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Social Entrepreneurial Passion and Social Innovation Performance

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Social Entrepreneurial Passion and Social Innovation Performance

Abstract

We develop a framework to explain the underlying processes by which social entrepreneurial passion affects social innovation performance. The findings from a survey of 229 UK-registered Community Interest Companies indicate that social entrepreneurial passion can positively influence social innovation performance through creative solution generation capacity (CSGC). We also distinguish the moderating effects of different interorganizational network connections on the relationship between social entrepreneurial passion and CSGC. Our findings reveal that network connections with commercial firms are a stronger moderator of the relationship between social entrepreneurial passion and CSGC than network connections with other social enterprises. We discuss the theoretical and managerial implications of our findings.

Keywords: Social Innovation; Social Entrepreneurship; Passion; Network Connections; Creative Social Solution Generation; Community Interest Company; Social Enterprises

<center>**Introduction**</center>

Social entrepreneurship refers to the act of building new social ventures (social enterprises) to exploit social opportunities (Dacin, Dacin, & Matear, 2010). One important objective in pursuing social entrepreneurship is to create social value (Di Domenico, Tracey, & Haugh, 2009; Sakarya, Bodur, Yildirim-Öktem, & Selekler-Göksen, 2012). Social innovation emerges as an important strategic approach to create social value, which involves a novel solution to a social problem that is more effective, efficient, sustainable, or just than the existing solutions (Phillips, Lee, Ghobadian, O'Regan, & James, 2015).

According to Weerawardena and colleagues, a social enterprise that outperforms its competition in social innovation is able to differentiate itself in the marketplace and achieve sustainability in the long run (Weerawardena, McDonald, & Mort, 2010; Weerawardena & Mort, 2012). The shared passion of a group of active citizens who focus their collective efforts on building a social enterprise plays an essential role in promoting the engagement of social innovation-related activities (e.g. Lurtz & Kreutzer, 2017; Miller, Grimes, McMullen, & Vogus, 2012; Peredo & Chrisman, 2006). In this study, we refer to such shared passion as social entrepreneurial passion. Yet, to the best of our knowledge, empirical studies have not investigated the processes by which social entrepreneurial passion affects social innovation performance. Furthermore, although the extant literature highlights the important linkage between networks and social innovation (e.g. Le Ber & Branzei, 2010; Lyon, 2012), no study has examined how the different types of a social enterprise's network connections affect the processes that enhance social innovation performance.

To address these gaps, we build on resource-based theory (Amit & Schoemaker, 1993; Barney, Ketchen, & Wright, 2011) and research focused on social entrepreneurship and social innovation (e.g. Bacq & Janssen, 2011; Phillips et al., 2015) to develop a framework (Figure 1). We argue that social entrepreneurial passion contributes to social innovation

<center>2</center>

performance. Furthermore, a social enterprise's creative solution generation capacity (CSGC) functions as a critical intermediate mechanism that connects social entrepreneurial passion with social innovation performance. In this study, we define CSGC as organizations' capability to develop creative solutions to social problems (Carmeli, Gelbard, & Reiter-Palmon, 2013). Finally, we differentiate between a social enterprise's cross-sector network connections (with commercial firms) and within-sector network connections (with other social enterprises). We argue that a social enterprise's network connections with commercial firms play a more important role in complementing social entrepreneurial passion to promote CSGC. We test our framework using survey data from 229 UK-registered Community Interest Companies (CICs). Taken together, our efforts to uncover the underlying processes of how social entrepreneurial passion affects social innovation performance and relative interorganizational network connections act as a boundary condition in such processes contribute to the literature regarding the pursuit of social innovation in the context of social entrepreneurship (see Table 1).

"Insert Figure 1 Here"

Research Background

Previous research on the pursuit of social innovation within the context of social entrepreneurship can be broadly categorized into three research themes (See Table 1). The first research theme focuses on the innovative activities within a social enterprise. Researchers in this theme focus on understanding the nature and processes of social innovation (e.g. Lehner & Kansikas, 2012; Lettice & Parekh, 2010; Mulgan, 2006; Mulgan, Tucker, Ali, & Sanders, 2007; Nicholls & Murdock, 2012; Shaw & Carter, 2007). For example, Monllor and Attaran (2008) explain how social innovation opportunities are recognized and differentiated in the creativity model between social entrepreneurship and

3

commercial entrepreneurship. Perrini, Vurro, and Costanzo (2010) map out the entire

processes from social innovation opportunities identification to scaling-up. Building on this

work, some researchers further discussed how a social enterprise considers social innovation

as a form competitive strategy to differentiate it from its competitors (e.g. Weerawardena et

al., 2010; Weerawardena & Mort, 2012). In this study, we focus on this latter research angle.

We seek to contribute to this stream of research by deepening our knowledge on the

antecedent conditions that allow a social enterprise to outperform its competitors in social

innovation and achieve a competitive advantage in the marketplace.

"Insert Table 1 about Here"

The second stream of literature shifted its attention to the relationship between the

formation of social enterprises and social innovation (e.g. Haugh, 2007; Miller et al., 2012;

Stevens, Moray, & Bruneel, 2015). For example, Peredo and Chrisman (2006) describe how

community-based social enterprises mobilize resources to find innovative ways to solve

social problems and transfer local communities. Lurtz and Kreutzer (2017) refine the concept

of entrepreneurial orientation in the social enterprise context, in which innovativeness

facilities the process of new venture creation. This stream of literature highlights the essential

role of social entrepreneurial passion in promoting the development of social innovation. We

seek to contribute to this stream of literature by demonstrating the processes by which social

entrepreneurial passion affects social innovation performance. This will provide a more

accurate description of the formation of such a relationship.

This third stream of literature focuses on understanding the influence of

interorganizational networks and a social enterprise's innovative activities (e.g. Edwards-

Schachter, Matti, & Alcántara, 2012; Selsky & Parker, 2005, 2010). For example, Le Ber and

Branzei (2010) show that three relational processes – relational attachment, partner

complacency, and partner disillusionment - underpin social innovation within strategic cross-

section partnership. Lyon (2012) explores the role of the collaborative relationship between social enterprises and the public sector in promoting social innovation. Our contribution to this stream of literature focuses on examining how different types of a social enterprise's network connections affect the strength of the relationship between social entrepreneurial passion and CSGC, which ultimately affects social innovation performance. In the wider interorganizational network literature streams, researchers have devoted considerable attention to exploring different types of strategic collaboration, such as nonprofit-business collaboration (e.g. Austin, 2000; Berger, Cunningham, & Drumwright, 2004; Di Domenico et al., 2009; Sakarya et al., 2012), nonprofit-nonprofit collaboration (e.g. Guo & Acar, 2005; Snavely & Tracy, 2000), and nonprofit-government collaboration (e.g. Bryson, Crosby, & Stone, 2006; Gazley & Brudney, 2007; Young, 2000). In this study, we focus particularly on comparing the moderating role of a social enterprise's network connection with commercial firms and network connections with other social enterprises.

Theoretical Background and Hypotheses Development

Resource-Based View of Nonprofit and Voluntary Sector Organizations

Resource-based theory proposes that an organization's resources, that influence the selection and implementation of business strategy, are the sources of competitive advantage of the organization (Barney, 1991; Grant, 1991). This theory has been used widely to explain how various types of resources help organizations in the nonprofit sector to outperform their competitors in different commercial and social areas (e.g. Walk, Schinnenburg, & Handy, 2014; Weerawardena et al., 2010). For instance, human resource management practices (tools) that allow organizations in the nonprofit sector to provide better management are also viewed as important in helping organizations to achieve superior performance (Ridder & McCandless, 2010). Hackler and Saxton (2007) suggest that a nonprofit organization's capacity to use

5

information technology is an important resource that helps to improve its performance in the areas of financial sustainability, strategic communications and relationship building, and collaborations and partnerships. In this research, we apply resource-based theory to explain the path relationship posited in our conceptual framework (see Figure 1).

Social Entrepreneurial Passion and Social Innovation Performance

The fundamental premise of the resource-based theory holds that an organization's unique resources are the key driver of superior performance (Barney, 1991). Since the introduction of resource-based theory in 1991, the logic of the theory has been further extended to explain more sophisticated resource-performance linkages (Barney et al., 2011). One extension of resource-based theory suggests that the possession of resources does not automatically lead to superior performance. Instead, the development of certain organizational capabilities is necessary, which in turn foster performance (Amit & Schoemaker, 1993; Grant, 1991). Based on this resource-capability-performance link, we develop hypotheses that explain the association among social entrepreneurial passion, CSGC, and social innovation performance. We recognize that some studies have identified the connection among passion, creativity and innovation, but these focus primarily on understanding how an individual's passion influences his/her level of creativity and innovativeness when developing new products/services or processes (e.g. Amabile, 1997; Füller, Matzler, & Hoppe, 2008). Our work differs from the prior research in three areas. First, we focus on a specific type of passion (entrepreneurial passion) at a specific level (team-based or collective) in a specific context (the passion to build and nurture a social enterprise). Second, we consider creativity in generating new solutions to be the organizational level capability. Third, unlike the prior research, which focuses on innovation's association with

6

commercial (private) product and service development, our work identifies a relationship between innovation and the development of social products and services.

Social entrepreneurial passion constitutes an important resource for a social enterprise. The recent development of the resource-based theory attempted to redefine what constitutes organizational resources. Scholars suggest that entrepreneurial passion (either individual or collective) and emotions can be considered an important resource for the organization (Cardon, Post, & Forster, 2017). This is because the presence of entrepreneurial passion motivates individuals or groups of individuals to focus their efforts on achieving the objective of founding an organization and persisting in the face of obstacles (Cardon, 2008; Cardon et al., 2017). In the context of our study, we regard social entrepreneurial passion as a collective form of entrepreneurial passion because it reflects the shared passion of a group of active citizens who focus their collective efforts on building a social enterprise (Haugh, 2007; Miller et al., 2012). Capability, on the other hand, is the accumulated knowledge and skills that enable the organization to perform certain value-creating tasks effectively (Amit & Schoemaker, 1993; Grant, 1991). Carmeli et al. (2013) suggest that the creative processes for solving problems start with the solution generation phase that involves problem identification (and construction), and idea generation. When the individuals within an organization are able to perform these activities within this phase of the creative process effectively, the organization possesses the capability to develop creative solutions (Reiter-Palmon & Illies, 2004). CSGC reflects a social enterprise's ability to generate creative solutions to social problems, and thus it can be positioned as a capability.

We argue that the association between social entrepreneurial passion and CSGC reflects the resource-capability link. Social entrepreneurial passion reflects the intensive positive emotion to purse a social mission by building a social enterprise. According to the resource-based theory, such emotional resources enable the members of the organization to

devote significant efforts toward achieving their objectives (Cardon, Wincent, Singh, & Drnovsek, 2009). Applying this to our context, social entrepreneurial passion stimulates these individuals' willingness to go out of their way to identify social problems and search for many possible ways to solve these problems. Such movements enable a social enterprise to develop CSGC. This is because the development of a specific organizational capability (such as CSGC) requires the members of that organization repeatedly to apply their knowledge and skills to perform specific function-related activities, so that they can develop a deeper understanding of how to perform these activities effectively (Grant, 1991). Social entrepreneurial passion motivates such repeated efforts within a social enterprise to develop a creative solution capability for social problems (CSGC). Thus, we propose:

> Hypothesis 1: A positive association exists between social entrepreneurial passion and creative solution generation capacity.

We also conceptualize social innovation performance as the dependent variable in our study. According to resource-based theory, performance variables represent the common ultimate consequences (Barney, 1991) and innovation-related performance represents a specific type of performance (Zhou & Li, 2012). Resource-based theory suggests that organizations' ability to perform value-creation tasks effectively can lead to superior performance (Amit & Schoemaker, 1993; Barney et al., 2011). Based on this logic, we argue that the association between CSGC and social innovation performance reflects the capability-performance link. More specifically, CSGC enables a social enterprise to produce many creative ideas to solve social problems. Thus, a social enterprise with strong CSGC is more likely to outperform others in developing social products and services that are novel and useful. Therefore, we hypothesize:

> Hypothesis 2: A positive association exists between creative solution generation and social innovation performance.

Combining the above arguments, the relationship among social entrepreneurial passion, CSGC, and social innovation performance reflects the resource-capability-performance link. According to resource-based theory, capability plays an intermediate role in such a relationship (Amit & Schoemaker, 1993; Grant, 1991). More specifically, an organization's capability serves as an organizing mechanism, that enables it to capitalize on its resources and transform these into a value offering, which in turn leads to superior performance regarding social entrepreneurial passion, as an emotional resource, which enables the development of CSGC, which in turn fosters the development of novel and useful social products and services (social innovation performance). Thus, CSGC plays a strategic role in exploiting the full potential of social entrepreneurial passion and reflects the beneficial effects of social entrepreneurial passion on social innovation performance. We formally propose:

> Hypothesis 3: Creative solution generation capacity mediates the effect of social entrepreneurial passion on social innovation performance.

Moderating Role of Network Connections

Resource-based theory also posits that organizations' resources have only potential value, and that realizing this potential by developing capabilities requires alignment with other important contingency factors (Amit & Schoemaker, 1993; Barney et al., 2011), such as network relationships (Hoang & Antoncic, 2003). Based on this perspective, we explore how the network connections of a social enterprise facilitate the impact of social entrepreneurial passion on CSGC. We differentiate between two kinds of network connection for a social enterprise. Network connections with commercial firms are formal and informal social relationships with commercial firms, forming cross-sector network connections (Austin, 2000; Berger et al., 2004). Network connections with social enterprises are formal and informal social relationships with other social enterprises, forming within-sector network connections

(Guo & Acar, 2005; Snavely & Tracy, 2000). Both types of network connection allow a social enterprise to access important but different resources through their relationship with other organizations.

Network connections with commercial firms allow a social enterprise to access important resources in the commercial world. In particular, this kind of network connection offers crucial information about the commercial world, such as the market trends/conditions and the development of new technologies, as well as the experience of operating a commercial businesses (Austin, 2000; Di Domenico et al., 2009; Sakarya et al., 2012). Such information can enhance the social entrepreneurial passion. This is because the members within a social enterprise can see the potential of using this information to improve the effectiveness of the organization in order to achieve social objectives. As a result, they are more likely to apply their knowledge repeatedly and, what they learn from commercial firms, to develop creative solutions to social problems, so a social enterprise's CSGC is improved. We thus expect that the network connections with commercial firms will strengthen the positive association between social entrepreneurial passion and CSGC.

Similarly, network connections with other social enterprises help the focal social enterprise to acquire and embrace key information from the third-sector community, such as operational experience and examples of successful (and unsuccessful) strategies for addressing social challenges (Guo & Acar, 2005; Phillips et al., 2015). When the members of the focal social enterprise are aware of this information, the degree of social entrepreneurial passion improves. This is because such information tells them that it is possible to make the world a better place by building a social enterprise to solve social problems. As a result, the members within the focal social enterprise are more likely to devote more efforts to engaging in creative processes of social solution development, which in turn foster CSGC. We thus

also expect that the network connections with social enterprises will strengthen the positive association between social entrepreneurial passion and CSGC.

Nevertheless, we do not expect to observe the equally strong moderating effects of these two types of social enterprises' network connections on the relationship between social entrepreneurial passion and CSGC. In particular, we argue that a social enterprise's network connections with commercial firms are a stronger moderator, for three reasons. First, when the members within the focal social enterprise learn what other social enterprises are doing to meet social needs, they may feel less urgency to exert more efforts to identify and generate creative ideas to solve social problems. This explanation is in line with the prior diffusion of responsibility studies which suggested that, when individuals sense that others have already contributed toward a cause (or have a capacity to do so), they feel less urgency and less pressure to contribute to it themselves (Darley & Latane, 1968; Guy & Patton, 1989). Second, when the members of a social enterprise learn about the (great) amount of effort that they actually need to devote in order to engage in creative processes to solve social problems, they may feel discouraged. This recommendation is close to motivation theory, which suggests that individuals will become less motivated when they learn about the difficulty of the tasks involved (Locke & Latham, 2002; Nicholls, 1984). Third, close social interactions and communication with commercial firms also promote the learning process. Prior studies suggest that novel solutions to social problems are often the result of combining different concepts (Le Ber & Branzei, 2010; Selsky & Parker, 2010). By recombining the new knowledge learned from commercial firms with their existing knowledge, the members of a social enterprise are more likely to come up with novel ideas to solve social problems. Thus, we propose:

Hypothesis 4: Compared to network connections with social enterprises, network connections with commercial firms are a stronger moderator of the positive relationship between social entrepreneurial passion and creative solution generation capacity.

11

Research Method

Research Context and Data Collection

Community interest companies (CICs) in the UK are our empirical setting. The features of a CIC includes the following: 1) it is a limited liability company, 2) it does not hold charitable organization status, 3) the assets owned by the company are held in an asset lock and it is possible to apply to use them for the good of the community, and 4) the dividends and interest payments have set limitations (CIC Association, 2014; Community Interest Company, 2013). Our focus on the impacts of social entrepreneurial passion on social enterprises' innovation-related activities requires an empirical setting in which active, passionate citizens take the initiative in building a social enterprise and focusing on developing social products and services to benefit the community. CICs in the UK provide a rich context for this empirical requirement. This is because a CIC is a form of EMES[1] social enterprise (Defourny & Nyssens, 2008, 2012) in Europe. EMES social enterprises possess several unique characteristics: 1) they are initiated by a group of passionate, active citizens, 2) their ultimate objective is to benefit the community, 3) there exists an intense link between the social mission and the productive activities of social enterprises (Bacq & Janssen, 2011; Defourny & Nyssens, 2012). Using the directory, we randomly identified 2,500 CICs. From these, we were able to contact 2,033 CICs. We wrote a cover letter to the general manager (or CEO) to ask him/her to answer the questionnaire on behalf of the organization. We collected 229 useable responses, with a response rate of 11.264%. Low survey response rates are typical when conducting an organization-based survey that directs the questionnaire to executive-level respondents, and non-response does not necessarily suggest the presence of

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[1] EMES stand for "*Emergence des Enterprises Sociales en Europe*". The English translation of this French title is 'The Emergence of Social Enterprises in Europe' (Bacq & Janssen, 2011; Defourny & Nyssens, 2012)

sampling bias (Baruch & Holtom, 2008). Furthermore, we adopted the approach of

Armstrong and Overton (1977) and found that the probability of non-response bias is

minimal.

Measurement

We used a multi-item reflective measurement with a Likert scale (1-5) to assess social

entrepreneurial passion, CSGC, and social innovation performance. These three variables

have no prior measurement scales in the context of the social enterprise or nonprofit research

in general. Therefore, we use the following approaches to generate measurements for these

variables. First, we searched the literature to find measurements that have been used to assess

similar behaviors in for-profit enterprises. For social entrepreneurial passion, we adopt

measurements that assess the "passion for building/founding an organization", proposed by

Cardon and colleagues' work (Cardon, 2008; Cardon et al., 2017). Similarity, we adopt the

measurements for assessing organizations' ability to come up with creative solutions from the

prior literature (Carmeli et al., 2013; Reiter-Palmon & Illies, 2004) to measure CSGC. To

assess social innovation performance, we drew on measurements for assessing for-profit

enterprises' innovation performance (Song, Kawakami, & Stringfellow, 2010; Zhou & Li,

2012). We use a subjective measure of relative capacity/performance because 1) several

studies show the convergent validity of subjective and objective capacity/performance, 2) it is

difficult to acquire objective measurements in the social enterprise setting, and 3) managers'

subjective perceptions primarily drive managerial decisions (Liu, Eng, & Takeda, 2015).

Second, we modified the measurement to suit the social enterprise context by consulting

previous studies on relevant areas (Miller et al., 2012; Mulgan, 2006; Perrini et al., 2010;

Stevens et al., 2015). Third, we interviewed ten representatives from different social

13

enterprises to obtain feedback on our measurements. Based on these interviews, we refined and finalized the measurement for our study to achieve face validity.

For network connections, we consulted the social enterprise network literature (Austin, 2000; Guo & Acar, 2005) and decided to use a single-item Likert scale (1-5) measurement, following the suggestion by Bergkvist and Rossiter (2007, p. 176) that it is advisable to use "one construct that is easily and uniformly imaged" by the respondents. When phenomena represent concrete, singular objects, it is easy to capture them by using a single-item scale (Bergkvist & Rossiter, 2007). The network connections to either commercial firms or social enterprises met these criteria (Appendix 1).

We control for revenue, employee number, organization age, social enterprise sector, government support, and internal knowledge-sharing in our study. According to prior studies on social innovation, these variables have the potential to influence social problem-solving and social innovation processes (Bryson et al., 2006; Mulgan et al., 2007; Phillips et al., 2015). We assess revenue, employee number, and organization age by asking each respondent to select the range of scales to which his/her organization belongs (Table 2). Given that the UK government started the CIC scheme in 2005, ideally, the maximum organizational age should not exceed ten years (this survey took place in 2015). However, it is possible for other types of organization (i.e. nonprofit) to convert their status to a CIC (Department for Business Innovation & Skills, 2015). In order to capture the full range of experience accumulated throughout the history of the organization, we decided to include other organizational age options. Nevertheless, CICs that have been operating for fewer than ten years since their establishment still represent an overwhelming 93.886% of the usable survey. We assessed the CIC sector by asking the respondents about the main social cause that his/her organization focuses on addressing by providing specific products or services. We use a dummy variable to indicate the CIC sector. For government support, we ask the

respondents directly whether the social enterprises "have been using government grants to develop business" (UK Cabinet Office, 2006). Finally, from Zhou and Li (2012), we adapted and modified the single-item ("within our organization, sharing information is the norm") Likert scale (1-5) to assess internal knowledge-sharing among the members within a CIC.

Validity and Reliability

For variables that use multi-items scales (social entrepreneurial passion, CSGC and social innovation performance), we assess the validity and reliability of the measurements using the following approaches. First, we ran a principal component analysis for the factor extraction method with varimax rotation using SPSS 19 statistic software to assess our factor loading (Hair, Black, Babin, & Anderson, 2010). The results from both the Kaiser-Meyer-Olkin test (KMO = .774) and Bartlett's Test of Sphericity (approx. $X^2 = 1004.682$; $df = 28$; p < .001) show the adequacy of our factor model. The factor loadings for all items are above .700 (between .747 and .911). Furthermore, we compute the average variance extracted (AVE) and the results show that all of the AVE values are greater than .500 (Table 2). Together, our measurements all possess convergent validity. Second, we calculated the square root value of the AVE for each construct. We found that the resulting value for each construct is greater than all of its correlations with the other constructs (Table 2). Thus, discriminant validity exists. Third, we access the reliability of the scales as assessed by calculating the Cronbach's Alpha. The results show that all of the Cronbach's Alpha values are greater than .700, which indicates that our measurements are reliable (Table 2). Furthermore, we calculated the variance inflation factors (VIFs) and found that they all fall below ten (all are less than 3), which indicates that multicollinearity is not a serious problem in this study (Hair et al., 2010).

"Insert Table 2 Here"

A single source assessed both our independent and dependent variables. To reduce the potential common method bias, we organized the data collection by ensuring the anonymity and confidentiality of the responses, and emphasizing that there are no right or wrong answers (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). We also used multiple statistical remedies to ensure that common method bias is not an issue for this study. First, we performed Harman's single-factor test by subjecting all of the items in our study to exploratory factor analysis, and found that this did not explain the majority of the variance (Podsakoff et al., 2003). Second, we used confirmatory factor analysis (CFA) techniques to load all of the items onto one factor in a CFA (Chang, Van Witteloostuijn, & Eden, 2010). We found that the fit statistic does not show a good fit, which indicates that a single factor does not account for all of the variance in the data. Both results suggest that common method variance is not a concern for this study.

Results

We perform regression analysis to test our hypotheses. Hypothesis 1 posits a positive association between social entrepreneurial passion and CGCS. According to Table 3, we find that the impact of social entrepreneurial passion (Model 1: $\beta = .127$, $p < .010$) on CSGC is positive and significant, which confirms hypothesis 1. With hypothesis 2, we predict a positive association between CGCS and social innovation performance. The result shows that the effect of CGCS (Model 2: $\beta = .444$, $p < .001$) on social innovation performance is positive and significant, which confirms hypothesis 2.

"Insert Table 3 Here"

Hypothesis 3 posited that CSGC mediates the relationship between social entrepreneurial passion and social innovation performance. According to Hayes (2013), the mediation effect occurs under three simultaneous conditions: 1) the effect of the predictor

variable on the mediator is significant, 2) the effect of the mediator on the outcome variable is significant when accounting for the effect of the predictor variable, and 3) the indirect effect in mediation is significant. Following Hayes (2013)'s suggestions regarding the mediation effect test, we first found that the effects of social entrepreneurial passion on CSGC (β = .127, p < .010) are positive and significant (Model 1), which satisfies condition 1. We also found that the effects of CSGC (β = .379, p < .001) on social innovation performance when accounting for the effect of social entrepreneurial passion are positive and significant (Model 3), which satisfies condition 2. Finally, we calculated the indirect effects, employing a bootstrap analysis with 10,000 samples. Our results suggest that the indirect effects between social entrepreneurial passion and social innovation performance through CSGC (β = .048) are positive and significant, with a 95% confidence interval which does not include zero, which satisfies condition 3. Thus, hypothesis 3 holds true.

Furthermore, following the approach suggested by Baron and Kenny (1986), we also estimate the direct effect of social entrepreneurial passion on social innovation performance (β = .274, p < .001). Comparing the results between Model 4 (direct effect model) and Model 3 (indirectly effect model), we found that the impact of social entrepreneurial passion on social innovation performance is weakened. Thus, we conclude that CSGC partially mediates the social entrepreneurial passion-social innovation performance relationship (Baron & Kenny, 1986).

To investigate the moderation effects that hypotheses 4 and 5 predict, we follow Aiken and West (1991)'s approach to include the control variables, predictor variable, moderators and interactions in a single regression model. Hypothesis 4 predicts that, compared to network connections with social enterprises, network connections with commercial firms are a stronger moderator of the positive relationship between social entrepreneurial passion and CSGC. According to Farh, Hackett, and Liang (2007), if the

effect of the interaction term of social entrepreneurial passion and network connections-commercial firms on CSGC is significant while the interaction term of social entrepreneurial passion and network connections-social enterprises on CSGC is not, network connections-commercial firms is a stronger moderator. In Table 3, our results show that the interaction term of social entrepreneurial passion and network connections-commercial firms positively and significantly affects CSGC (Model 5: $\beta = .064$, $p < .050$), but that the effects of the interaction term of social entrepreneurial passion and network connections-social enterprises on CSGC is not significant (Model 5: $\beta = -.026$, $p > .100$). Thus, we confirm hypothesis 4.

Finally, we also undertook structural equation modelling analysis, in which we tested all of the hypothesized effects simultaneously to corroborate the regression results. Model 6 shows that social entrepreneurial passion has a positively association with CSGC ($\beta = .250$, $p < .010$) while CSGC has a positive association with social innovation performance ($\beta = .450$, $p < .010$). In Model 7, we add a direct path between social entrepreneurial passion and social innovation performance in the model. Using the Sobel Test, we calculate that the indirect effect of social entrepreneurial passion of CSGC on social innovation performance is significant, which confirms the mediating relationship (Hair et al., 2010). Finally, using Kenny and Judd (1984), we estimate the interaction term of social entrepreneurial passion and network connections-commercial firms, as well as the interaction term of social entrepreneurial passion and network connections-social enterprises. We found that the interaction term of social entrepreneurial passion and network connections-commercial firms positively and significantly affects CSGC (Model 8: $\beta = .145$, $p < .050$), but that the effects of the interaction term of social entrepreneurial passion and network connections-social enterprises on CSGC is not significant (Model 8: $\beta = -.094$, $p > .100$). In general, the results reported in Table 4 are consistent with those found in Table 3.

"Insert Table 4 Here"

18

<center>**Discussion and Conclusion**</center>

Academic Contributions

This study makes several contributions to the extant literature. First, our research is among the few studies that focus on exploring innovation activities within social enterprises (e.g. Lettice & Parekh, 2010; Monllor & Attaran, 2008; Nicholls & Murdock, 2012) that views social innovation as a social enterprise's competitive strategy (Weerawardena et al., 2010; Weerawardena & Mort, 2012). It is also the first to demonstrate empirically that social entrepreneurial passion generates positive social innovation performance. In doing so, this study constitutes the first step in what could potentially become a large research agenda that explores the antecedent conditions that contribute to social innovation performance.

Second, this study takes a step further in examining the mediating role of a social enterprise's creative solution generation capacity (CSGC) to facilitate the social entrepreneurial passion-social innovation performance relationship. Although the literature has widely recognized the important role that solution generation capability plays in creative processes that could potentially lead to innovation outcomes (Carmeli et al., 2013; Reiter-Palmon & Illies, 2004), its presence and implications in the social entrepreneurship research remain largely untested. The empirical results confirm our theoretical logic regarding the role of CSGC as the mediator. Our work provides novel insights into the role of social innovation in the formation of social enterprises (e.g. Haugh, 2007; Lurtz & Kreutzer, 2017; Peredo & Chrisman, 2006) and also presents a more comprehensive understanding of the underlying processes by which social entrepreneurial passion affects social innovation performance.

Third, despite recognizing that the influence of a social enterprise's interorganizational network connections can affect the innovation activities within the organization (e.g. Le Ber & Branzei, 2010; Lyon, 2012; Phills, Deiglmeier, & Miller, 2008),

<center>19</center>

the prior research fails to distinguish the influence of the different network connections that a social enterprise possesses. This study differentiates between a social enterprise's network connections with commercial firms and other social enterprises, respectively, and examines their relative moderating effects on the relationship between social entrepreneurial passion and CSGC, which ultimately affects social innovation performance. In doing so, this research not only adds to the literature on networks and social innovation (e.g. Edwards-Schachter et al., 2012; Selsky & Parker, 2005, 2010), but also enriches the discussion of interorganizational network connections in the social entrepreneurship literature in general (Austin, 2000; Gazley & Brudney, 2007; Guo & Acar, 2005; Sakarya et al., 2012).

Managerial Implications

In terms of managerial implications, this study offers a timely reminder that social innovation is an important competitive strategy for a social enterprise, and social entrepreneurial passion is an important antecedent condition for social innovation performance. The presence of such passion causes the members of a social enterprise to devote greater efforts to engaging in creative processes to solve social problems. These activities enhance a social enterprise's capability for generating creative solutions to social problems, which is the foundation of social innovation. In other words, the managers of social enterprises should focus on finding ways to stimulate such passion in the workplace. For example, besides offering training sessions that focus on improving a social enterprise's members' creativity, the managers should focus more on using these sessions to stimulate the members' passion for nurturing and growing the social mission-driven organization.

Furthermore, the results of this study indicate that network connections with commercial firms are a stronger moderator in strengthening the social entrepreneurial passion-CSGC relationship. This finding suggests that a social enterprise's managers might

find ways to improve their members' collective connections with individuals from commercial firms. For example, a social enterprise's managers can attend and encourage the members to attend any formal or informal gatherings where individuals from commercial firms are also present. A social enterprise's managers can also provide training sessions to improve the members' networking skills to prepare them for these events.

Limitations and Future Research Opportunities

Alongside our findings, we note several study restrictions here. First, we introduce new measurement scales to assess the variables (such as social entrepreneurial passion, CSGC, and social innovation performance) for our study, due to the lack of prior established measurements in a social enterprise context. Even though we follow the systematic approaches to ensure the face validity of our measurement, we nevertheless recognize that these may not provide a clear view of the true nature of each concept. For example, our measurements of social entrepreneurial passion focus on the creation of new social ventures. However, there are other aspects of entrepreneurial passion, such as "passion for inventing" and "passion for developing" (Cardon et al., 2009; Cardon et al., 2017), which we have not applied in the social entrepreneurship context. Future researchers should adopt the mixed method (i.e. qualitative interviews, case studies, and large scale surveys) to develop more comprehensive measurements for social entrepreneurial passion, CSGC, and social innovation performance.

Second, we use reflective measurement to assess these three variables. Although using reflective measurement is more "reliable," because it enables the computation of the correlations between items (any two items that are equally reliable are interchangeable), however it also provides "less" information than formative measurement (Jarvis, MacKenzie, & Podsakoff, 2003). For example, the formative measurement for CSGC to capture more

diverse aspects of creativity, such as information searches (Gong, Huang, & Farh, 2009), idea implementation (Zhou & George, 2003), and so on.

Third, the research design, that involved inviting a representative from a social enterprise to complete a survey questionnaire, leaves open the possibility of self-serving bias. For example, we asked the general manager (CEO) to answer the questions as reflecting the situation of the organization (the social enterprise), which is a method that many previous researchers have adopted in social enterprise research (e.g. Liu et al., 2015; Stevens et al., 2015), but there is an possibility that some respondents may not follow the instructions and answer the question based on his/her biased opinion instead. Future researchers should avoid this limitation by asking multiple respondents from the same organization to complete the survey. Furthermore, the cross-sectional design of our study does not allow us to draw definite conclusions about the causal processes over time. Despite our best efforts to search for the objective measurements for the variables, we were unable to identify these due to the limited empirical research in this relatively more qualitative research method-focused academic subject area (Dacin et al., 2010; Phillips et al., 2015). Nevertheless, future researchers should employ a longitudinal research design to overcome this limitation.

Fourth, the selection of our empirical context (CICs in the UK - EMES social enterprises in Europe) challenges the generalizability of our findings to non-European contexts. Although context-specific research provides practitioners with insights regarding social enterprises operating in the UK (or Europe), it is unclear whether this context imposes a boundary constraint on our conceptual model and findings. Future researchers can test our framework in different empirical settings (i.e. North America) and compare their results with ours to improve the generalizability of our study.

Fifth, we focus on comparing the impact of a social enterprise's network connections with commercial firms and other social enterprises, respectively, on the social entrepreneurial

passion-social innovation performance relationship. At the same time, we also recognize the role that the government plays in promoting the development of new products and services to solve social problems (Gazley & Brudney, 2007; UK Cabinet Office, 2006) by controlling "government support" in our statistical models. However, we did not measure or compare the effect of network connections on government directly. Future research might test the role of the government in comparison with other interorganizational networks.

Finally, there are other possible avenues for further research. In this study, we found that a focal social enterprise's network connections with other social enterprises do not influence the social entrepreneurial passion-CSGC relationships. We offer some possible theoretical explanations for this, such as the diffusion of responsibility (Darley & Latane, 1968; Guy & Patton, 1989) and motivation when facing difficult tasks (Locke & Latham, 2002; Nicholls, 1984). Further research might wish to examine our explanations, and also explore other mediators and moderators, which might provide a more comprehensive picture of the social entrepreneurial passion-social innovation performance relationship.

Conclusion

The engagement of social innovation not only allows a social enterprise to develop creative solutions to social problems (Mulgan et al., 2007; Nicholls & Murdock, 2012; Phillips et al., 2015), but also enables it to differentiate itself in the marketplace and achieve sustainability in the long run (Weerawardena et al., 2010; Weerawardena & Mort, 2012). Social entrepreneurial passion appears to be an important antecedent condition for supporting the building of CSGC, which in turn contributes to social innovation performance. A social enterprise's managers must also differentiate between various types of interorganizational network connections with others. This is because a social enterprise's network connections with commercial firms help to facilitate the relationship between social entrepreneurial

passion and CSGC, which ultimately affects social innovation performance more than a social enterprise's network connections with other social enterprises. Further research should continue to explore and document the role of the antecedent conditions in contributing to social innovation performance.

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Figure 1: Conceptual Framework

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                    ┌─────────────────────────┐
                    │   Network Connections   │
                    │  ┌───────────────────┐  │
                    │  │ Commercial Firms  │  │
                    │  └───────────────────┘  │
                    │  ┌───────────────────┐  │
                    │  │ Social Enterprises│  │
                    │  └───────────────────┘  │
                    └────────────┬────────────┘
                                 │
                                 ▼
┌────────────────────┐   ┌────────────────────────────┐   ┌────────────────────┐
│ Social             │   │ Creative Solution          │   │ Social Innovation  │
│ Entrepreneurial    │──▶│ Generation Capacity        │──▶│ Performance        │
│ Passion            │   │                            │   │                    │
└────────────────────┘   └────────────────────────────┘   └────────────────────┘
```

┌─────────────────────────────┐
│   Control Variables   │
│ Revenue   │
│ Employee Number   │
│ Organization Age   │
│ Social Enterprise Sector   │
│ Government Support   │
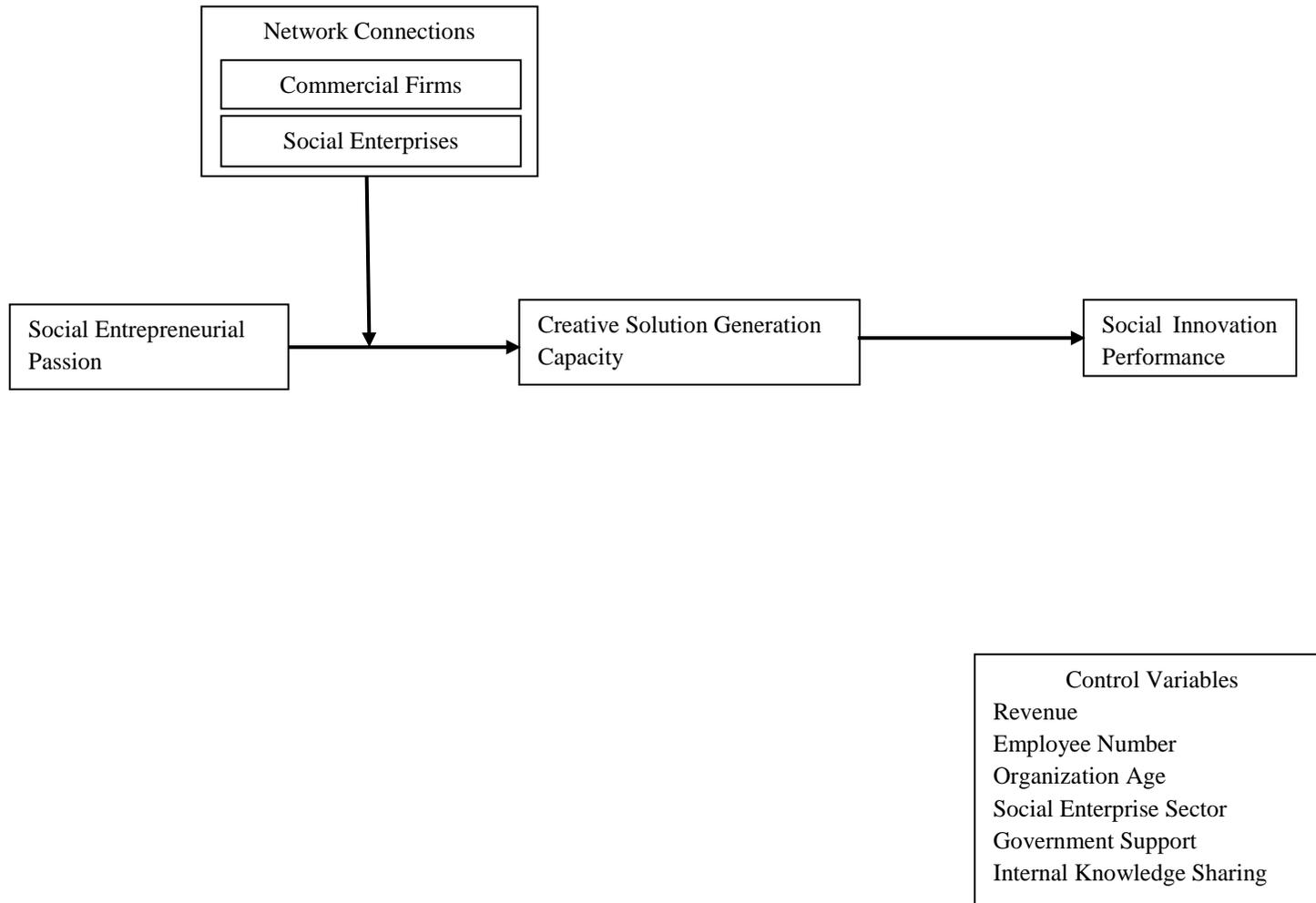│ Internal Knowledge Sharing │
└─────────────────────────────┘

Table 1: Literature Review

The Pursuit of Social Innovation in the Context of Social Entrepreneurship		Interorganizational Networks	
Innovation Activities within a Social Enterprise • Nature and processes of social innovation (e.g. Lettice & Parekh, 2010; Mulgan, 2006; Mulgan et al., 2007; Nicholls & Murdock, 2012). • Social innovation opportunities recognition and evaluation (e.g. Lehner & Kansikas, 2012; Monllor & Attaran, 2008; Perrini et al., 2010; Shaw & Carter, 2007). • Competitive strategy (e.g. Weerawardena et al., 2010; Weerawardena & Mort, 2012)	**Formation of Social Enterprise** (e.g. Haugh, 2007; Lurtz & Kreutzer, 2017; Miller et al., 2012; Peredo & Chrisman, 2006; Stevens et al., 2015)	**Networks and Social Innovation** (e.g. Edwards-Schachter et al., 2012; Le Ber & Branzei, 2010; Lyon, 2012; Phills et al., 2008; Selsky & Parker, 2005, 2010).	**A Social Enterprise's Network Connections** • Nonprofit-business collaboration (e.g. Austin, 2000; Berger et al., 2004; Di Domenico et al., 2009; Sakarya et al., 2012). • Nonprofit-nonprofit collaboration (e.g. Guo & Acar, 2005; Snavely & Tracy, 2000). • Nonprofit-government collaboration (e.g. Bryson et al., 2006; Gazley & Brudney, 2007; Young, 2000).
Research Gap 1: Few studies explicitly consider social innovation as a form of competitive strategy to differentiate a social enterprise from its competitions.	**Research Gap 2:** Empirical studies have not examined the processes by which social entrepreneurship passion affects social innovation performance.	**Research Gap 3:** No study has examined how the different types of strategic collaboration affect the processes that trigger social innovation within a social enterprise.	

Table 2: Descriptive Statistics

	Mean	S.D.	α	AVE	1	2	3	4	5	6
1. Revenue	2.812	1.212	---	---	---					
2. Staff Number	1.245	.823	---	---	.473*	---				
3. Organization Age	1.341	.784	---	---	.294*	.135*	---			
4. Health/Recreation	.170	.377	---	---	.186*	.120	-.004	---		
5. Disability/General Care	.079	.27	---	---	-.075	-.067	-.068	-.132	---	
6. Housing/Accommodation	.022	.146	---	---	-.002	-.045	-.068	-.068	-.044	---
7. Art/Culture	.135	.343	---	---	-.181*	-.087	-.044	-.179*	-.116	-.059
8. Environment/Conservation	.109	.313	---	---	-.212*	-.087	-.066	-.159*	-.102	-.052
9. Other Charitable Purposes	.284	.452	---	---	.178*	.048	.076	-.285*	-.184*	-.094
10. Government Support	2.47	1.41	---	---	.072	.089	.042	.063	.086	.014
11. Internal Knowledge Sharing	4.364	.584	---	---	.029	-.068	.056	.055	-.071	.009
12. Social Entrepreneurial Passion	4.273	.722	.776	.774	.021	-.021	-.084	.103	.025	.047
13. Creative Solution Generation Capacity	4.421	.532	.898	.692	.183*	.082	.057	.073	-.041	.022
14. Social Innovation Performance	3.858	.73	.792	.809	.220*	.043	.097	.168*	-.043	.029
15. Network Connections - Commercial Firms	3.463	.975	---	---	.126	-.071	.060	.047	-.006	.082
16. Network Connections – Social Enterprises	3.59	1.042	---	---	.032	-.036	-.022	.078	.069	.116

	7	8	9	10	11	12	13	14	15	16
7. Art/Culture	---									
8. Environment/Conservation	-.139*	---								
9. Other Charitable Purposes	-.249*	-.220*	---							
10. Government Support	-.069	.042	-.053	---						
11. Internal Knowledge Sharing	.026	-.003	-.028	-.071	---					
12. Social Entrepreneurial Passion	.116	-.094	-.064	.127	.291*	**.880**				
13. Creative Solution Generation Capacity	.011	-.087	-.016	.072	.375*	.315*	**.832**			
14. Social Innovation Performance	.007	-.172*	.076	.101	.320*	.367*	.445*	**.900**		
15. Network Connections - Commercial Firms	-.044	-.023	-.011	.156*	.110	.237*	.138*	.194*	---	
16. Network Connections – Social Enterprises	-.040	-.131*	.016	.254*	.182*	.261*	.316*	.292*	.512*	---

Notes:

N = 229; *p < .05;

SD = Standard Deviation; α = Cronbach's Alpha; AVE = Average Variance Extracted; AVE square root are show in bold on the correlation matrix diagonal

Organizational size is measured as annual revenue: 1 = below £10000; 2 = £10,001 ~ £25,000; 3 = £25,001 ~ £100,000; 4 = £100,000 ~ £500,000; 5 = above £500,001

Staff number is measured as number of full time employees (exclude volunteers): 1 = below 10; 2 = 11~20; 3 = 21 ~ 30; 4 = 31 ~ 40; 5 = above 41

Organization age is measured as number of year since establishment: 1 = below 5 years; 2 = 6 ~10 years; 3 = 11 ~15 years; 4 = 16 ~ 20 years; 5 = above 21 years

We choose "Animal" (providing social service related to animal cause) as the benchmark group

Table 3: Data Analysis

	Model 1	Model 2	Model 3	Model 4	Model 5
Outcome Variable:	CSGC	SIP	SIP	SIP	CSGC
Control Variables:					
Revenue	.067(2.230)*	.070(1.599)	.070(1.634)	.095(2.183)*	.070(2.333)*
Staff Number	.019(.466)	-.051(-.867)	-.047(-.816)	-.040(-.667)	.020(.501)
Organization Age	-.002(-.047)	.034(.567)	.056(.956)	.055(.912)	.010(.233)
Health/Recreation	-.043(-.438)	.333(2.354)*	.284(2.047)*	.267(1.867)†	-.056(-.573)
Disability/General Care	-.024(-.193)	.088(.488)	.050(.282)	.040(.222)	-.066(-.536)
Housing/Accommodation	-.108(-.512)	.290(.954)	.224(.756)	.183(.598)	-.183(-.880)
Art/Culture	.007(.071)	.178(1.185)	.109(.739)	.112(.733)	.002(.017)
Environment/Conservation	-.124(-1.102)	-.100(-.615)	-.085(-.540)	-.132(-.812)	-.074(-.669)
Other Charitable Purposes	-.056(-.645)	.229(1.841)†	.215(1.769)†	.193(1.544)	-.068(-.799)
Government Support	.028(1.289)	.044(1.415)	.028(.937)	.039(1.247)	.012(.549)
Internal Knowledge Sharing	.425(7.902)***	.180(2.090)*	.127(1.489)	.288(3.703)***	.381(7.102)***
Hypothesized Variables :					
SEP	.127(2.856)**		.226(3.575)***	.274(4.270)***	.135(2.837)**
CSGC		.444(4.620)***	.379(3.975)***		
CNET					-.024(-.667)
SNET					.102(2.851)**
SEP x CNET					.064(1.855)*
SEP x SNET					-.026(-.788)
CONSTANT	1.758(6.404)***	.686(1.661)†	.265(.632)	.931(2.343)*	2.505(9.509)***
Model Statistics					
F-Value	6.389	9.188	6.713	7.518	8.235
P-Value	.000	.000	.000	.000	.000
R-Square	.262	.338	.272	.313	.383

Notes:
N = 229; *** p < .001; ** p < .010; * p < .050; † p < .100
SEP = Social Entrepreneurial Passion; CSGC = Creative Solution Generation Capacity; SIP = Social Innovation Performance
CNET = Network Connections - Commercial Firms; SNET = Network Connections – Social Enterprises
Unstandardized Coefficients are reported with t-value in parentheses;
Bootstrap N = 10000; BLLCI = bootstrap lower level confidence interval; BULCI = bootstrap upper level confidence interval
Statistical Inference:
Model 1 and Model 3: Indirect Effect = SEP → CSGC → SIP = .048* BLLCI (.010) ~ BULCI (.103)

Table 4: Post-Hoc Analysis

Path Relationship	Model 6	Model 7	Model 8
Control Path:			
Revenue → SIP	.102(1.270)	.119(1.477)	
Staff Number → SIP	-.061(-.824)	-.063(-.857)	
Organization Age → SIP	.054(.794)	.078(1.162)	
Health/Recreation → SIP	.214(2.61)**	.183(2.257)*	
Disability/General Care → SIP	.052(.714)	.036(.486)	
Housing/Accommodation → SIP	.060(.888)	.046(.693)	
Art/Culture → Social Innovation	.100(1.279)	.069(.888)	
Environment/Conservation → SIP	-.034(-.446)	-.036(-.472)	
Other Charitable Purposes → SIP	.167(1.953)†	.161(1.887)†	
Government Support → SIP	.090(1.362)	.064(.975)	
Internal Knowledge Sharing → SIP	.101(1.284)	.090(1.135)	
Revenue → CSGC	.141(1.846)†	.139(1.831)†	.138(1.899)†
Staff Number → CSGC	.046(.661)	.048(.692)	.041(.621)
Organization Age → CSGC	-.022(-.336)	-.027(-.424)	-.001(-.016)
Health/Recreation → CSGC	-.053(-.685)	-.050(-.650)	-.065(-.889)
Disability/General Care → CSGC	-.030(-.433)	-.030(-.437)	-.064(-.966)
Housing/Accommodation → CSGC	.011(.175)	.013(.208)	-.009(-.155)
Art/Culture → CSGC	-.034(-.458)	-.033(-.446)	-.047(-.646)
Environment/Conservation → CSGC	-.081(-1.106)	-.081(-1.114)	-.041(-.601)
Other Charitable Purposes → CSGC	-.062(-.765)	-.063(-.779)	-.070(-.917)
Government Support → CSGC	.081(1.306)	.083(1.341)	.031(.505)
Internal Knowledge Sharing → CSGC	.498(6.904)***	.498(6.790)***	.406(5.604)***
Hypothesized Path:			
SEP → SIP		.273(3.173)**	
SEP → CSGC	.250(2.868)**	.231(3.018)**	.265(2.822)**
CSGC → SIP	.450(4.769)***	.357(3.784)***	
CNET → CSGC			-.077(-1.072)
SNET → CSGC			.204(2.655)**
SEP x CNET → CSGC			.145(1.857)*
SEP x SNET → CSGC			-.094(-1.474)

Fit Indices			
Chi-Square (X^2)	135.357	124.698	131.874
Degree of Freedom (df)	82	81	105
X^2/df	1.651	1.539	1.256
p-value	.000	.000	.039
Comparative fit index (CFI)	.960	.967	.985
Normed Fit Index (NFI)	.909	.916	.935
Goodness of Fit Index (GFI)	.947	.950	.954
Root mean square error of approximation (RMSEA)	.053	.049	.034

Notes:
N = 229; *** $p < .001$; ** $p < .010$; * $p < .050$; † $p < .100$
SEP = Social Entrepreneurial Passion; CSGC = Creative Solution Generation Capacity; SIP = Social Innovation Performance
CNET = Network Connections - Commercial Firms; SNET = Network Connections – Social Enterprises
Standardized Coefficients are reported with t-value in parentheses;
Statistical Inference:
Model 8: Sobel Test for indirect path (SEP → CSGC → SIP); Test Statistic = .2.370* p = .018

Appendix 1: Measurement and Factor Loading

Measurement	Loadings
Social Entrepreneurial Passion	
We are excited to establish a new organization to provide social services	.896
We enjoy nurturing a new organization through its emerging success by providing social services for suitable causes	.863
Creative Solution Generation Capacity	
We are capable to define social problems	.747
We have skills to creatively articulate social problems	.838
We have the ability to generate novel ideas to solve social problems	.888
We are capable to suggest creative solutions to solve social problems	.911
Social Innovation Performance	
In comparison with other social enterprises, we develops novel and useful social products and services (solution) address a social need, which is better than existing approaches	.890
In comparison with other social enterprises, our new social product and service development programme is far more successful	.845
Network Connections	
Commercial Firms	
We are in touch with most of the commercial organizations relevant to our operation*	N/A
Social Enterprises	
We are in touch with most of the social enterprises relevant to our operation*	N/A

Notes:
* Single item measurement