

Identifying the Drivers of Social Entrepreneurial Impact: Theoretical Development and an Exploratory Empirical Test of SCALERS

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ABSTRACT *The scaling of social entrepreneurial impact is an important issue in the field of social entrepreneurship. While researchers have focused relatively little theoretical and empirical attention on scaling, a recently proposed set of drivers of scaling – incorporated into what has been labeled the SCALERS model – may provide guidance for new theoretical and empirical work on scaling of social impact. In this study, prior work on the drivers of scaling is extended by adding to the theoretical foundations upon which the SCALERS model is developed and by providing an initial empirical test of the SCALERS model. Initial empirical support is found for the SCALERS model of scaling social entrepreneurial impact.*

KEY WORDS: Social entrepreneurship, scaling, organization capabilities, social impact, nonprofit, social enterprise, social capital, human capital, political capital, new venture growth

Nearly every problem has been solved by someone, somewhere. The frustration is that we can't seem to replicate [those solutions] anywhere else. (Former US President, Bill Clinton, quoted in Olson 1994, p. 29)

The challenge of how to scale social impact efficiently and effectively has become a key issue for both practitioners and researchers of social entrepreneurship (Bradach 2003, Dees *et al.* 2004, Bloom and Dees 2008).

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Managers of social entrepreneurial organizations – and the donors and agencies that fund and support them – are eager to learn how to take a program that has helped to resolve a social problem in a limited way and then scale it up so that the program's impact on society becomes wider (i.e. helps more people in more places) and deeper (i.e. reduces the problem's negative effects more dramatically). Can a high-quality, cost-effective, local program that fosters, for example, drug rehabilitation or recycling be scaled up to create significantly less drug abuse or solid waste around the world?

To date, the field of social entrepreneurship has dedicated relatively little theoretical and empirical work to the study of scaling of social impact. The theoretical work has largely focused on the development of practitioner frameworks. In the same way, the empirical work that has been done, specifically to understand the drivers of successful scaling for social entrepreneurial organizations, has been limited, with most of it utilizing comparative case-study approaches (Alvord *et al.* 2004, LaFrance *et al.* 2006, Sharir and Lerner 2005, Grant and Crutchfield 2007). While this work has generated some provocative theoretical insights, more complete theorizing and empirical tests of theories have been relatively limited (Sherman 2007). The limited theoretical and empirical work is regrettable since the scaling of a social innovation offers the potential to greatly expand the social value of the innovation to a greater number of beneficiaries. In this way, it is arguably one of the most, if not the most, important dependent variables in the field of social entrepreneurship.

One important exception to the limited theoretical work is the emerging work of the SCALERS model (Bloom and Chatterji 2009). Drawing on previous research on scaling and on case studies and theoretical notions from strategic management, organizational behavior and marketing, the SCALERS model, shown in Figure 1, identifies seven different potential drivers of scaling social impact. These drivers of social impact are: Staffing, Communicating, Alliance-building, Lobbying, Earnings-generation, Replicating and Stimulating market forces, and form the acronym, SCALERS.

Similar to the PIMS research agenda, which focused on identifying factors associated with differences in business performance (Buzzell 2004, Farris and Moore 2004), the SCALERS model has the potential to open up important opportunities for both theoretical and empirical work on scaling of social impact. However, to provide the platform for a research stream of scaling social impact, the SCALERS model needs additional theoretical work and the initial development and testing of measures to assess its predictive validity. In this study, prior work on the identification of drivers of scaling is extended in two important ways. First, this paper adds to the theoretical foundations upon which the SCALERS model is developed. In the process, the similarities and differences between scaling within social entrepreneurship and growth within commercial entrepreneurship are also highlighted. Second, the paper provides an initial empirical test of the SCALERS model. Specifically, it examines both the reliability and validity of the measures and the predictive validity of the constructs of the SCALERS model with a large-scale sample of more than 500 social enterprises in the United States.

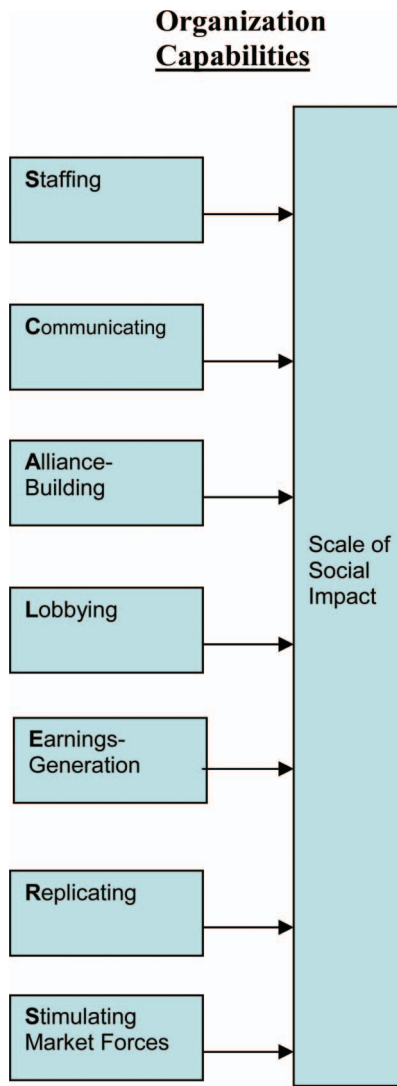


Figure 1. The SCALERS model

Theoretical Development

In the context of social entrepreneurship, scaling is defined as ‘increasing the impact a social-purpose organization produces to better match the magnitude of the social need or problem it seeks to address’ (Dees 2008, p. 18). To date, researchers interested in scaling social impact have addressed the issue in a number of different ways. For instance, several frameworks have been proposed to help guide practitioners toward more effective strategies for scaling, drawing in part on theoretical thinking and empirical work done in fields such as organizational behavior, strategic management, sociology, and

economics (Dees *et al.* 2004, LaFrance *et al.* 2006). Yet, the theoretical foundations of the work on scaling have been relatively limited and little work has drawn on entrepreneurship research that might offer closely related insights (Dees 2001).

While early work on scaling focused on how people and policies inside the organization can affect the growth of social impact (Bradach 2003, Sherman 2006, LaFrance *et al.* 2006), more recent attention has focused on how interaction with their external ecosystems can help the scaling of social entrepreneurial organizations, creating alliances to acquire resources and political support (Sharir and Lerner 2005, Grant and Crutchfield 2007), building on market incentives to change the behaviors of beneficiaries and influencers, and capitalizing on economic and social trends to attract attention and build momentum for their causes (Austin 2000, Bloom and Dees 2008).

Beyond the ecosystem approach in social entrepreneurship, it may also be useful to draw upon the literature in entrepreneurship research to inform our understanding of the similarities and differences between scaling in commercial and social entrepreneurship. A review of the commercial entrepreneurship literature identifies new venture growth as a choice of the entrepreneur affected by resources, strategy and industry context (Gilbert *et al.* 2006). One common theme across studies of growth factors is the role of available resources (Shelton 2005, Gilbert *et al.* 2006). In short, access to the necessary financial, human and social capital is related to the growth of new ventures. While the role of strategy is important, the relationship of strategy to growth is often contingent upon having the necessary resources to develop and execute a growth strategy. In the same way, the industry context generally affects the growth of new ventures through munificence and competition for available resources. As such, the challenges facing for-profit entrepreneurial ventures interested in growth and social entrepreneurial organizations interested in scaling their impact are similar. Both have to manage relationships with multiple stakeholders and find ways to mobilize resources and achieve sustainability.

While similarities exist, the scaling of social ventures also has several additional challenges not necessarily faced by for-profit ventures, which may affect the organization's ability to develop and acquire the necessary resources for growth. An examination of the ecosystem (Bloom and Dees 2008) facing the typical (nonprofit) social entrepreneurial organization highlights several unique challenges. First, the external environment in which the social entrepreneurial organization operates is less likely to have economic or financial incentives available to motivate desired actions by funders/investors, employees, suppliers, distributors, and beneficiaries/consumers. To persuade these stakeholders to support and engage with the scaling strategy, more emphasis must often be placed on altruism, compassion, volunteerism, and social value creation. Second, the environment is less likely to have established infrastructures in place, such as retailers, brokers, or raw material suppliers to facilitate growth. Supply and distribution infrastructures often have to be built from scratch and cannot be

contracted or acquired. Third, the financial capital markets are often not as available to social entrepreneurial organizations. Finally, the beneficiaries or ‘customers’ of social entrepreneurial organizations – who often are poor, under-educated, and unhealthy – are not as likely to be able to afford to pay a ‘full cost’ price for the services they receive. Some way of financing the gap in their ability to pay often must be found. Taken together, these differences highlight some of the many challenges facing social entrepreneurial organizations as they attempt to scale social impact.

The SCALERS Model

Building on an ecosystem approach and recognizing some of the unique challenges faced by social entrepreneurial organizations, one of the most promising new approaches to understanding the scaling of social impact is the SCALERS model (Bloom and Chatterji 2009). Drawing on previous research on scaling, case studies and theoretical notions from strategic management, organizational behavior and marketing, the SCALERS model, shown in Figure 1, identifies seven different drivers of scaling social impact. As mentioned above, these are: Staffing, Communicating, Alliance-building, Lobbying, Earnings-generation, Replicating and Stimulating market forces. To keep the discussion here somewhat parsimonious, this paper does not present the situational contingencies that Bloom and Chatterji (2009) posit to moderate the influence of the individual SCALERS, nor does it discuss the potential interactions and synergies among the SCALERS, which Bloom and Chatterji (2009) propose to exist.

Despite its practical relevance, the SCALERS model – in its current form – suffers from many of the same issues that have plagued prior approaches in scaling research. That is to say, SCALERS appears as a practitioner framework based on a small number of case studies. However, the SCALERS model is actually grounded in two important theoretical traditions – research on different forms of capital and on organizational capabilities – which must be made explicit to allow for increased utility of the SCALERS model in academic research.

SCALERS and Different Forms of Capital

The SCALERS model draws its inspiration from theoretical traditions in strategic management, entrepreneurship, sociology, and emerging work in social entrepreneurship. Consistent with early work from the field of strategic management (Penrose 1959), the SCALERS model recognizes growth as a function of the resources of the firm. While the specific attributes of these resources led to influential theories such as the resource-based view of the firm (cf. Wernerfelt 1984), the primary focus on the relationship between resources and growth has remained consistent. This view has also been extended to the study of new ventures, where the entrepreneurship literature has also recognized a central role for resources in the growth of new ventures (Gilbert *et al.* 2006). Specifically, the

entrepreneurship literature has identified the notion of *scale barriers* as ‘resource deficiencies which new ventures must overcome as they strive to grow and mature’ (Shelton 2005, p. 343).

If resources are critical to the scaling of social entrepreneurial ventures, then the question becomes: what types of resources are important? Here, the SCALERS model draws on the seminal work of sociologist Pierre Bourdieu’s (1986) different forms of capital. In his influential work, Bourdieu (1986, p. 241) asserted:

... the structure of the distribution of the different types and subtypes of capital at a given moment in time represents the immanent structure of the social world, i.e., the set of constraints, inscribed in the very reality of that world, which govern its functioning in a durable way, determining the chances of success for practices.

As such, different forms of capital are important for scaling because they represent the structure of opportunities and constraints available to social entrepreneurial organizations. Although Bourdieu’s work included the role of social capital, the aforementioned research in entrepreneurship (for a review, see Gilbert *et al.* 2006) and emerging theoretical research in social entrepreneurship has expanded the consideration of capital and its relationship of growth to include four different kinds of capital – financial, human, social, and political capital (Smith 2009). The SCALERS model was developed on the foundation of each of the different forms of capital, recognizing that each form of capital can contribute to the scaling of social impact by reducing constraints and increasing opportunities for growth of impact. Recognizing the importance of different forms of capital, we now turn our attention to how organizations go about creating, developing and maintaining different forms of capital.

SCALERS and Organization Capabilities

While the existence of different forms of capital is necessary to scale social impact, it is important to understand how the different forms of capital were developed by social entrepreneurial organizations. In this regard, the influential organization theory work of Dosi *et al.* (2000) on organization capabilities offers three useful points for understanding SCALERS as organization capabilities related to different forms of capital. First, these scholars offer an understanding of what is meant by an organization capability. ‘To be *capable* of something is to have a generally reliable capacity to bring that thing about as a result of intended action. Capabilities fill the gap between intention and outcome, and they fill it in such a way that the outcome bears a definite resemblance to what was intended’ (Dosi *et al.* 2000, p. 2). From this perspective, the SCALERS can be understood as the reliable capacity to create and develop different forms of capital.

Second, the theorists offer guidance about the unit of analysis. ‘We think of “capability” as a fairly large scale unit of analysis, one that has a recognizable

purpose expressed in terms of the significant outcomes it is supposed to enable, and that is significantly shaped by conscious decision both in its development and deployment' (Dosi *et al.* 2000, p. 4). As such, the organization capability focuses on the organization level of analysis – rather than the individual level often considered in entrepreneurship literature – but recognizes the role of the organizational decision maker(s) in the creation and development of different forms of capital.

Finally, the scholars highlight the changing nature of organization capabilities. Drawing on the work of Teece and his colleagues (1997, p. 6), they suggest an organization capability 'comes very close to the concept of "dynamic capabilities" advanced by Teece *et al.* (1997, p. 516): "We define dynamic capabilities as the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments." In this way, there is recognition that different approaches to developing and combining different forms of capital are needed to match the organization's resources with the dynamic needs of the external environment in the development and growth of social value.

By combining the different forms of capital and the organization capabilities literatures, the SCALERS model views each of the SCALERS as an organizational capability to create, develop and maintain different forms of capital, which can be used to grow or scale social impact of social entrepreneurial organizations. We now draw upon these literatures to develop specific hypotheses about how each of the SCALERS is related to scaling of social impact.

Hypotheses

The first of the SCALERS, called Staffing, is the organization capability that refers to the effectiveness of the organization at filling its labor needs, including its managerial posts, with people who have the requisite skills for the needed positions, whether they be paid staff or volunteers (Bloom and Chatterji 2009). A high value on this construct would reflect having little difficulty filling all of its jobs with competent people. As such, the organization capability of Staffing relates to the ability of the social entrepreneurial organization to acquire, develop and maintain the necessary human capital (Becker 1964). When organizations are able to effectively recruit and develop human capital with the necessary skills, education and training through a combination of an employee and volunteer labor pool, then the social entrepreneurial organization should be better positioned to scale its social impact.

H1: Staffing will be positively related to the scaling of social impact.

The second of the SCALERS, termed Communicating, is defined as the effectiveness with which the organization is able to persuade key stakeholders that its change strategy is worth adopting and/or supporting (Bloom and Chatterji 2009). A high value on this construct would mean that the

organization's communications have been successful at creating favorable attitudes or behaviors toward the organization's programs among the organization's stakeholders including beneficiaries, volunteers/employees, partners, consumers, or donors. In this way, Communicating is closely related to the development of social capital (e.g. Bourdieu 1986) from a range of relevant stakeholders. Extensive research in the area of entrepreneurship has identified the role of social capital in the growth and development of entrepreneurial ventures (for a review, see Hoang and Antoncic 2003). By extension, the effectiveness of the organization capability of Communicating is likely to allow the social entrepreneurial organization to develop social capital that may allow for growth and scaling of social impact.

H2: Communicating will be positively related to scaling of social impact.

The third of the SCALERS, called Alliance-Building, refers to the effectiveness with which the organization has forged partnerships, coalitions, joint ventures, and other linkages to bring about desired social changes. A high value on this construct would mean that the organization does not try to do things by itself, instead seeking the benefits of unified efforts. Similar to Communicating, the organization capability of Alliance-building is related to the development of social capital (Bourdieu 1986). Yet, Alliance-building is more explicit about the development of various forms of relationships with other organizations that may help bring additional resources to bear on the development and implementation of a theory of social change. In this way, the organization capability of Alliance-building allows a social entrepreneurial organization to scale its social impact with the help of other organizations.

H3: Alliance-building will be positively related to scaling of social impact.

The fourth of the SCALERS, termed Lobbying, is defined to mean the effectiveness with which the organization is able to advocate for government actions that may work in its favor (Bloom and Chatterji 2009). The term 'lobbying' is used loosely here, and is not referring just to efforts employing registered lobbyists that could jeopardize an organization's tax-exempt status. A high value on this construct would mean that the organization has succeeded in getting the courts, administrative agencies, legislators, and government leaders to help its cause. In this sense, the organizational capability of Lobbying is focused on the development of political capital. Political capital is distinct from social capital. While social capital refers to potential resources made available through social networks, political capital refers to the resources and powers generated through participation in interactive political processes linking civil society to the political system (Sorensen and Torfing 2003). Like other forms of capital, political capital can be used by social entrepreneurial organizations to scale social impact. As a result, organizations that are skilled at the development of political capital should realize increased scaling.

H4: Lobbying will be positively related to scaling of social impact.

The fifth of the SCALERS, referred to as Earnings-generation, is defined as the effectiveness with which the organization generates a stream of revenue that exceeds its expenses (Bloom and Chatterji 2009). A high value on this construct would mean that it does not have trouble paying its bills and funding its activities. Earnings-generation emerging from earned-income efforts, donations, grants, sponsorships, membership fees, investments, or other sources, will allow the social entrepreneurial organization to have sufficient financial capital to scale its social impact. In this way, the more effective the organization is in generating earnings the more likely it is it will have access to the required financial resources – or growth capital – needed to scale. In the social sector, the relatively limited growth capital markets shift even more emphasis on the organization's capability of earnings generation.

H5: Earnings-generation will be positively related to scaling of social impact.

The sixth of the SCALERS, called Replicating, reflects the effectiveness with which the organization can reproduce the programs and initiatives that it has originated (Bloom and Chatterji 2009). A high value on this construct would mean that the services, programs, and other efforts of the organization can be copied or extended without a decline in quality, using training, franchising, contracting, and other tools to ensure quality control. Unlike other SCALERS, which directly relate to the development of different forms of capital, Replicating is more directly related to an attribute of the social innovation itself that refers to the ability of the social solution to be easily transferred. When addressing a related issue about social capital, Bourdieu (1986, p. 241) referred to the 'potential capacity (of an object) to reproduce itself in identical or expanded form.' In this way, the organization's capability of Replicating enables social entrepreneurial organizations to package their innovation to expand the potential capacity to scale its social impact.

H6: Replicating will be positively related to scaling of social impact.

The seventh of the SCALERS, termed Stimulating Market Forces, covers the effectiveness with which the organization can create incentives that encourage people or institutions to pursue private interests while also serving the public good (Bloom and Chatterji 2009). A high value on this construct would mean that the organization has been successful at creating markets for offerings (i.e. products and services) such as micro-loans, inexpensive health remedies, inexpensive farming equipment, or carbon credits. The ability of the social entrepreneurial organization relates to the creation of financial capital which, in turn, provides financial capital for scaling.

H7: Stimulating market forces will be positively related to scaling of social impact.

Note that the original SCALERS model (Bloom and Chatterji 2009) posits that there are seven situational contingencies that could moderate how influential each of the seven SCALERS might be, potentially intensifying or reducing their influence. These moderators were labeled as: Labor Needs, Public Support, Potential Allies, Supportive Public Policy, Start-up Capital, Dispersion of Beneficiaries, and Availability of Economic Incentives. The effects of these moderating variables, while potentially important, were not able to be investigated in the empirical work discussed below. We also did not investigate potential interactions among the SCALERS.

Methods

Given the challenges in collecting large-scale data related to social entrepreneurship, the authors partnered with three organizations who work with social entrepreneurial organizations (Community Wealth Ventures, the Social Enterprise Alliance, and REDF). As part of a recent collaborative effort, the three organizations were interested in developing a survey to better understand the organizational landscape of social entrepreneurship in the United States. In the development of the survey, they contacted the authors to ask for technical assistance. In exchange for technical assistance in the development of the survey, the collaboration of the three organizations provided the opportunity for the authors to include 25 Likert-type items in the survey questionnaire.

For the purposes of the sample, the mailing lists from the three organizations were augmented with a list provided by Guidestar. After merging the four lists, a combined list was developed eliminating any duplications between the lists. Then, each of the organizations on the combined list was contacted by email and asked to participate in an online survey. A total of 5,965 organizations were sent emails requesting their participation in the study (i.e. completion of a SurveyMonkey online questionnaire), with the email reaching 5,424 (because of bouncebacks and opt-outs) and with a total of 1,008 responding, 601 completing the 25 items, and 591 of those reporting that they worked for nonprofit organizations. Respondents were offered an incentive of entrance into a lottery where they could win free registration at an upcoming conference. Although we believe for-profit organizations can pursue social entrepreneurial ventures, the authors decided that in this exploratory study it would be preferable to restrict the analysis to only the nonprofit managers, cutting down some heterogeneity.

The 25 items are reprinted in Appendix 1 and descriptive statistics on composites of these items and on several other measures for the nonprofit respondents are reported in Table 1. Four items were used to measure 'Scaling Social Impact' and three items each were used to measure the seven individual SCALERS. The survey also collected measures of the year the organization was founded.

Because no single item fully captured the constructs of the SCALERS, three items were used to construct formative measures for each of the SCALERS. In this way, the organizational capabilities of the SCALERS

Table 1. Correlations and descriptive statistics

Variables	1	2	3	4	5	6	7	8	9	10	11
1. Year founded											
2. Staffing	-0.04										
3. Communicating	0.01	0.34**									
4. Alliance-building	-0.12**	0.25**	0.24**								
5. Lobbying	0.17**	0.19**	0.27**	0.25**							
6. Earnings generation	0.05	0.42**	0.44**	0.22**	0.24**						
7. Replicating	0.01	0.32**	0.28**	0.22**	0.18**	0.36**					
8. Stimulating mkt forces	-0.04	0.36**	0.35**	0.21**	0.23**	0.51**	0.41**				
9. Scaling social impact	-0.12**	0.39**	0.37**	0.20**	0.19**	0.51**	0.40**	0.43**			
10. Attitude of board	-0.09*	0.11*	0.21**	0.13**	0.13**	0.29**	0.22**	0.44**	0.26**		
11. Attitude of staff	-0.15**	0.12**	0.15**	0.16**	-0.02	0.21**	0.19**	0.30**	0.18**	0.67**	
Mean	5.41	10.10	10.58	11.31	9.01	9.73	10.41	10.21	14.61	4.66	4.67
Standard deviation	2.78	2.29	2.23	2.50	2.40	2.42	2.46	2.46	2.92	1.92	1.87

Note: $n = 516$ for attitude of board; 547 attitude of staff; 586 for year founded; 591 for all other variables. * $p < 0.05$; ** $p < 0.01$.

were made up of three items that were combined to develop indices for each of the SCALERS (Staffing, Communicating, Alliance-building, Earnings-generation, Replicating and Stimulating market forces). The primary difference between reflective and formative indicators is the direction of causation. In the case of reflective indicators, the observable indicators are assumed to represent or reflect the construct. This means that the construct should be unidimensional and the items correlated (Helm 2005). As such, an increase in one indicator is associated with increases of the other indicators (Chin and Newsted 1999). By comparison, formative indicators 'cause' the latent variable and represent different dimensions of the variable (Helm 2005). The latent construct reflects a summative index of the observed variables. The indicators need not be correlated or represent the same underlying dimension (Bollen and Lennox 1991).

To develop the scale items for the formative measures of each of the SCALERS, the authors followed the guidelines for constructing formative indicators, which includes content specification and indicator specification (Diamantopoulos and Winklhofer 2001). In terms of content specification, the authors specified the content for each of the SCALERS as the effectiveness of the organizational capabilities related to staffing, communicating, alliance-building, lobbying, earnings-generation, replicating and stimulating market forces. For indicator specification, the items needed to cover the entire domain of the formative constructs. Based upon a review of the literature, the two authors engaged in an iterative process of developing items as indicators. In total, six items were developed for each construct. To improve construct and external validity as well as measure parsimony, the items were then sent to the three social entrepreneurial organizations for input and revision. A total of three items, which were thought to best represent the focal constructs, were selected based upon the input from the organizations.

A confirmatory factor analysis was conducted to assess the fit of the measurement model. The estimation of the model produced a good fit with the data ($\chi^2 = 837.70$, $df = 247$, $p < 0.001$; RMSEA = 0.063; NFI = 0.92; CFI = 0.94). To assess common method variance, Harman's one-factor test was used to determine whether a single factor accounted for most of the covariance in the relationships between the independent and dependent variables (Podsakoff and Organ 1986). After performing a factor analysis on all 25 items, 8 factors with eigenvalues near or greater than one emerged and no single factor accounted for more than 26% of the variance. As such, the common method variance was not likely to present a serious problem in our study.

Examination of Hypotheses

T-tests and linear regression were used to test our hypotheses. Table 1 presents the correlations and descriptive statistics for each construct. The date the organization was founded was positively and significantly related to lobbying ($r = 0.17$, $p < 0.01$), suggesting older organizations tend to engage

more in lobbying. The date the organization was founded was also negatively and significantly related to alliance-building ($r = -0.12$, $p < 0.01$), and scaling of social impact ($r = -0.12$, $p < 0.01$). This pattern of results suggests length of time since founding affects the SCALERS.

Table 2 presents t-tests comparing differences of high and low SCALERS on scaling of social impact. For each of the seven SCALERS, the authors compared the scaling of social impact of organizations that scored low and high, based on median splits for each of the SCALERS, on the different organizational capabilities. Across each of the SCALERS, a positive and significant difference was found between low and high SCALERS on the scaling of social impact (t ranged from 3.40 to 10.33). While the greatest difference was found for stimulating market forces and the smallest difference for alliance-building, all seven of the SCALERS provided evidence of differences at the 0.001 level.

Table 3 presents hierarchical linear regression results regarding scaling social impact. The series of seven hypotheses predicted each of the SCALERS would be positively related to scaling of social impact. After controlling for year founded, evidence was found of a positive relationship between the SCALERS and scaling of social impact. As each of the SCALERS is entered into the stepwise regression, each one is positively (β ranges from 0.07 to 0.38) and significantly related to scaling of social impact, although alliance-building is only marginally significant. A comparison of standardized beta coefficients suggests earnings generation has a relatively stronger effect than the other SCALERS. Individual support was found for the effects of staffing, communicating, lobbying, earnings generation, replicating and stimulating market forces on scaling of social impact. The authors also found marginal support for effect of alliance-building on scaling of social impact. When all

Table 2. T-tests of differences between low and high SCALERS: scaling social impact

Variables	Low mean (s.d.)	High mean (s.d.)	t-statistic
1. Staffing ($n = 332$ for low; 259 for high)	13.81 (2.82)	15.64 (2.71)	7.93***
2. Communicating ($n = 357$ for low; 234 for high)	13.94 (2.87)	15.64 (2.68)	7.20***
3. Alliance-building ($n = 273$ for low; 318 for high)	14.17 (3.08)	14.99 (2.72)	3.40***
4. Lobbying ($n = 337$ for low; 254 for high)	14.19 (2.87)	15.18 (2.88)	4.14***
5. Earnings generation ($n = 275$ for low; 316 for high)	13.40 (2.84)	15.67 (2.55)	10.26***
6. Replicating ($n = 309$ for low; 282 for high)	13.71 (2.76)	15.61 (2.76)	8.36***
7. Stimulating market forces ($n = 304$ for low; 287 for high)	13.50 (2.74)	15.79 (2.63)	10.33***

Note: $n = 591$; *** $p < .001$.

Table 3. Results of hierarchical regression analyses for scaling social impact

Variables	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8
Control variable	-0.12**	-0.11**	-0.11**	-0.10**	-0.12**	-0.14**	-0.14**	-0.13**
Year founded								
Independent variables								
Staffing		0.38**	0.30**	0.28**	0.28**	0.17**	0.14**	0.13**
Communicating			0.26**	0.25**	0.23**	0.11**	0.10*	0.09*
Alliance-building				0.07 ⁺	0.05	0.03	0.01	0.01
Lobbying					0.08*	0.06	0.05	0.04
Earnings generation						0.37**	0.33**	0.28**
Replicating							0.21**	0.18**
Stimulating market forces								0.13**
ΔR^2	0.02**	0.14**	0.06**	0.01 ⁺	0.01*	0.09**	0.04**	0.01**
Total R ²	0.02**	0.16**	0.22**	0.23**	0.24**	0.33**	0.37**	0.38**

⁺ $p < 0.10$; * $p < 0.05$; ** $p < 0.01$.

SCALERS are entered into the model, then alliance building and lobbying become insignificant. Taken together, the SCALERS explain 38% of the variance in scaling of social impact.

Discussion

The purpose of this study was twofold. First, this study focused on extending the initial work of the SCALERS model by making more explicit the underlying theoretical foundations on which the model is built. In order to advance our understanding of scaling of social entrepreneurial impact, it is necessary to have theoretical foundations that allow for the development and testing of hypotheses. The lack of necessary theories has been a common critique of commercial entrepreneurship and some of the emerging work of social entrepreneurship. To avoid such criticism and to theoretically ground the SCALERS model, this study built upon the rich theoretical foundations of the different forms of capital (human, financial, social and political) and organizational capabilities (to develop such capital) to make more explicit the theoretical rationale of the SCALERS model of scaling social entrepreneurial impact.

Second, building upon this theoretical foundation, this study sought to empirically test this model of factors, termed SCALERS, related to scaling of social impact. As such, the authors were interested in testing the validity and reliability of the SCALERS constructs, testing the predictive ability of the SCALERS on scaling of social impact. Perhaps the most important contribution of this research is the identification and testing of some initial factors that are related to the scaling of social impact, arguably the most important dependent variable in the domain of social entrepreneurship. The results indicate staffing, communicating, alliance-building, lobbying, earnings generation, replicating and stimulating market forces are all important predictors of scaling of social impact. Even though alliance-building and lobbying no longer remained significant when all the SCALERS capabilities were entered into the regression analysis, this may have reflected the character of the organizations in the sample. On average, these organizations may have operated in situations where there were (a) few opportunities for allies and/or (b) supportive public policy that did not leave much room for additional lobbying success. Future development of measures of the situational contingencies should allow the testing of these alternative explanations. Yet, the initial test of the SCALERS model is an important step toward beginning to understand how and why some factors affect the scaling of social entrepreneurial impact.

While this research contributed to the additional theoretical and empirical development of the SCALERS model, it is hoped this is the first step in a productive research agenda for SCALERS. The SCALERS model was patterned after the Profit Impact of Marketing Strategy (PIMS project) that was developed in 1970 by the Marketing Science Institute. The PIMS project led to a substantial amount of scholarly interest (more than 100 articles and two dozen dissertations) and led to important insights into the field of

marketing strategy, such as the relationship between market share and profitability (Buzzell 2004). It is hoped that the SCALERS model also has the potential to make important contributions to the academic and practitioner communities in the field of social entrepreneurship by providing a research agenda for the creation of new knowledge about the scaling of social impact.

On a similar front, this study sought to respond to the call for large scale quantitative studies in the field of social entrepreneurship. While much has been gained by the use of the qualitative case-study approach to the field, this study sought to complement this approach by using a large-scale quantitative study of more than 500 social enterprises. While the nature of the data collection has some limitations, this study is one of the first of its kind to address the scaling of social impact in a large-scale quantitative manner. In this way, the findings of this study may better generalize to a larger population of social entrepreneurial ventures than previous studies and may contribute to the relatively sparse quantitative empirical work in the domain of social entrepreneurship. Looking forward, there is much work to be done on several different fronts and several challenges that make the research task daunting.

Limitations and Future Research

One important area for future research is scale development. In this study, advantage was taken of an opportunity to collect data from a large sample of social enterprises but there were also restrictions on the number of questions that could be asked. While confirmatory factor analysis provides some evidence of acceptable measures, a more comprehensive approach to scale development and continued work assessing construct validity is needed. In future work, the scale development process of the SCALERS could more closely adhere to the paradigms for measure development (Gerbing and Anderson 1988, Churchill 1979). Specifically, the generation of a larger sample of items and the purification of the measure may provide more valid and reliable measures for the SCALERS. Future research is also needed on the situational contingencies of the SCALERS model. In the current study, data was not able to be collected on the theorized situational contingencies, which are an important part of the SCALERS model. Research that begins to specify under what conditions the SCALERS capabilities are related to scaling of social impact individually and collectively is an important next step. The initial SCALERS model provides some of the potentially numerous examples of situational contingencies that may moderate the relationships between the organizational capabilities of SCALERS and scaling of social impact. In addition, additional research is needed that uses newly developed SCALERS measures, as construct validation is an ongoing process.

An additional measurement issue for future research is the development of the dependent variable of scaling of social impact. In the current study, the scaling of social impact through the collection of self-report data was measured. Despite the use of Harman's single factor test, such an approach raises the issue of common method variance. While future research could address this issue in a number of ways (see Podsakoff *et al.* 2003), one

promising approach is to bifurcate the collection of data of the independent and dependent variables between different people. For example, if data were collected from a single organization with multiple branches, data on the independent variables could be collected from the branches and data on the dependent variable could be collected from the parent company. In addition, similar to suggestions for research in commercial entrepreneurship, multiple measures and dimensions of performance could be collected (Murphy *et al.* 1996) including objective measures of scaling.

Another important issue for future research in the area of social entrepreneurship is the development and use of appropriate samples. In this study, a small but important step was made in the development of empirical work through the use of large-scale data collection. Similar to the methodological issues in the domain of entrepreneurship, future research will need to begin to collect data on large-scale cross-sectional and longitudinal samples to begin establishing causality between the variables (Low and MacMillan 1988). In addition, the sampling of social entrepreneurial ventures will also need to address the survivorship bias of sampling only successful social ventures. In entrepreneurship, some approaches to address this issue include event-history analysis, research on failures and panel data for in-gestation organizations (for example, see Reynolds (2000), for an explanation of the Panel Study of Entrepreneurial Dynamics). These and other approaches will be important to advance our understanding of the processes and causal mechanisms of scaling social impact.

While a number of important directions for future research have been identified, the challenges to pursue these directions are indeed great. The identification of social entrepreneurial ventures is often difficult, particularly while they are in the process of organizing. The relative incidence of social entrepreneurship is still likely smaller than that of its commercial counterpart. As a result, a substantial amount of funding may be needed to develop a database of in-vitro social entrepreneurial organizations and follow them over time. While work is emerging in the area of social return on investment, a common measure of performance of social value creation is still lacking, thereby complicating comparison of social impact across different organizations. Many social entrepreneurial organizations are resource constrained in terms of both money and time. As a result, the accessibility to social entrepreneurial organizations may be difficult. These are but a few of the challenges that complicate this important stream of research.

Conclusion

The effective and efficient scaling of social impact holds much promise for addressing some of world's most intractable social problems. Yet, our understanding of the factors that lead to scaling is rudimentary. This study offers additional theoretical development and an exploratory empirical test of a model of organizational capabilities, called SCALERS, which influence the scaling of social impact. While exploratory, it is hoped that this study motivates future research on the SCALERS model and opens up new lines of inquiry in the scaling of social entrepreneurial impact.

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Appendix

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 . . .

Scaling Social Impact

1. . . we have made significant progress in alleviating the problem.
2. . . we have scaled up our capabilities to address the problem.
3. . . we have greatly expanded the number of individuals we serve.
4. . . we have substantially increased the geographic area we serve.

Staffing

1. . . we have been effective at meeting our labor needs with people who have the necessary skills.
2. . . we have an ample pool of capable volunteers available to help us meet our labor needs.
3. . . we have individuals in management positions who have the skill to expand our organization, program or principles.

Communicating

1. ... we have been effective at communicating what we do to key constituencies and stakeholders.
2. ... we have been successful at informing the individuals we seek to serve about the value of our program for them.
3. ... we have been successful at informing donors and funders about the value of what we do.

Alliance-building

1. ... we have built partnerships with other organizations that have been win-win situations for us and them.
2. ... we rarely try to 'go it alone' when pursuing new initiatives.
3. ... we have accomplished more through joint action with other organizations than we could have by flying solo.

Lobbying

1. ... we have been successful at getting government agencies and officials to provide financial support for our efforts.
2. ... we have been successful at getting government agencies and officials to create laws, rules, and regulations that support our efforts.
3. ... we have been able to raise our cause to a higher place on the public agenda.

Earnings Generation

1. ... we have generated a strong stream of revenues from products and services that we sell for a price.
2. ... we have cultivated donors and funders who have been major sources of revenue for us.
3. ... we have found ways to finance our activities that keep us sustainable.

Replicating

1. ... we have a 'package' or 'system' that can work effectively in multiple locations or situations.
2. ... we find it easy to replicate our programs.
3. ... we have been successful at controlling and coordinating our programs in multiple locations.

Stimulating Market Forces

1. ... we have been able to demonstrate that businesses can make money through supporting our initiatives.
2. ... we have been able to demonstrate that consumers can save money through patronizing our products and services.
3. ... we have been able to trust market forces to help resolve social problems.