our mediational model.

3.4 The mediating effects of the SCALERS capabilities

By linking organizational capabilities to the double bottom line on the one hand, and agency- and stewardship-oriented mindsets to organizational capabilities on the other hand, we have developed a model (see Figure 2) that depicts the mediating role of SCALERS capabilities between senior decision-makers’ mindsets and the achievement of the double bottom line. The model is grounded on two main arguments. First, SCALERS capabilities facilitate the effects (positive or negative) of senior decision-makers’ mindsets on the firm’s success in terms of both social impact and financial performance. Second, SCALERS capabilities can be seen as either the material consequences of short-term agency-oriented mindsets that impede the achievement of the double bottom line, or as positive outcomes of stewardship-oriented mindsets that foster the double bottom line.
The relationships between agency, stewardship, capabilities and performance have been previously investigated in the family business literature. For instance, Miller and Le Breton-Miller (2006) explain family-controlled businesses’ performance using precepts from agency and stewardship theories and also suggest a mediating role of organizational capabilities. We believe that insights from family business literature can be drawn to inform governance issues in social entrepreneurship because SEVs and family firms are subject to similar competing demands of economic and non-economic sources (Bacq & Lumpkin, 2011). Carney and Gedajlovic (2003) show that organizational value-creating/destroying attributes are embedded in the firm’s system of corporate governance that they define as family control rights over a firm’s assets. These control rights generate organizational propensities that lead to competitive advantage. Hence, consistent with earlier research and our previously developed hypotheses, we predict that organizational capabilities in an SEV mediate the negative relationship between a senior decision-maker’s agency mindset and the double bottom line, in particular:

Hypothesis 6a: Staffing mediates the negative relationship between an agency-oriented mindset and the double bottom line.

Hypothesis 6b: Communicating mediates the negative relationship between an agency-oriented mindset and the double bottom line.

Hypothesis 6c: Alliance-Building mediates the negative relationship between an agency-oriented mindset and the double bottom line.

Hypothesis 6d: Lobbying mediates the negative relationship between an agency-oriented mindset and the double bottom line.

Hypothesis 6e: Earnings-Generation mediates the negative relationship between an agency-oriented mindset and the double bottom line.

Hypothesis 6f: Replicating mediates the negative relationship between an agency-oriented mindset and the double bottom line.

Hypothesis 6g: Stimulating Market Forces mediates the negative relationship between an agency-oriented mindset and the double bottom line.

We also predict that organizational capabilities in an SEV mediate the positive relationship between a senior decision-maker’s stewardship mindset and the double bottom line.

Hypothesis 7a: Staffing mediates the positive relationship between a stewardship-oriented mindset and the double bottom line.

Hypothesis 7b: Communicating mediates the positive relationship between a stewardship-oriented mindset and the double bottom line.

Hypothesis 7c: Alliance-Building mediates the positive relationship between a stewardship-oriented mindset and the double bottom line.

Hypothesis 7d: Lobbying mediates the positive relationship between a stewardship-oriented mindset and the double bottom line.

Hypothesis 7e: Earnings-Generation mediates the positive relationship between a stewardship-oriented mindset and the double bottom line.

Hypothesis 7f: Replicating mediates the positive relationship between a stewardship-oriented mindset and the double bottom line.

Hypothesis 7g: Stimulating Market Forces mediates the positive relationship between a stewardship-oriented mindset and the double bottom line.

Figure 2 summarizes our proposed research model.

Figure 2. Theoretical Model.
In the next section, we present the methodology we used to collect our data, our measurement instruments, as well as our data analysis technique, Partial Least Squares path modeling.

4. Methodology

4.1 Survey participants

To investigate the proposed seven systems of hypotheses and mediational model, we surveyed US based “social entrepreneurs” whom we define as senior decision-makers of SEVs (i.e., the CEO, COO, or a managing partner). The social entrepreneurs and their respective firms were sampled through an existing database maintained by a major research university located in the northeast of the United States. This database included email addresses and contact information of SEVs from a number of sectors (see below). The social entrepreneurs self-identified themselves by previously taking part in the university’s programs and conferences and had previously agreed to be contacted.

Data were collected via an online survey over a six-month period, from November 2010 through March 2011. The social entrepreneurs were contacted by email containing the survey’s hyperlink to the online questionnaire. In total, between November 24 and December 14, 2010, we sent our email to 835 email addresses of social entrepreneurs contained in our database, of which 263 clicked on the hyperlink it contained. By March 9, 2011, and after two email reminders, 198 social entrepreneurs had chosen to participate in our study. Since a process of self-selection was involved, we manually checked the characteristics of the respondents and had to exclude 27 responses from the present study for the following reasons: 8 ventures were much larger than the 250 full-time employees threshold defining an SME (entrepreneurial venture); 7 of the respondents did not correspond to our target group as they were university Professors or students and not social entrepreneurs; 4 respondents either reported a problem during the online completion of the questionnaire, or mentioned in the comment box that they were just willing to “have a look” and therefore completed it randomly; 3 respondents held other positions than senior decision-makers in their organization; 3 respondents indicated clearly in the comment box that their organization was not an SEV (e.g., one respondent served as the person in charge of the CSR initiative in a large for-profit corporation); 2 enterprises were not based in the US and we decided not to take them into account in order to avoid any geographical discrepancies. We ended up with 171 valid questionnaires that were used in this study.

Please note that for 37 of them, data are partially missing. We treated missing values by using the mean replacement algorithm in SmartPLS, which substitutes them with the mean of each parameter. Such an imputation technique has to be preferred to the missing data deletion procedure (Temme, Kreis, & Hildebrandt, 2010). Indeed, mean replacement preserves sample size and statistical power (Tabachnick & Fidell, 2007) and has been showed to lead to more robust results than case wise deletion (Parwoll & Wagner, 2012). Prior to doing so, we followed the recommendations of Schafer and Graham (2002) and conducted t-tests for the difference in means of some key variables comparing the valid dataset group vs. the missing dataset group. No significant differences were found between the two groups at $p < .01$ level (2-tailed). This suggests that analyses should yield unbiased parameter estimates.
This means of data collection is consistent with our research question and addresses the gap of quantitative, hypothesis-testing studies in social entrepreneurship research claimed by Short et al. (2009). We followed the recommendations of Dillman (2007) for effective questionnaire design and survey implementation, as well as design procedures idiosyncratic to Internet surveys. Respondents were asked to answer a series of questions on their mindset and motivations, their organization in terms of capabilities regarding a variety of topics (e.g., staffing, communication, networking) and organizational performance. We also asked questions relating to socio-demographics. For each question, we limited the answer to one in a series of choices in order to enhance the meaningfulness of subsequent data analysis. Participants in the study were assured that their individual responses would remain confidential. Upon completion of the survey, the responses were submitted to a secure Internet database.

In order to evaluate the quality of our questionnaire, we conducted two kinds of pre-tests. First, we pre-tested the questionnaire with expert scholars in the field to guarantee that our questions made sense, based on their knowledge and in light of the extant social entrepreneurship literature and previously conducted surveys. Second, we also pre-tested the electronic survey with a dozen social entrepreneurs. Based upon feedback obtained from this pilot group, we refined the phrasing of some questions and added clarifying statements.

Table 1 displays key characteristics of our sample, in terms of firm age (i.e., number of years), the sign of its cash flow (negative, positive, or break-even, which corresponds to a value of 4 on our 7-point Likert scale), and the firm size (i.e., number of employees). For each of these continuous variables, we calculated their mean, standard deviation (s.d.), median, minimum and maximum. We also analyzed the distribution of the SEVs in our sample in terms of their organizational form (for-profit vs. nonprofit) and among nine different types of field of activities. These two variables were measured by means of categorical variables.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Mean</th>
<th>s.d.</th>
<th>Median</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm Age</td>
<td>12.26</td>
<td>14.19</td>
<td>7</td>
<td>0</td>
<td>101</td>
</tr>
<tr>
<td>Cash flow Sign</td>
<td>4.58</td>
<td>1.8</td>
<td>4</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Firm Size</td>
<td>22.3</td>
<td>41.64</td>
<td>5</td>
<td>0</td>
<td>200</td>
</tr>
</tbody>
</table>

N = 171

<table>
<thead>
<tr>
<th>Organizational Form</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>For-profit</td>
<td>67</td>
<td>39</td>
</tr>
<tr>
<td>Nonprofit</td>
<td>104</td>
<td>61</td>
</tr>
<tr>
<td>Total</td>
<td>171</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field of Activities</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civic engagement</td>
<td>24</td>
<td>14.0</td>
</tr>
<tr>
<td>Economic development</td>
<td>27</td>
<td>15.8</td>
</tr>
<tr>
<td>Environment</td>
<td>22</td>
<td>12.9</td>
</tr>
<tr>
<td>Health</td>
<td>8</td>
<td>4.7</td>
</tr>
<tr>
<td>Human rights</td>
<td>3</td>
<td>1.8</td>
</tr>
<tr>
<td>Education &amp; Training</td>
<td>36</td>
<td>21.1</td>
</tr>
<tr>
<td>Support Services</td>
<td>38</td>
<td>22.2</td>
</tr>
<tr>
<td>Retail</td>
<td>10</td>
<td>5.8</td>
</tr>
<tr>
<td>Housing</td>
<td>3</td>
<td>1.8</td>
</tr>
<tr>
<td>Total</td>
<td>171</td>
<td>100</td>
</tr>
</tbody>
</table>
The median age of organizations in our sample is 7 years. Thus, although our data display a large variation in age (standard deviation = 14.19), half of the sample can be considered as a new venture according to the criteria established by the Small Business Administration (1992). Cash flow sign is on average positive, i.e., above break-even (mean = 4.58). Regarding firm size, half of the firms in our sample employ less than 5 full-time employees. About 39% of the firms in our sample are registered as a for-profit company, whereas 61% are nonprofit firms. Finally, in terms of field of activities, the majority of SEVs in our sample are active in support services and education and training. The sectors of economic development, civic engagement and environment are also well represented.

Our theoretical model as represented in Figure 2 comprises 10 latent variables – “phenomena of theoretical interest which cannot be directly observed and have to be assessed by manifest measures which are observable” (Diamantopoulos, Riefler, & Roth, 2008: 1204) – assessed by a total of 36 observed indicators. In the following subsections, we expound on how we measured the exogenous, endogenous, first-order and second-order latent variables of our model.

### 4.2 Measurement of the exogenous latent variables

**Agency-oriented mindset.** To measure social entrepreneurs’ agency mindset, we used three indicators from a scale developed by Frankforter, Davis, Vollrath, and Hill (2007) and further used by Davis, Allen and Hayes (2010) in a study of family businesses. Indeed, since we believe that similar competing logics occur in SEVs and family businesses, using measurement scales already validated in the family business literature in social entrepreneurship research is relevant. Respondents indicated the degree to which they agree (1 = strongly disagree; 5 = strongly agree) with three statements depicting their mindset as self-serving. The agency mindset latent variable was operationalized as a reflective construct.

**Stewardship-oriented mindset.** In assessing stewardship motivations, we used five items from Zahra, Hayton, Neubaum, Dibrell, and Craig’s (2008: 1043) scale intended to measure “the extent to which the respondent values positive, intrinsic motivations consistent with stewardship-oriented behaviors”. We used Likert-type items, ranging from 1 “not at all” to 5 “to an extreme extent”. The advantage of this scale, compared to the other ones (e.g., Davis, Frankforter, Vollrath, & Hill, 2007), is that it captures a more refined measure of the fit between the organization’s (SEV) purpose and the respondent’s motivations to behave altruistically regarding the achievements of his or her organization (i.e., the double bottom line). The stewardship mindset latent variable was also operationalized as a reflective construct.

### 4.3 Measurement of the endogenous latent variables

**SCALERS Organizational capabilities.** To measure the seven capabilities that have been shown to be central to an SEV, including Staffing, Communicating, Alliance-Building, Lobbying, Earnings-Generation, Replicating, and Stimulating Market Forces, we used five-point Likert scales as suggested by Bloom and Smith (2010). Respondents were asked the extent to which they agreed (1 = strongly disagree; 5 = strongly agree) with two or three statements for each of the seven SCALERS concerning their SEV, compared to other organizations tackling similar social problems (see Table 2). All seven SCALERS capabilities were measured as reflective constructs.

**Double Bottom Line.** We measured an SEV’s performance in terms of its double bottom line as a multidimensional second-order construct. Indeed, SEVs’ double bottom line encompasses two dimensions, namely social impact and financial performance. According to Diamantopoulos et al. (2008: 1205), “when dealing with multidimensional constructs, it is necessary to distinguish between (at least) two levels of analysis, that is, one level relating manifest indicators to (first-order) dimensions, and a second level relating the

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4 One of the advantages of Partial Least Squares lies in that measurements can be of two types: reflective or formative. A reflective measure denotes effects (or manifestations) of an underlying latent construct (Bollen & Lennox, 1991). As a result, a change in the construct is manifested in changes in all its indicators.
individual dimensions to the (second-order) latent”. At both levels, formative and reflective specifications might apply. In this case, we operationalized the “double bottom line” construct as a second-order construct of type II, i.e., “reflective first-order and formative second-order” model (Jarvis, MacKenzie, & Podsakoff, 2003). That is, double bottom line is composed of two formative dimensions – social impact and financial performance – themselves measured by reflective manifest indicators, as shown in Figure 3.

![Figure 3. Double Bottom Line Measurement Model.](image)

Social impact and financial performance were operationalized as two reflective first-order variables. As shown in Figure 3, in the case of a reflective measurement, the direction of the relationship is from the construct to the measures. Social impact, on the one hand, was assessed building on Bloom and Smith’s (2010) proposition of asking social entrepreneurs to rate their organizations’ social achievements in comparison to organizations tackling similar social problems. Specifically, we asked our respondents the extent to which they agreed, on a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree), with four statements (see Table 2).

Financial performance, on the other hand, usually encompasses the notions of firm growth and firm profitability (Venkatraman & Vasudevan, 1986). Like in traditional entrepreneurship studies, social entrepreneurship studies should also use multiple indicators of financial performance since such a multi-item measure is better than

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*In this type of measurement, each indicator captures a specific dimension of the latent variable (Diamantopoulos et al., 2008; Jarvis et al., 2003) and omitting one indicator may alter the nature of the construct (Bollen & Lennox, 1991). There are no specific expectations about the sign or the magnitude of intercorrelations between the indicators; formative indicators might correlate positively or negatively or lack any correlation (Diamantopoulos et al., 2008).*
single-item measures (Low & MacMillan, 1998). However, traditional corporate financial performance measurements are sometimes hardly applicable to new ventures, since even successful start-ups often do not offer rich profitability for a considerable period of time (Weiss, 1981). Therefore, as in previous entrepreneurship studies (Woodcock, Beamish, & Makino, 1994), we used perceptual measures of financial performance. Perceptual measures are appropriate when firms are unwilling or unable to provide financial measures, or when accounting practices vary (Woodcock et al., 1994). This is the case of SEVs, which can be either for-profit or nonprofit and therefore rely on different accounting rules (see Robb-Post et al., 2011, for a comprehensive discussion of the application of growth and profitability concepts to nonprofits). Moreover, Dess and Robinson (1984) find that perceptual and objective measures of performance are positively correlated. To capture social entrepreneurs’ perceptions of their firms’ financial performance, we used items that were previously used and validated in Chandler and Hanks (1993), and in Westhead, Ubasaran, and Wright (2005). Respondents were asked about their level of satisfaction (1 = highly dissatisfied; 7 = highly satisfied) with six different indicators over the past three years: SEV’s sales level, sales growth, profitability, net profit, gross profit, and their ability to fund enterprise growth from profits.

In order to calculate the estimates for the second-order variable of the “double bottom line”, we used a two-stage approach (Ringle, Sarstedt, & Straub, 2012). In the first stage, we modeled the endogenous variable “double bottom line” by using all the indicators of social impact and financial performance (i.e., corresponding to FP1–FP6 and SI1–SI4 in Figure 3) in both the reflective first-order latent variables, and the formative second-order latent variable. We saved the scores of the latent variables “social impact” and “financial performance” (obtained from a Partial Least Squares analysis, see Section 4.5. below) into two new variables in our dataset for each of the 171 observations. In the second stage, we used these two new variables as two formative indicators of the latent variable “double bottom line” (in that case, the direction of the relationship goes from the measures to the construct, see Figure 3). We did not use the indicators anymore as they were already encapsulated in the two latent variables scores.

### 4.4 Measures of control variables

We included four control variables believed to have an influence on the double bottom line’s two formative dimensions, namely social impact and financial performance:

1. **Firm age**: Previous research has shown that the age of a venture may affect its financial performance (e.g., Thornhill & Amit, 2003). Although little evidence is available so far, we also believe that the age may similarly influence the social impact of an SEV. Indeed, a young SEV, compared to an older one, might underperform in terms of social impact due to a lack of experience. However, others have shown that, as time elapses, SEVs tend to favor one outcome over the other (Hockerts, 2010). This could indicate that SEVs achieve their double bottom line at best when they are young. Therefore, we controlled for the age of the SEV, measured as the number of years that the organization has been active.

2. **Profit status**: We believe that the SEV’s for-profit or nonprofit status may also have an effect on both financial performance and social impact. One could imagine that for-profit SEVs are more likely to have higher financial results, whereas nonprofit SEVs might yield higher social impact. Therefore, we used a dichotomous variable with a value of 1 if the SEV is a for-profit organization, 0 if nonprofit.

3. **Cash flow sign**: We similarly accounted for the SEV’s cash flow sign since this may be related to financial results. We used a 7-point Likert scale going from 1 (negative cash flow) to 7 (positive cash flow); a value of 4 on this scale was coded as break-even.

4. **Firm size**: We controlled for firm size as the number of full-time employees working in an SEV may also influence its results in terms of social impact and financial performance.

### 4.5 Data analysis: Partial Least Squares path modeling

In order to test our sets of hypotheses and to examine how SCALERS organizational capabilities act as mediators in the relationships between agency- and stewardship-oriented mindsets and SEVs’ double bottom line, we used Partial Least Squares (PLS) path modeling (Henseler, Ringle, & Sinkovics, 2009). PLS was
developed by Wold (1985) as a general method for estimating path models involving latent constructs indirectly measured by multiple indicators. Thus, PLS path modeling tests the relationships among latent variables, and between the latent variables and their indicators, by attempting to minimize the error variance between exogenous and endogenous variables (Meznar & Nigh, 1995). Yet, PLS path modeling does not infer causality between the latent variables. In comparison, covariance-based structural equation modeling (SEM) – carried out in software like LISREL, or AMOS – aims to assess a theoretical model by testing the “fit” between the latent variable path model and the covariance matrix structure, while controlling for measurement error.

Several reasons motivate our choice to use PLS path modeling to test our hypotheses in this study. First, PLS path modeling is a suitable method for prediction-oriented research focused on explaining endogenous constructs intended to theory building rather than theory testing. The present study of the influence of managerial mindsets and organizational capabilities on SEVs’ double bottom line is still at an infancy stage and the proposed model can be conceived as exploratory, as more theoretical developments are certainly required. Therefore, PLS orientation towards theory building sounds appropriate. Second, PLS path modeling method is less demanding in terms of sample size. Indeed, in PLS analysis, the recommended minimum sample size is ten times the number of indicators of the scale with the largest number of indicators (Chin & Newsted, 1999). For the present model, this amounts to six indicators (measuring the financial performance latent variable), and a minimum sample size of 60, which was far exceeded by our dataset of 171 observations. In addition, PLS is based on fewer restrictive assumptions. For instance, normality of data distribution is not required. Nevertheless, PLS path modeling proves to be a more rigorous method than correlations or regression analyses that assume error-free measurement. Finally, research has shown that PLS path modeling is equally performing as covariance-based SEM in terms of statistical data analysis (Henseler, Ringle, & Sinkovics, 2009). As a consequence, PLS has been increasingly recognized as a valid approach to SEM in management and entrepreneurship research.

In PLS path modeling, two models are subsequently assessed. First, the measurement model, also called the outer model, describes relationships between a latent variable and its associated observed measures (i.e., items or indicators). Second, the structural model, also called the inner model, specifies the relationships between the different latent variables (Edwards & Bagozzi, 2000). As Anderson and Gerbing (1982: 453) note, “the reason for drawing a distinction between the measurement model and the structural model is that proper specification of the measurement model is necessary before meaning can be assigned to the analysis of the structural model”. In line with these recommendations, we proceeded in two steps. In the first step, we assessed the measurement model using the PLS algorithm. In the second step, the structural model was estimated using the bootstrap resampling procedure (Chin, 1998). Means, standard errors and t-statistics for each of the parameters were estimated using the bootstrapping procedure on a total of 1,000 resamples, in line with the recommendations of Davidson and MacKinnon (2000). We used SmartPLS Version 2.0 (3M) software (Ringle, Wende, & Will, 2005) to conduct the analyses. The next section presents our main results.

5. Results

5.1 Assessment of the measurement model

Prior to assessing the quality of the structural model and test relationships between our latent variables, it is important to establish the internal reliability and validity of our measures. In the following paragraphs, we discuss them separately for our reflective and formative constructs.

Internal consistency reliability of reflective constructs. We used two complementary ways to assess the reliability of our measurement scales of a reflective nature. First, we calculated their composite reliability (Fornell & Larcker, 1981), which should be higher than .70 (or at least not less than .60), according to Nunnally

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5 A rapid search of the expression “Partial Least Squares” in these disciplines’ major journals yielded a growing number of publications using PLS as an approach to SEM: e.g., we found 10 articles in Entrepreneurship: Theory & Practice; 3 articles were published in Journal of Business Venturing; and most of them were published after 2000.
Note that composite reliability should be preferred to Cronbach’s $\alpha$ in PLS path modeling because the latter tends to provide severe under estimations of internal consistency reliability by assuming equal weightings of items. Second, we analyzed the outer standardized factor loadings in order to assess individual item reliability for each indicator. These should be above .70 (or at least not smaller than .40, Henseler, Ringle, & Sinkovics, 2009: 299). If they are not, the significance of the loss in composite reliability should be evaluated before deleting items. As displayed in Table 2, our reflective constructs show relatively good internal reliability with composite reliability values ranging from .79 to .95 and standardized factor loadings going from .55 to .93, all being highly significant.

**Validity of formative constructs.** For the double bottom line construct, which was measured by means of formative indicators, traditional reliability (i.e., internal consistency) and validity (i.e., convergent and discriminant validity) assessments are not meaningful given their assumption of error-free measures (Bagozzi, 1994; Bollen, 1989). Therefore, at the indicator level, it has to be established whether each indicator contributes to the formative construct as expected. To do so, one should assess each indicator’s impact on the formative index, as well as the risk of high multicollinearity between indicators – meaning that the indicator’s information is redundant. On the one hand, we assessed the significance of indicator weights of formative measurement models by means of bootstrapping. On the other hand, multicollinearity among the formative indicators (i.e., social impact and financial performance) can be assessed by calculating the variance inflation factor (VIF). As recommended by Kleinbaum, Kupper, and Muller (1998), the VIF of our formative construct was well below 5.

Table 2 displays the measurement properties of all our variables, including the outer standardized factor loadings and composite reliability (CR) for our reflective indicators, and the outer standardized factor weights and variance inflation factors (VIF) for our formative indicators, as well as the average variance extracted (AVE) for each of the latent variables.

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*As the assessment of the measurement model is often an iterative process, we first started with including all the indicators of the SCALERS model. We had to delete some of them for the benefit of composite reliability. Table 2 only displays the results of the latest stage of the iteration process.*
First-order Reflective Constructs (in bold) and Indicators (italicized) | Outer Standardized Factor Loadings* | CR | AVE
---|---|---|---
Agency-oriented mindset | | .79 | .56
To what extent do you agree with the following statements:
1. Changes in the power and authority structure enhance my stature and role in the organization.
2. Budget allocations within the firm are largely based upon my personal discretion.
3. I design strategic initiatives to promote my personal opinion of the appropriate direction for the firm.

Stewardship-oriented mindset | | .92 | .69
1. To what extent does your business satisfy your need for achievement?
2. To what extent does your business satisfy your personal needs?
3. To what extent does your business satisfy your opportunities for growth?
4. To what extent does your business contribute to your self-image?
5. To what extent does your business make you feel self-actualized?

Social Impact (first-order variable) | | .74 | .56
To what extent do you agree with the following statements:
1. “Compared to other organizations working to resolve similar social problems as our organization:”
2. we have made significant progress in alleviating the problem.
3. we have scaled up our capabilities to address the problem.
4. we have greatly expanded the number of individuals we serve.
5. we have substantially increased the geographic area we serve.

Financial Performance (first-order variable) | | .81 | .56
Please indicate the extent to which you have been satisfied with the following performance criteria of your organization over the past three years, using the following criteria:
1. Sales level
2. Sales growth
3. Profitability
4. Net profit
5. Gross profit
6. The ability to fund organizational growth from profits

* All significant at the $p < .001$ level (2-tailed).

Second-order Formative Constructs (in bold) and Indicators (italicized) | Outer Standardized Factor Weights | VIF
---|---|---
Double Bottom Line | | 1.68 | 1.68
Social Impact (first-order variable) | | .69 | 1.68
Financial Performance (first-order variable) | | .50 | 1.68

Significant at the $p < .001$ level (2-tailed).
Table 2. Latent Variables Measurement Properties: Internal Reliability Tests (continued).

<table>
<thead>
<tr>
<th>First-order Reflective Constructs (in bold) and Indicators (italicized)</th>
<th>Outer Standardized Factor Loadings*</th>
<th>CR</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCALERS Measurement Items</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thinking about the last three years of operations of your organization, please indicate how strongly you agree or disagree with each of the following statements, assuming each statement starts with the following phrase: “Compared to other organizations working to resolve similar social problems as our organization…”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Staffing</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. …we have been effective at meeting our labor needs with people who have the necessary skills.</td>
<td>.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. …we have individuals in management positions who have the skill to expand our organization, program or principles.</td>
<td>.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Communicating</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. …we have been effective at communicating what we do to key constituencies and stakeholders.</td>
<td>.85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. …we have been successful at informing the individuals we seek to serve about the value of our program for them.</td>
<td>.89</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. …we have been successful at informing donors and funders about the value of what we do.</td>
<td>.55</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Alliance-building</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. …we have built partnerships with other organizations that have been win-win situations for us and them.</td>
<td>.89</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. …we rarely try to “go it alone” when pursuing new initiatives.</td>
<td>.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. …we have accomplished more through joint action with other organizations than we could have by flying solo.</td>
<td>.77</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lobbying</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. …we have been successful at getting government agencies and officials to provide financial support for our efforts.</td>
<td>.74</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. …we have been successful at getting government agencies and officials to create laws, rules, and regulations that support our efforts.</td>
<td>.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. …we have been able to raise our cause to a higher place on the public agenda.</td>
<td>.78</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Earnings-Generation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. …we have generated a strong stream of revenues from products and services that we sell for a price.</td>
<td>.85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. …we have found ways to finance our activities that keep us sustainable.</td>
<td>.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Replicating</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. …we have a “package” or “system” that can work effectively in multiple locations or situations.</td>
<td>.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. …we find it easy to replicate our programs.</td>
<td>.87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. …we have been successful at controlling and coordinating our programs in multiple locations.</td>
<td>.74</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Stimulating Market Forces</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. …we have been able to demonstrate that businesses can make money through supporting our initiatives.</td>
<td>.93</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. …we have been able to demonstrate that consumers can save money through patronizing our products and services.</td>
<td>.81</td>
<td></td>
<td></td>
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</tbody>
</table>

Assessment of common method bias and construct validity. Although using key informants and self-reported data is frequent in management and entrepreneurship research, it exposes the data to the risk of common method bias (Krishnan, Martin, & Noorderhaven, 2006). Therefore, to prevent the occurrence of such a bias, we placed the measures of the predictor and criterion variables far apart in the questionnaire, as recommended by Krishnan, Martin, and Noorderhaven (2006). We also guaranteed for response anonymity (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).
Further, in order to evaluate the presence of common method bias, we conducted two post-hoc tests. First, following Podsakoff, MacKenzie, Lee, and Podsakoff’s (2003) recommendation, we conducted a Harman’s one-factor test. This involves testing an unrotated exploratory factor analysis on the items collected to measure the variables of interest in this study. When the risk of common method bias is high, the test shows that a single factor can be extracted to explain the majority of the variance of the data. Using SPSS, we subjected the correlation matrix relating to our main latent variables (excluding control variables) to principal axis factoring. Ten factors accounting for 60.25% of the explained variance were extracted. Of these factors, the first factor accounted for approximately 20.19% of the variance. In addition, no correlations in the factor correlation matrix exceed .70, as reported in Table 3.

Although necessary, the Harman’s one-factor test presents some limitations (Chang, van Witteloostuijn, & Eden, 2010). Therefore, we performed additional post-hoc analyses to test for common method variance, both at the construct and indicator levels. At the construct level, we used the Fornell-Larcker (1981) criterion based on the simple idea that a latent variable should share more variance with its assigned indicators than with any other latent variables. This criterion is verified if the square root of the AVE for each latent variable is considerably greater than the corresponding inter-construct Pearson zero-order correlations. In order to guarantee convergent validity of one construct, its AVE should also be superior to .50, indicating that the latent variable explains at least 50% of the variance of its indicators (Götz, Liehr-Gobbers, & Krafft, 2009; see Table 2). As reported in Tables 2 and 3, the results support both convergent and discriminant validity of each of our reflective constructs.

Table 3. Discriminant Validity Testa.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/ Agency</td>
<td>.75</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2/ Stewardship</td>
<td>.073</td>
<td>.83</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/ Staffing</td>
<td>-.261**</td>
<td>.324**</td>
<td>.86</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4/ Communicating</td>
<td>-.185*</td>
<td>.306**</td>
<td>.270**</td>
<td>.78</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5/ Alliance-Building</td>
<td>-.185*</td>
<td>.087</td>
<td>.302**</td>
<td>.169*</td>
<td>.78</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6/ Lobbying</td>
<td>-.285**</td>
<td>-.035</td>
<td>.231**</td>
<td>.241**</td>
<td>.300**</td>
<td>.79</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/ Earnings-Generation</td>
<td>-.089</td>
<td>.298**</td>
<td>.416**</td>
<td>.296**</td>
<td>.036</td>
<td>.156</td>
<td>.85</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8/ Replicating</td>
<td>-.014</td>
<td>.270**</td>
<td>.148</td>
<td>.299**</td>
<td>.071</td>
<td>.035</td>
<td>.304**</td>
<td>.82</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9/ Stimulating Market Forces</td>
<td>-.018</td>
<td>.169*</td>
<td>.205*</td>
<td>.343**</td>
<td>-.034</td>
<td>.090</td>
<td>.449**</td>
<td>.273**</td>
<td>.87</td>
<td></td>
</tr>
<tr>
<td>10/ Double Bottom Line</td>
<td>-.159*</td>
<td>.179*</td>
<td>.391**</td>
<td>.376**</td>
<td>.163*</td>
<td>.340**</td>
<td>.414**</td>
<td>.257**</td>
<td>.280**</td>
<td>n.a. b</td>
</tr>
</tbody>
</table>

Firm Age | .118 |     |     |     |     |     |     |     |     |     |
Profit Status | -.257** |     |     |     |     |     |     |     |     |     |
Cash flow sign | .275** |     |     |     |     |     |     |     |     |     |
Firm Size | .336** |     |     |     |     |     |     |     |     |     |

N = 171

a The square roots of the AVE are displayed on the diagonal. Inter-construct Pearson zero-order correlations are displayed off-diagonal.

b Double bottom line being a formative construct, it did not make sense to calculate the AVE of this construct.

c Correlation is significant at the .05 level (2-tailed).

** Correlation is significant at the .01 level (2-tailed).
At the indicator level, based on Chin (1998), we verified that the loading of each indicator to its corresponding latent variable is greater than all its cross-loadings\(^b\). Therefore, we conclude that each construct of our study is unique and captures phenomena that other measures do not.

5.2 Analysis of correlations and descriptive statistics

From Table 3, we find that a number of Pearson zero-order correlations between our latent variables are significant. That is, stewardship is positively correlated with a series of organizational capabilities (including Staffing, Communicating, Earnings-Generation, Replication and Stimulating Market Forces), whereas agency is negatively correlated with several SCALERS (in particular: Staffing, Communicating, Alliance-Building, and Lobbying). As predicted, all SCALERS organizational capabilities are positively correlated with the double bottom line. Inter-construct Pearson zero-order correlations range from \( .163^*\) (Alliance-Building) to \( .414^{**}\) (Earnings-Generation). Finally, agency is negatively related to the double bottom line (-.159\(^\ast\)) whereas stewardship is positively related to it (.179\(^\ast\)). As far as the relationships between the control variables and the double bottom line are concerned, the latter is negatively related with being a for-profit (-.257\(^**\)) whereas a positive cash flow relates with higher performance in terms of both social impact and financial performance (.275\(^**\)). Finally, firm size is also positively correlated with the double bottom line (.336\(^**\)). There is no significant correlation with the age of the SEV firm.

The means, standard deviations, medians, minima and maxima for our latent variables\(^i\) of interest are reported in Table 4.

<table>
<thead>
<tr>
<th>Latent Variable Name</th>
<th>Mean</th>
<th>s.d.</th>
<th>Median</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agency</td>
<td>2.89</td>
<td>.86</td>
<td>3</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Stewardship</td>
<td>3.88</td>
<td>.78</td>
<td>4</td>
<td>1.20</td>
<td>5</td>
</tr>
<tr>
<td>Staffing</td>
<td>3.85</td>
<td>.82</td>
<td>4</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Communicating</td>
<td>3.64</td>
<td>.73</td>
<td>3.67</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Alliance-Building</td>
<td>3.84</td>
<td>.77</td>
<td>4</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Lobbying</td>
<td>2.97</td>
<td>.92</td>
<td>3</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Earnings-Generation</td>
<td>3.42</td>
<td>.93</td>
<td>3.5</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Replicating</td>
<td>3.67</td>
<td>.77</td>
<td>3.67</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Stimulating Market Forces</td>
<td>3.11</td>
<td>.96</td>
<td>3</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Social Impact</td>
<td>3.63</td>
<td>.70</td>
<td>3.75</td>
<td>1.75</td>
<td>5</td>
</tr>
<tr>
<td>Financial Performance</td>
<td>3.79</td>
<td>1.30</td>
<td>4</td>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>

\( N = 171 \)

5.3 Assessment of the structural model

Percentage of explained variance. In order to determine the percentage of variance that can be explained by the exogenous latent variables that predict our endogenous latent variables, we first calculated the coefficient of determination \( (R^2) \). As a measure of the predictive power, \( R^2 \) values can be interpreted in the same way as those obtained in a multiple regression analysis. A value of .19 indicates a weak model whereas a value of .33 indicates a “moderately” good model (Chin, 1998: 323). Values above .67 indicate a “substantially” good model. Second, using the blindfolding procedure, we verified the model’s capability to predict the endogenous

\(^b\) The tables containing the cross-loadings are not displayed here for parsimony reasons. They can be obtained from the authors.

\(^i\) As calculating descriptive statistics of the formative-type latent variable “double bottom line” does not make sense, we include social impact and financial performance as two separate, first-order latent variables in Table 4.
variables by calculating Stone-Geisser’s $Q^2$. Positive values of $Q^2$ provide evidence that the observed values are well reconstructed and that the model has predictive relevance (Henseler, Ringle, & Sinkovics, 2009). A value of .02 indicates a small predictive capability; a value of .15 indicates a medium predictive capability whereas a value of .35 indicates a large predictive capability. Table 5 reports those values for all our latent variables.

<table>
<thead>
<tr>
<th>Name of the Endogenous Latent Variable</th>
<th>$R^2$</th>
<th>Stone-Geisser’s $Q^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staffing</td>
<td>.19</td>
<td>.20</td>
</tr>
<tr>
<td>Communicating</td>
<td>.14</td>
<td>.12</td>
</tr>
<tr>
<td>Alliance-Building</td>
<td>.05</td>
<td>.06</td>
</tr>
<tr>
<td>Lobbying</td>
<td>.08</td>
<td>.11</td>
</tr>
<tr>
<td>Earnings-Generation</td>
<td>.10</td>
<td>.13</td>
</tr>
<tr>
<td>Replicating</td>
<td>.08</td>
<td>.07</td>
</tr>
<tr>
<td>Stimulating Market Forces</td>
<td>.03</td>
<td>.07</td>
</tr>
<tr>
<td>Double Bottom Line</td>
<td>.42</td>
<td>.43</td>
</tr>
</tbody>
</table>

From Table 5, we can conclude that, as far the SCALERS mediating variables are concerned, Staffing, Communicating and Earnings-Generation are the best predicted by agency- and stewardship-oriented mindsets, with $R^2$ values of respectively .19, .14 and .10, although these values are quite low. However, this might be due to the small number of exogenous latent variables (i.e., two) that explain the SCALERS endogenous latent variables. In such a case, lower values of $R^2$ might be acceptable (Henseler, Ringle, & Sinkovics, 2009). Our full predictive model of the double bottom line has a predictive power of 42%, which can be considered as moderate to substantially good. Confirming these observations, all of our endogenous variables display positive values of $Q^2$, which provide evidence that our model has at least some predictive relevance. In particular, we found small to medium predictive capability (comprised between .06 and .20) for most of our SCALERS, and a good predictive capability (.43) of the double bottom line.

Assessment of path significance between latent variables. In order to establish to what extent each predictive variable contributes to the variance explained of the endogenous variables, we evaluated the significance, magnitude and sign of individual path coefficients $\beta$, which can be interpreted similarly to standardized beta of ordinary least square regressions. Table 6 reports the structural model coefficients $\beta$ for each path of the inner model, as well as the t-test values and their significance. It also provides a summary of the support of our sets of hypotheses 3, 4 to 5.

<table>
<thead>
<tr>
<th>Path between Two Latent Variables</th>
<th>Coefficients $\beta$</th>
<th>$t$-statistic (2-tailed)</th>
<th>Hypothesis supported?</th>
</tr>
</thead>
<tbody>
<tr>
<td>H3a Staffing</td>
<td>.13</td>
<td>1.74*</td>
<td>Y</td>
</tr>
<tr>
<td>H3b Communicating</td>
<td>.18</td>
<td>2.26**</td>
<td>Y</td>
</tr>
<tr>
<td>H3c Alliance-Building</td>
<td>.04</td>
<td>.33</td>
<td>N</td>
</tr>
<tr>
<td>H3d Lobbying</td>
<td>.09</td>
<td>.94</td>
<td>N</td>
</tr>
<tr>
<td>H3e Earnings-Generation</td>
<td>.17</td>
<td>1.81*</td>
<td>Y</td>
</tr>
<tr>
<td>H3f Replicating</td>
<td>.10</td>
<td>1.15</td>
<td>N</td>
</tr>
<tr>
<td>H3g Stimulating Market Forces</td>
<td>.13</td>
<td>1.29</td>
<td>N</td>
</tr>
<tr>
<td>H4a Staffing</td>
<td>-.29</td>
<td>3.17***</td>
<td>Y</td>
</tr>
<tr>
<td>H4b Communicating</td>
<td>-.21</td>
<td>2.60***</td>
<td>Y</td>
</tr>
<tr>
<td>H4c Alliance-Building</td>
<td>-.19</td>
<td>1.68*</td>
<td>Y</td>
</tr>
<tr>
<td>H4d Agency</td>
<td>Lobbying</td>
<td>-.28</td>
<td>3.35***</td>
</tr>
<tr>
<td>H4e Earnings-Generation</td>
<td>-.11</td>
<td>1.20</td>
<td>N</td>
</tr>
<tr>
<td>H4f Replicating</td>
<td>-.03</td>
<td>.36</td>
<td>N</td>
</tr>
</tbody>
</table>
As a test of hypotheses H3a to H3g, we found that only three types of organizational capabilities are positively related to the double bottom line. These capabilities are Staffing (H3a: $\beta = .13$), Communicating (H3b: $\beta = .18$) and the capacity to generate earned income (H3e: $\beta = .17$). As far as the sets of hypotheses 4 and 5 are concerned, we found that an agency-oriented mindset is indeed negatively related to organizational capabilities. In particular, we found significant relationships between agency motivations and Staffing (H4a: $\beta = -.29$), Communicating (H4b: $\beta = -.21$), Alliance-building (H4c: $\beta = -.19$), and Lobbying (H4d: $\beta = -.28$). Finally, our analyses revealed that a stewardship-oriented mindset is positively related to all of the SCALERS organizational capabilities, except Alliance-building and Lobbying. We thus are able to confirm H5a, H5b, H5e, H5f and H5g. Figure 4 highlights the significant paths of our inner structural model.

**5.4 Test of mediating effects**

In order to establish mediation of the effects of agency- and stewardship-oriented mindsets on the double bottom line through the SCALERS capabilities (i.e., tests of hypotheses sets 6 and 7), we used two complementary tests. First, we tested separate mediation models. We followed the “competing models analysis” procedure proposed by Singh, Goolsby, and Rhoads (1994) recently used in entrepreneurship research (e.g., De Clercq & Rangarajan, 2008). Second, we tested our multiple mediator model as a whole, following Preacher and Hayes’s
(2008) recommendations. We examined the significance of the indirect effects that emerged from the bootstrapping resampling procedure. Indeed, past work has shown that the bootstrapping approach is superior to alternative methods of testing indirect effects, such as the Sobel test (MacKinnon, Lockwood, & Williams, 2004), which works best in large samples (N > 200). In addition and as already argued, bootstrapping has the advantage of having no distributional assumptions, so that indirect effects can be non-normally distributed.

**Test of individual mediating effects: Competing models analysis.** The “competing models analysis” procedure requires the estimation and comparison of two models (Singh, Goolsby, & Rhoads, 1994). The first model (further called “model 1”) only contains the direct effects of agency and stewardship mindsets on the achievement of the double bottom line (i.e., in the absence of any intervening variable – the SCALERS capabilities). This direct effects model served as a test of our hypotheses 1 and 2. Second, a “partial mediation model” (i.e., in the presence of mediators, called “model 2”) was evaluated containing: (a) all relationships in the direct effects model, (b) the direct effects of agency and stewardship mindsets on the SCALERS capabilities, and (c) the direct effects of the SCALERS capabilities on the achievement of the double bottom line.

In order to confirm full mediation by a capability, the following conditions need to be met by model 2 (Cohen, Cohen, West, & Aiken, 2003):
1. insignificant direct effects between agency and stewardship mindsets and the double bottom line;
2. significant direct effects between agency (i.e., H4a–H4g) and stewardship (i.e., H5a–H5g) mindsets and the SCALERS;
3. significant direct effects between the SCALERS and the double bottom line (i.e., H3a–H3g).

Mediation is only partial if the direct effects in condition (1) remain significant but are substantially reduced. In addition, we also assess whether the percentage of the variance explained for the double bottom line is higher in the presence of mediators than in their absence. Such a quantifying approach of mediating effects offers a useful complement to the full/partial mediation dichotomous distinction, provided that no suppression effects are present in the model (Shrout & Bolger, 2002).

Regarding conditions (2) and (3) and given the path significances already reported in Table 6 and Figure 4, a mediating effect is only possible for the following relationships:
- **Agency → Staffing → Double bottom line (H6a)**
- **Agency → Communicating → Double bottom line (H6b)**
- **Stewardship → Staffing → Double bottom line (H7a)**
- **Stewardship → Communicating → Double bottom line (H7b)**
- **Stewardship → Earnings-Generation → Double bottom line (H7c)**

Therefore, and for parsimony reasons, we only address these five potentially mediated relationships in the following paragraphs. However, such an approach only tests each mediational hypothesis separately. In the next section, we explain how we tested the multiple mediator model as a whole, i.e., tested the mediating effects altogether.

**Test of the multiple mediator model: Bootstrapping.** We followed Preacher and Hayes’s (2008) recommendations to test the significance of the indirect effects of senior decision-makers’ agency and stewardship mindsets on the SEV’s double bottom line through the SCALERS serving as multiple mediators. For the each of the predictors, we thus calculated the indirect effect of the SCALERS on the dependent variable (i.e., double bottom line), using the basic formula:

\[ \Sigma_i (a_i \times b_i) \]

where \( a \) represents the effect of the predictor on the mediator; \( b \) represents the effect of the mediator on the dependent variable; and \( i \) goes from 1 to \( j \) (\( j = \) the number of mediators = 7 in our case).

Then we tested the significance of this total indirect effect (i.e., test of the effect of the set of seven mediators), as well as and the significance of each individual indirect effects, in the context of multiple mediators. 

---

\[ ^{1} \text{Indeed, H1 and H2 were not tested in the previous section, as they were not part of the inner structural model per se.} \]
statistics for the indirect effects were computed using bootstrapping on 1,000 samples with 171 cases per sample (Henseler, Ringle, & Sinkovics, 2009: 306). Results of our “competing models analysis” and test of the multiple mediator model as a whole are reported in Table 7, which displays the path coefficients for both the direct effects model (i.e., “model 1”) and the partial mediation model (i.e., “model 2”). In model 1, we tested for the effects of agency- and stewardship-oriented mindsets on the double bottom line solely, and therefore we only report the direct effects of these two variables. In model 2, we included all direct and indirect effects, which we report in Table 7, as well as total effects of agency and stewardship on the double bottom line (equals to the sum of direct effects and indirect effects). Table 7 also displays the explained variance of the double bottom line by the two models.

In our initial tests of hypotheses 1 and 2 (model 1), we found support for the contention that a stewardship-oriented mindset is positively related to the achievement of the double bottom line, whereas an agency-oriented mindset is negatively related with the double bottom line. Based on the competing models analysis, looking at the direct effects column, we can conclude that the effect of an agency mindset on the double bottom line is fully mediated by Staffing and Communicating. On the other hand, the mediating effects of the Staffing, Communicating, and Earnings-Generation are also significant in the relationship between a stewardship-oriented mindset and the SEV’s double bottom line. The resulting values of $R^2$ also show that the partial mediation model (model 2) explains a higher portion of the variance of the double bottom line than the direct effects model (model 1).
Table 7. Results of the Competing Models Analysis and Test of the Multiple Mediator Model.

<table>
<thead>
<tr>
<th>H#</th>
<th>Path between 2 or 3 Latent Variables</th>
<th>Path Coefficients $\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>MODEL 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Direct Effects</td>
</tr>
<tr>
<td>H1</td>
<td>Agency $\rightarrow$ DBL</td>
<td>-.14*</td>
</tr>
<tr>
<td>H2</td>
<td>Stewardship $\rightarrow$ DBL</td>
<td>.22**</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Direct Effects</th>
<th>Indirect Effects</th>
<th>t-statistic (Indirect Effects)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Staffing as a mediator</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H3a</td>
<td>Staffing $\rightarrow$ DBL</td>
<td>.13*</td>
<td></td>
</tr>
<tr>
<td>H4a</td>
<td>Agency $\rightarrow$ Staffing</td>
<td>-.29***</td>
<td></td>
</tr>
<tr>
<td>H6a</td>
<td>Agency $\rightarrow$ Staffing $\rightarrow$ DBL</td>
<td>-0.038 (3)</td>
<td>-1.33</td>
</tr>
<tr>
<td>H5a</td>
<td>Stewardship $\rightarrow$ Staffing</td>
<td>.35***</td>
<td></td>
</tr>
<tr>
<td>H7a</td>
<td>Stewardship $\rightarrow$ Staffing $\rightarrow$ DBL</td>
<td>.046</td>
<td>1.51</td>
</tr>
</tbody>
</table>

| **Communicating as a mediator** |               |                  |                               |
| H3b | Communicating $\rightarrow$ DBL    | .18**            |                              |                   |
| H4b | Agency $\rightarrow$ Communicating | -.21**           |                              |                   |
| H6b | Agency $\rightarrow$ Communicating $\rightarrow$ DBL | -0.038* | -1.78* |
| H5b | Stewardship $\rightarrow$ Communicating | .32***          |                              |                   |
| H7b | Stewardship $\rightarrow$ Communicating $\rightarrow$ DBL | .058* | 1.88* |

| **Earnings-Generation as a mediator** |               |                  |                               |
| H3e | Earnings-Generation $\rightarrow$   | .17*             |                              |                   |
| H5e | Stewardship $\rightarrow$ Earnings-Generation | .31***          |                              |                   |
| H7e | Stewardship $\rightarrow$ Earnings-Generation $\rightarrow$ DBL | .053 | 1.60 |

<table>
<thead>
<tr>
<th><strong>Control Variables</strong></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-.07</td>
<td>-.06</td>
<td></td>
</tr>
<tr>
<td>Profit status</td>
<td>-.16**</td>
<td>-.25***</td>
<td></td>
</tr>
<tr>
<td>Cash flow sign</td>
<td>.18***</td>
<td>.08</td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>.25***</td>
<td>.15**</td>
<td></td>
</tr>
</tbody>
</table>

$R^2$ for the Double Bottom Line | .246 | .419 |

* $p < .10$; ** $p < .05$; *** $p < .01$ (2 tailed t test).

(1) This figure refers to the total indirect effect of an agency-oriented mindset on the double bottom line through all seven capabilities and was calculated as the sum of the individual indirect effects of agency. The latter are not all displayed in Table 7 as we focus on H6a and H6b, and are available from the authors.

(2) This figure refers to the total indirect effect of a stewardship-oriented mindset on the double bottom line through all seven capabilities and was calculated as the sum of the individual indirect effects of stewardship. The latter are not all displayed in Table 7 as we focus on H7a, H7b, and H7e, and are available from the authors.

(3) For instance, the individual indirect effect of an agency-oriented mindset on the double bottom line through Staffing following the formula $a_i * b_i = .13 * -.29 = -.038$. We used the same approach to calculate all the individual indirect effects.

On the other hand, looking at the significance of the indirect effects coefficients, we confirm that, as a set ($\Sigma_i$ of indirect effects), the SCALERS capabilities mediate the negative effect of an agency-oriented mindset on the double bottom line ($\beta = -.139***$), as well as the positive effect of a stewardship-oriented mindset on the double bottom line ($\beta = .208***$). However, when testing for the indirect effects of Staffing, Communicating and Earnings-Generation individually, but conditionally to the presence of the other six mediators, Communicating
seems to play the most important mediating role on both agency and stewardship’s effects on an SEV’s double bottom line. The indirect effect of Earnings-Generation was almost significant at $p < .10$ (p-value = .1099, 2-tailed). The next section discusses our results.

6. Discussion

Our PLS analyses enabled us to find strong support for a great number of our hypotheses. First, we confirm the prediction of agency and stewardship theories regarding the effects of senior decision-makers’ mindsets on the double bottom line. That is, an agency-oriented mindset is negatively related to the double bottom line, but also to the development organizational capabilities, usually seen as key to an SEV’s performance. In particular, it arises from our analyses that having a self-oriented senior decision-maker hampers the organizational ability of attracting the appropriate human resources, being able to communicate about the SEV’s social mission and the efficiency of the organization to have a significant social impact on the communities they serve, building partnerships, as well as the SEV’s effectiveness in making their mission acknowledged by the local authorities.

Although our hypotheses were based on insights generated in the extant literature, the introduction of agency theory in the social entrepreneurship context is new and certainly deserves closer attention to the ways in which opportunistic behaviors take place in organizations driven by a double bottom line. Overall, the general intuition that an agent’s self-serving mindset hampers the realization of financial performance and social impact, calls for further investigation.

However, we found support for a positive effect of other-regarding behaviors on SEVs’ double bottom line, as well as on a series of organizational capabilities. Thus, stewardship seems to have a positive influence on the way the SEV manages to staff its key positions, as well as the way it communicates around its mission. This makes sense that senior decision-makers driven by organizational goals actually help to develop its capabilities. A stewardship mindset is also positively related with the generation of sufficient revenues for the firm, as well as the stimulation of market forces. It also positively influences the capacity of the organization to successfully replicate its logic model in other contexts or geographical regions. However, we did not find support of a positive relationship between a stewardship-oriented mindset and both the capacity to build alliances and lobbying. This could further suggest that a stewardship mindset is not sufficient when it comes to convince local authorities or potential partners, and that other elements might come at play here. It has been argued that individuals in SEVs naturally behave altruistically (e.g., Short et al., 2009). Whether this argument is always verified falls beyond the focus of this study. However, the support we found for our hypotheses should encourage researchers in social entrepreneurship and the management of hybrid organizations to consider stewardship as a promising path to achieve the double bottom line.

Furthermore, we found that three SCALERS capabilities are particularly key to the achievement of the double bottom line. Indeed, Staffing, Communicating and Earnings-Generation have a direct positive effect on the double bottom line, but they also serve as facilitators in the indirect relationships between agency- and stewardship-oriented mindsets and the double bottom line. When controlling for all the possible mediating effects of the seven SCALERS capabilities, we further found that Communicating is the organizational capability that plays the most significant facilitating (impeding) role in the relationships between the senior decision-makers’ mindsets and the double bottom line. These results refine Bloom and Smith’s (2010) and Bloom and Chatterji’s (2009) findings that all seven SCALERS organizational capabilities indeed are important antecedents of the successful scaling of social impact, by adding an important relationship between the SCALERS and financial performance. Indeed, it is very unlikely that an SEV will have an important social impact if it is not able to build a financially viable business model. Finally, our results support RBV arguments according to which abilities to attract skilled workforce, convince decision-makers, and generate earnings, are the key to firm performance – both social and financial.

7. Study Contributions and Implications
This study was designed as a response to the call for more robust quantitative empirical studies on the antecedents of the double bottom line in the field of social entrepreneurship. Our investigation of the question of the direct and indirect influences of social entrepreneurs’ mindsets on their organizations’ capabilities and multidimensional performance, yields several theoretical contributions. First, our study uncovers the enabling role of organizational capabilities in the relationships linking agency- and stewardship-oriented mindsets, and financial and non-financial performance. It is also, to our knowledge, the first study to link RBV with both agency and stewardship perspectives. Second, this study contributes to a better understanding of organizational capabilities in SEVs. We bring some nuances to preliminary studies’ findings by also establishing a link between some key SCALERS and financial outcomes encapsulated in the double bottom line. Third, this study extends our understanding of senior decision-makers’ mindsets within SEVs. We learn that a social entrepreneur’s mindset can have positive or negative influences on organizational capabilities and the double bottom line, depending on its orientation. Prior research has tended to focus on supposedly altruistic motivations of social entrepreneurs without empirical testing and without ruling out alternative explanations. This research offers empirical evidence that agency mindsets also exist in SEVs although a stewardship mindset yields greater success on both financial and social fronts.

From a practical standpoint, this study offers insights for senior decision-makers of SEVs and of hybrid organizations. On the one hand, this study directly investigates the type of mindset that can help social entrepreneurs to perform well in terms of the double bottom line. Our results suggest that social entrepreneurs should adopt stewardship attitudes and motivations in order to develop organizational capabilities that can cope with the double bottom line. On the other hand, our findings can be extended to other types of organization that have to deal concurrently with social and economic objectives – the so-called “hybrid” organizations. Examples include traditional non-profits that need to adopt more sustainable entrepreneurial practices, but also for-profit organizations that want to achieve a social mission. Practitioners in these hybrid organizations are encouraged to adopt (or be incited to adopt) a stewardship-mindset in order to achieve multiple goals concurrently.

8. Limitations and Future Research Avenues

We acknowledge that common method bias and self-report information about performance are important limitations to the interpretation of our results. Indeed, we obtained perceptual measures of mindsets, organizational capabilities, and financial and social performance from a single respondent in each venture. However, it has been argued that the entrepreneurs’ opinion is the one that matters most since they know their business the best (Covin, 1991; Hambrick, 1981). Indeed, (social) entrepreneurial firms can be considered as an extension of the entrepreneur who makes all the decisions (Lumpkin & Dess, 1996). Future research should develop more comprehensive measures or employ multiple measures of one construct. For instance, researchers could complement the agency-oriented mindset scale with complementary measures of governance mechanisms intended to have an influence on those mindsets, such as the board of directors or managerial incentives. Common method bias could be further overcome by the inclusion of alternative perspectives from the SEV’s multiple stakeholders (i.e., employees, partnering organizations, beneficiaries) or secondary data. Another methodological challenge that we face in this study concerns the measurement of the double bottom line in SEVs. Although we used two scales that have been validated in the literature, future research should complement these with other valid and reliable measurement instruments and focus on the most robust ones to assess the outcomes of SEVs in terms of social impact and financial performance.

In addition, although the hypothesized model and relationships suggest causal directions of the relationships between our latent variables, our study is cross-sectional. In order to establish causality and rule out any reverse causality effects, future research should thus examine these relationships from a longitudinal perspective. This could provide insights of how senior decision-makers’ mindsets and the development of organizational capabilities occur throughout the life cycle of the SEV. Another methodological direction for future research would be to include a lagged measure of performance, or at least some external measures, which would help to prevent from common method variance. Finally, we also encourage adaptations of our study to other geographical areas (especially developing countries) or other types of firms facing competing demands (we think here of family business research or other hybrid organizations).
Indeed, several areas of research could benefit from this study and we identify several future research avenues. Investigating potential conditions (i.e., use of appropriate and maybe innovative governance mechanisms) under which an agency-oriented mindset could yield positive results on SEVs’ double bottom line is one of them. Such a research path could extend recent developments on value congruence, especially at the person-organization level (i.e., the social entrepreneur-the double bottom line) (e.g., Hoffman, Bynum, Piccolo, & Sutton, 2011). Indeed, our study confirms Davis et al.’s (1997) intuition that stewardship theory is more relevant in contexts in which agency theory is less relevant, i.e., young social entrepreneurial firms. This further confirms Eisenhardt’s (1989) early suggestion that goal incongruence may be reduced in situations where there is a high level of socialization, or where behavior is not self-directed – the case of SEVs. Finally, upper-echelon theory could also yield interesting insights with regard to the effect of the social entrepreneur’s leadership role on the achievement of the double bottom line (Waldman, Ramirez, House, & Puranam, 2001).

9. Conclusion

Governing double bottom line-driven organizations is a topic that has received only limited attention to date. The objective of this paper was to examine empirically the facilitating role of capabilities in the relationships between social entrepreneurs’ mindsets from an agency and a stewardship perspective, and the SEVs’ financial performance and social impact. We developed a series of hypotheses regarding the relationships between these three sets of constructs (i.e., agency- and stewardship-oriented mindsets, organizational capabilities, and financial and social performance) and argued for a mediational model. This study also fills a methodological gap in addressing the lack of predictive models in the extant social entrepreneurship literature. We provided empirical evidence that the mindset of an SEV’s senior decision-maker plays a role in resolving the dilemma of balancing the social mission and the need for financial sustainability. We found partial support for our hypotheses and were able to confirm the mediational role played by organizational capabilities relating to staffing, communicating and earnings-generation capabilities, between the senior decision-makers’ mindset and the double bottom line. Specifically, we found that organizational capabilities are good predictors of social impact and financial performance, and act as enablers between a stewardship-oriented mindset and both social impact and financial performance. Thus, it could be argued that, in the social entrepreneurship context, stewardship is key for the development of organizational capabilities that help an SEV to reach its double bottom line. In addition, we found that an agent’s opportunistic mindset negatively influences the development of these capabilities and, hence, the achievement of the double bottom line. Therefore, agency-oriented mindsets should be avoided by SEVs looking to accomplish their double mandate. It is our hope that this research will lead to additional theoretical and empirical developments on these key issues for social entrepreneurs and senior decision-makers in hybrid organizations.

10. References


Parwoll, M., & Wagner, R. 2012. The impact of missing values on PLS model fitting. In W. Gaul et al. (Eds.), Challenges at the interface of data analysis, computer science, and optimization: 537–544. Heidelberg, Germany: Springer Verlag.


Sherman, D. 2006. Social entrepreneurship: Pattern-changing entrepreneurs and the scaling of social impact. Working paper, Case Western Reserve University, Cleveland, OH.


