

## **Embracing Digital Networks: Entrepreneurs' Social Capital Online**

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### **ABSTRACT**

This paper presents a research agenda for understanding how entrepreneurs accrue social capital in the digital age. We develop a conceptual framework with 12 research propositions that specify how the unique technical capabilities of social network sites impact entrepreneurs' bridging and bonding social capital online. These propositions are informed by anecdotal evidence from founders that finds entrepreneurs' social capital accrual differs online. We include theoretical and methodological insights for overcoming research challenges concerning context dynamism, intertwined networks, and unclear behavioral norms. This agenda addresses a growing gap between contemporary entrepreneurial practices and existing social capital theory and research in entrepreneurship.

Key Words: Entrepreneurial Process, Social Capital, Networks, Social Media, Affordances

### **1. Introduction**

There is a substantial body of research indicating that social capital is critical to venture success (Erikson, 2002; Jack, 2010; McKeever et al., 2014; Slotte-Kock and Coviello, 2010). Entrepreneurship scholars also agree that context matters in understanding entrepreneurs' networks and networking behaviors (Dodd and Patra, 2002) including how they accrue and use social capital (Stam et al., 2014; Zahra et al., 2014). Apart from some early work (e.g., Fischer and Reuber, 2011; Morse et al., 2007; Sigfusson and Chetty, 2013), few studies have considered how entrepreneurs build and employ social capital in the context of online networks. Despite evidence of entrepreneurs'

growing use of Facebook, LinkedIn, Instagram and other social network sites (SNSs), including Twitter (Fischer and Reuber, 2011), little is known about how entrepreneurs establish social capital online.

Research in computer-mediated communications (CMC) helps bridge this gap by demonstrating that social capital is accrued differently online versus offline (cf. Kim et al., 2011). SNSs enable unique technical capabilities called *affordances* (Ellison et al., 2011a), which provide a distinct context for understanding networks, relationships, and social capital (Ellison and boyd, 2013). For example, SNSs have the capacity to help entrepreneurs initiate weak ties (Morse et al., 2007) and manage strong ones (Sigfusson and Chetty, 2013). While CMC literature focuses on online networks of friendship ties, less attention has been focused on how social capital is accrued in the online networks that entrepreneurs use to launch, grow, and support their ventures.

We address this gap by developing a conceptual framework that demonstrates how the unique affordances of SNSs likely impact entrepreneurs' networking behaviors online and, consequently, their acquisition of social capital. This framework, together with data collected from interviews with 16 founders, and extant literature, supports the development of 12 research propositions. These propositions identify the mechanisms by which SNS affordances likely influence the network broadening and deepening behaviors (Vissa, 2012) used by entrepreneurs to acquire bridging and bonding social capital online (Williams, 2006).

This article offers three main contributions to entrepreneurship literature. First, we argue that entrepreneurship scholars can no longer ignore the online context within which many entrepreneurs now build and use social capital. To guide future empirical studies investigating this context, we present a comprehensive research agenda for extending theory and knowledge about entrepreneurs' bridging and bonding social capital online. Such research is essential to understand entrepreneurs' social capital in complex and blended online-offline contexts.

Second, we build on early studies of entrepreneurs' online networking behaviors (e.g., Morse et al. 2007) and draw on CMC concepts to construct a comprehensive set of 16 SNS affordances that are important to understand entrepreneurs' social capital online. Our analysis of these affordances illuminates *how* entrepreneurs' accrual of social capital differs online. The delineation of these affordances makes these concepts more accessible

for both the study of entrepreneurs' social capital and other entrepreneurship constructs such as entrepreneurial identity and entrepreneurial orientation that may also manifest themselves differently online.

Finally, we specify how the online context may impact entrepreneurs' network broadening and deepening behaviors. We develop research propositions identifying 10 action mechanisms that explain why the accrual of entrepreneurs' bridging and bonding social capital is expected to differ online. By doing so, we respond to calls to focus on: entrepreneurial action (Shepherd, 2015); entrepreneurs' networking processes (Jack et al., 2008); the social capital behavior of entrepreneurs (Wiklund et al., 2011); and the 'workings' of social capital (Gedajlovic et al., 2013). The 10 action mechanisms are also useful for assisting entrepreneurship scholars in understanding other behaviors online.

Collectively, the contributions of this paper challenge the assumption that online and offline contexts present the same conditions for accruing social capital. Entrepreneurs' networks are opportunity structures (Brüderl and Priesendörfer, 1998) that map the "action possibilities" for entrepreneurs (Johanson and Matsson, 1987). As their behaviors are socially situated (Haynie et al., 2010), entrepreneurs' actions likely differ online. The resulting differences can lead to over- or under-estimating the overall productive potential (Coleman, 1988) of entrepreneurs' social capital. Without taking these differences into account, social capital theory is underdeveloped and current prescriptive recommendations for entrepreneurial practice are incomplete.

We begin with a review of the conceptual foundations of our work, followed by a presentation of our framework and development of research propositions, which are the basis of our research agenda. We then discuss key challenges relevant to investigating our propositions and recommend theoretical and methodological approaches for overcoming these difficulties, before drawing brief conclusions.

## *2. Conceptual foundations*

Our work is positioned within the entrepreneurial action paradigm (e.g., McMullen and Shepherd, 2006) that advocates research focused on the actions of entrepreneurs as the unit of analysis. Specifically, we focus on those actions that entrepreneurs engage in to accrue social capital online. Our overarching theoretical perspective is

social exchange theory, in which motivations, including equity, trust, and reciprocity, inform agency (Homans, 1961). These motivations underlie the mechanisms by which SNS affordances likely influence entrepreneurs' network broadening and network deepening behaviors online. In the sections that follow, we review the conceptual foundations of social capital and SNSs that inform the development of our framework and research propositions.

## *2.1 Social capital*

Social capital is broadly understood as the ability of entrepreneurs to extract and utilize resources from relationships to achieve desired outcomes (Adler and Kwon, 2002). While authors such as Fornoni et al. (2012) and Stam et al. (2014) argue that social capital is a critical element of entrepreneurial success, social capital research has not kept pace with entrepreneurial practice. Increasingly, entrepreneurs manage business relationships online (Fischer and Reuber, 2011), but little is known about how entrepreneurs' social capital works in this context.

Social capital is considered to be a foundational theoretical perspective in entrepreneurship (Murphy, 2011). It is a key outcome of networking, an important micro foundation of entrepreneurial action (Adler and Kwon, 2002). Social capital helps entrepreneurs in myriad ways, such as: capitalizing on market opportunities (cf. Uzzi, 1997); identifying, collecting, and allocating scarce resources (cf. Davidsson and Honig, 2003); garnering information, influence, and sponsorship (cf. Adler and Kwon, 2002); improving outcomes in turbulent times (cf. Rogers, 2006); providing legitimacy (cf. Aldrich and Fiol, 1994); preventing failure (cf. Westhead, 1995); and strengthening the innovative flexibility and competitiveness of small firms (cf. Özcan, 1995). Potential negative effects of social capital have also been identified, such as: the imposition of mental conformity, restricting escape from failing partners, reducing objectivity, increasing transaction costs, and protecting mediocrities (Adler and Kwon, 2002; Li et al., 2013; Light and Dana, 2013). More comprehensive reviews of the social capital literature in entrepreneurship are provided by Gedajlovic et al. (2013) and Payne et al. (2011), but a key insight from this literature is that social capital is a central determinant of entrepreneurial outcomes.

Despite its importance, social capital research has suffered from a lack of precision and consistency, extending even to its definition (Anderson et al., 2007; Payne et al., 2011). Alder and Kwon (2002), for example, focus on the relationships inherent in networks by defining social capital as the goodwill created through social relations that can be mobilized to attain needed resources. Conversely, Gedajlovic et al. (2013) suggest that actual resources, such as information, assistance or money, are what constitute social capital; in their view relationships are the means of providing such resources. These differences in perspective, however, are mitigated by conceptualizing four key aspects of social capital as follows: that (1) relationships, (2) provide access to resources, (3) which can be utilized by entrepreneurs, (4) to achieve desired outcomes.

The latent nature of social capital also contributes to the imprecision of its definition. Social capital is accrued much like energy in a capacitor, and is *potentially* available; whether social capital has been accrued at all is not clear until an entrepreneur tries to use it. Consistent with its multidimensional, latent nature, we adopt Nahapiet and Ghoshal's (1998: 243) definition of social capital as the "sum of actual and potential resources embedded within, available through, and derived from the network of relationships possessed by individuals."

Despite definitional challenges and the related construct validity criticisms of social capital research (cf., Gedajlovic et al., 2013), progress has been made in conceptualizing how social capital manifests itself. Two related perspectives have gained prominence in entrepreneurship literature: 1) bridging social capital and 2) bonding social capital. *Bridging* social capital is developed through structural connections with others (Burt, 1982; 2007). Putnam (2000) describes bridging social capital as comprising weak tie connections between diverse individuals with ties characterized primarily by information sharing (Dubini and Aldrich, 1991). In practice, entrepreneurs are thought to construct networks that provide access to the resources they need to be successful by bridging the structural holes in their networks, often via brokers, to achieve desired outcomes (Burt, 2007).

Vissa (2012) suggests that bridging social capital is accrued through an entrepreneurs' network broadening behaviors, which include reaching out to new contacts and establishing interpersonal knowledge of them. Network broadening behaviors include: being outward looking, connecting with a broad range of people, and building

reciprocity with a diverse range of people (Williams, 2006). These actions are also consistent with adding weak ties into a network (Granovetter, 1985).

*Bonding* social capital is developed through relationally embedded interactions with people (Hite, 2003). Putnam (2000) describes bonding social capital as being derived from strong tie connections characterized by multiple, repeated interactions. These interactions are thought to encourage the development of both trust and a willingness to help and are created via mechanisms of reciprocity, commitment, and liking (Homans, 1961).

Vissa (2012) suggests that bonding social capital is accrued through an entrepreneur's network deepening behaviors, which include actions such as time-based interaction pacing, network preserving, and relational embedding. Network deepening behaviors also include providing emotional support, accessing scarce or limited resources, and mobilizing solidarity (Williams, 2006). Such behaviors are consistent with converting weak ties into strong ties and maintaining or enriching these relationships (Hite, 2003; Newbert and Tornikoski, 2013).

While progress has been made in conceptualizing social capital, challenges arise in studying it. One of these challenges is that social capital is context specific (cf. Dodd and Patra, 2002): entrepreneurial processes differ, resources and access to resources differ, desired outcomes differ, and the norms that govern relational interactions differ by context (Whetten, 2009; Young, 2014). With a few exceptions such as Rooks et al. (2016) who explain *why* social capital differs in collectivist and individualistic communities, prior work has primarily been descriptive, finding *that* social capital is important in different contexts (cf. Prasad et al., 2013), or observing *how* it differs in different contexts (cf. Foley and O'Conner, 2013). Curiously, there is a paucity of social capital research that explains differences in the actions of entrepreneurs (Gedajlovic et al., 2013; Wiklund et al., 2011), and specifically in the online context.

It is not yet clear how entrepreneurs' social capital manifests itself online. What is agreed is that entrepreneurs are increasingly managing personal and business networks online (Fischer and Reuber, 2014). In particular, SNSs such as Facebook, LinkedIn, and Twitter have significantly changed the way entrepreneurs interact with others (Fischer and Reuber, 2011; Morse et al., 2007). Differences in the on and offline contexts could impact

the types of opportunities entrepreneurs respond to, the resources available to them, and the extent to which their social capital is developed, accessed, and used. Offline, social capital is thought to develop over long periods of time, even decades (Gedajlovic et al., 2013). It is not clear whether such long-developed social capital is transferable to entrepreneurs' online relationships. How the particular relational abilities and characteristics of SNSs might affect entrepreneurs' social capital is also unclear. This is an important gap in the entrepreneurship social capital literature that requires further study. We know entrepreneurs are using online social networks to achieve venture outcomes. We know social capital is important for those venture outcomes. Yet we know very little about how entrepreneurs' social capital might manifest itself online, and how this differs from the offline context.

CMC literature provides some insights to address these research gaps. One stream of CMC study explores how the affordances of online social networks impact the nature, content, management, and social capital outcomes of personal friendship networks. As introduced in the following section, these affordances may impact the transaction networks (Fombrun, 1982) typical of entrepreneurs.

## *2.2 Social media and social network sites: Insights from computer mediated communications*

CMC literature has recently focused on how online social networking is used to achieve social objectives and how social media software impacts communications, interactions, and outcomes. Such research informs entrepreneurship by offering insights into how the online context may impact entrepreneurs' accrual of social capital.

Understanding entrepreneurs' use of social media is important because entrepreneurial behavior is "embedded in interpersonal social networks" (Staber and Aldrich, 1995: 442). Early studies of entrepreneurs' use of social media found it to be an important part of entrepreneurs' networking activities (Fischer and Reuber, 2011; Fischer and Reuber, 2014; Sigfusson and Chetty, 2013). Kaplan and Haenlein (2010) identify six types of social media: online social networks, collaborative projects, blogs and microblogs, content communities, virtual game worlds, and virtual social worlds. While there may be social capital implications for all forms of social media, we limit our focus to online social networks. SNS platforms have the highest use and represent a fundamental change in human interactions (Papacharissi, 2010).

SNSs are defined as “web-based services that allow individuals to construct a public or semi-public profile within a bounded system, articulate a list of other users with whom they share a connection, and view and traverse their list of connections and those made by others in the system” (boyd and Ellison, 2007: 211). Their use is becoming ubiquitous, with current figures suggesting more than 2.3 billion global users across sites (Kemp, 2016), 1.6 billion monthly active Facebook users (Facebook, 2016), and over 440 million LinkedIn users (LinkedIn, 2016). One quarter of all American adult internet users are active on Instagram, Twitter, or Pinterest (Pew Research Center, 2015). Such activity suggests that a significant number of people, entrepreneurs included, manage relationships on SNSs. Recent studies find that SNSs are highly integrated into peoples’ lives and that many users socialize, exchange advice, and use information available on SNSs to make decisions (Olmstead et al., 2006). Social connections can be developed, maintained and strengthened through SNSs (Humphreys, 2007) and social capital can be enhanced (Ellison et al., 2011a).

SNS research has examined social capital in friendship networks. In this context, social capital is found to increase with increased Facebook use among undergraduate students (Ellison et al., 2007; Steinfield et al., 2008). Among a sample of university staff, Ellison et al. (2014b) found that social capital is positively associated with the number of actual friends a user has on Facebook and with increased engagement in Facebook relationship maintenance behaviors (such as extending birthday wishes). Yuan and Gay (2006) found that bonding social capital increased the performance of online distributed teams of undergraduate students. Ellison et al. (2011b) found that social information-seeking behavior on SNSs contributes to perceived bridging social capital but not bonding social capital. Collectively, these findings suggest that both bridging and bonding social capital can be enhanced with SNS use in friendship networks. Fombrun (1982) describes these types of friendship networks as association attribute networks, where the motivation for networking is to establish and enhance shared attributes. It is not yet clear whether these findings hold true for the transaction networks (Fombrun, 1982) typical of entrepreneurs, in which the motivation for networking is to aid in establishing, operating, and growing their venture.



It is likely that the transaction networks of entrepreneurs are distinct from the association networks examined in the CMC literature. One reason is that entrepreneurs have different objectives for their SNS use. In a study of UK and Japanese founders, Whittaker (2009) found entrepreneurs to have multiple, diverse, and sometimes conflicting, personal objectives for their firms. These include building a business with a legacy; a reputation for excellence; a stable and positive environment for employees; fairness and moral integrity; a culture that encourages work-life balance; and a focus on maximizing current and future returns for owners. Multiple objectives make the accrual of social capital more complicated in entrepreneurs' transaction networks compared to those found in association-friendship networks. Furthermore, an entrepreneur's pursuit of social capital online carries greater strategic risk than for an individual pursuing only social objectives. This is due to the importance of social capital for venture success and the extent to which stakeholders and resources are impacted if social capital is not effectively managed. In addition, through the accepted feedback loop of the social shaping perspective (Baym, 2010; Resnick, 2001), entrepreneurs' actions in online transaction networks may uniquely shape the norms of these SNS networks, including norms for how they accrue and activate social capital online. Given these contextual differences, entrepreneurs' social capital is likely accrued differently than in the association networks typically studied in CMC literature.

The unique context in which entrepreneurs accrue and activate social capital in SNS transaction networks has not been considered in either entrepreneurship or CMC literatures. However, as Subrahmanyam et al. (2008) describe, what is known is that the online context is quite distinct from the offline context; these differences persist even if individuals participate in both online and offline networks (Quan-Haase and Young, 2011). How people build, maintain, and use social networks online is substantively different than with face-to-face interactions: when using SNSs, time and space are compressed, interaction speed is accelerated, and people are increasingly accessible (Baym, 2010). In addition, online relationships are thought to be distinct from offline relationships because of the unique relational affordances SNSs offer (Kane et al., 2014). CMC literature suggests that the online context

represents an omnibus social context change (Johns, 2006), where the online context is so different that offline research findings may not apply (Ellison and boyd, 2013; Papacharissi, 2010).

Four features contribute to the unique SNS context: digital user profiles, digital search, digital relations, and network transparency (Kane et al., 2014). CMC literature argues that these technical features enable unique affordances, defined as those actions, uses, or capabilities enabled, or made possible, by technology (Baym, 2010: 44). *Digital user profiles* display user, or 'other', supplied content and/or system-provided data (Ellison and boyd, 2013). This particular SNS feature lets entrepreneurs craft, edit, share, and duplicate information that provides insights to others (Mendelson and Papacharissi, 2011). Profiles often include venture specific information and information about their identity, values, and character, among other attributes. *Digital search* is a combined SNS search engine and prompting feature that allows entrepreneurs to readily scan, see, review, or otherwise extract network content (boyd, 2010). *Digital relations* is an SNS connection feature that enables "a persistent connection between nodes" (Kane et al., 2014: 284), meaning that entrepreneurs can easily and cost-effectively interact with others to develop weak and strong ties and grow their networks (Ellison et al., 2011a). *Network transparency* is the SNS feature that shows a user's network in its entirety (Leonardi, 2014). This provides entrepreneurs and their contacts opportunities to view connections, identify missing connections, and make inferences about association or disassociation (Treem and Leonardi, 2012). Table 1 identifies and defines 16 specific affordances, grouped according to association with each of the four key SNS features. These affordances are not intended to be exhaustive and we recognize that as they derive from multiple sources, there is some conceptual overlap in their definitions. As a more comprehensive list of affordances than has previously been considered in management research, we make these concepts more accessible to entrepreneurship scholars.

The SNS affordances in Table 1 are changing the nature of social relationships for entrepreneurs. These technical capabilities have the capacity to impact social connections, social interactions, and social resources (cf. Donath and boyd, 2004; Leonardi, 2014). They also affect entrepreneurial behavior, sense-making (Fischer and Reuber, 2014), and social capital dynamics (Ellison et al., 2014a). SNS affordances are also beneficial in accruing

both bridging and bonding social capital (Ellison et al., 2014b; Sajuria et al., 2015). Together, this evidence suggests that the SNS affordances summarized in Table 1 may have important uninvestigated effects on an entrepreneur's network broadening and deepening behaviors, resulting in social capital being accrued differently in online contexts.

In the following section, we begin to address this gap in the entrepreneurship social capital literature by developing the first comprehensive conceptual framework that specifies how key SNS affordances likely impact entrepreneurs' accrual of bridging and bonding social capital online. In doing so, we enhance entrepreneur social capital theory by identifying how and why social capital accrual behavior likely differs in the online context.

Table 1: SNS Features and Affordances

SNS Feature	Affordance	Affordance Definition
<b>Digital User Profiles</b>	Shareability	Ability to easily share profile content with many others online (Papacharissi, 2010)
	Editability	Ability to reconsider/recraft profile content before sharing it (Treem and Leonardi, 2012)
	Viewability	Ability to view aspects of otherwise restricted profile content (Mansour et al., 2013)
	Replicability	Ability to easily duplicate or modify profile content that looks original (boyd, 2010)
	Signaling	Ability to convey intended and unintended information from user profiles (Donath, 2007)
<b>Digital Search</b>	Searchability	Ability to efficiently search all manner of SNS content (boyd, 2010)
	Retrievability	Ability to scan vast networks to capture specific information (Baym, 2010)
	Asynchronicity	Ability to overcome temporal limitations and extract content from one-way ties (Baym, 2010)
	Persistence	Ability to see archived information (boyd, 2010)
	Reviewability	Ability to review for consistency in posts over time (Faraj et al., 2011)
<b>Digital Relations</b>	Social interactivity	Ability to efficiently connect to networked others (Baym, 2010)
	Scalability	Ability to send and receive information on a large scale (boyd, 2010)
	Interoperability	Ability to easily share content across multiple distinct platforms (Kane et al., 2014)
<b>Network Transparency</b>	Visibility	Ability to make all network connections visible to the network owner or others (Leonardi, 2014)
	Association	Ability to know that a network connection exists (Treem and Leonardi, 2012)
	Transversability	Ability to navigate to and through your own and others' networks (boyd and Ellison, 2007)

### *3. A framework of the effects of SNS affordances on entrepreneurs' accrual of social capital online*

The framework shown in Table 2 links the four SNS features identified by Kane et al. (2014) to the accrual of entrepreneurs' bridging and bonding social capital online. We adopt Kane et al.'s (2014) typology of digital user profiles, digital search, digital relations, and network transparency because their work integrates many previous typologies found in CMC literature and is developed in a management context. We argue that the affordances defined in Table 1 impact entrepreneurs' network broadening and deepening behaviors through 10 specific action mechanisms (Table 2). These mechanisms are drawn from entrepreneurship and CMC literatures. Linking these features, affordances, and action mechanisms, we generate 12 research propositions. The propositions suggest how SNS affordances likely impact entrepreneurs' networking behavior and the accrual of bridging and bonding social capital online. While the affordances are not exclusively associated with a particular feature or mechanism, we group them in Table 2 by the primary feature that enables them, and associate them with the mechanism(s) that most utilize them. This is appropriate because our goal is to identify *why* the accrual of entrepreneurs' social capital may differ in the online context rather than to delineate every possible SNS affordance, implication, or mechanism. By identifying the mechanisms that link SNS affordances to entrepreneurs' network broadening and deepening behavior, the framework begins to address calls for explaining the social capital-related behavior of entrepreneurs (e.g., Gedajlovic et al., 2013; Wiklund et al., 2011).

The research propositions shown in Table 2 are informed by three sources: current entrepreneurship research on social capital, networks, and networking; current CMC research on social capital and SNSs; and depth interviews with 16 founders focused on their SNS activities relating to network broadening and deepening efforts. Deshpande (1983) supports this discovery-oriented approach as appropriate for theory building; moreover, it is consistent with Shepherd's (2015) call for research that is immersed in entrepreneurial practice. Depth interviews of one to two hours' length were conducted with 16 founders of ventures in two cities in the North American Pacific Northwest. Founders were identified using theoretical sampling through peer introductions and snowballing techniques. To capture a cross section of founder experiences, we sought entrepreneurs who varied by industry,

experience, gender, entrepreneurial success, and SNS use; these characteristics are summarized in Table 3. Each founder was in the first to fourth year of a high growth-focused venture, a stage in which personal, professional, and firm-level networks typically overlap (Brüderl and Preisendörfer, 1998; Dubini and Aldrich, 1991). In their comments, interviewees provided a wealth of anecdotal evidence supporting the face validity of our propositions; excerpts from transcribed interviews are included in the discussion that follows.

Our discussion is organized by entrepreneurial behaviors and begins by developing propositions related to network broadening behavior; we then proceed to develop propositions related to network deepening behavior. Propositions are ordered by individual SNS feature. We present general propositions rather than specific hypotheses since the SNS phenomenon is relatively unexplored in entrepreneurship and constructs need conceptual refinement and measures. Our purpose is to provide direction for future investigation, not constrain it by over-specification.

**Table 2:** A Framework of the Social Capital Implications of SNS Affordances

	<b>Bridging Social Capital</b>			<b>Bonding Social Capital</b>		
<b>SNS Feature</b>	<b>Affordances</b>	<b>Network Broadening Action Mechanisms</b>	<b>Social Capital Proposition</b>	<b>Affordances</b>	<b>Network Deepening Action Mechanisms</b>	<b>Social Capital Proposition</b>
<b>Digital User Profiles</b>		Homophily Assessment	P1	Shareability Signaling	Common Ground Assessment	P8
	Signaling	Social Judgment Assessment	P2	Viewability Editability	Conveying Digital Social Competency	P9
	Replicability Viewability	Self-Presentation Curating	P3			
<b>Digital Search</b>	Searchability Retrievability Asynchronicity	Connection Finding	P4	Searchability Persistence Reviewability Asynchronicity	Substantive Information Finding	P10
<b>Digital Relations</b>	Social Interactivity Scaleability	Network Management	P5	Social Interactivity Scaleability	Network Management	P11

	Interoperability			Interoperability		
<b>Network Transparency</b>	Visibility	Network Content Viewing	P6	Visibility	Network Requesting	P12
	Transversability Association	Social Judgment Assessment	P7			

### 3.1 Impact of digital user profile affordances on bridging social capital

Personal information contained in users' profiles contributes to the development of social ties (Taddicken, 2014), and may also increase the rate at which new connections are formed (Morse et al., 2007). Because entrepreneurs, other SNS users, or the SNS platform itself can post content to digital user profiles, these profiles can communicate intended and unintended information (Walther, 2007) about entrepreneurs and their ventures. Through the SNS affordance of signaling (Table 1), this information may be used by entrepreneurs and others to make a variety of assessments and decisions about engagement.

**Table 3:** Founder Characteristics

Founder	Age	Gender	Business	Founder	Age	Gender	Business
Abbey	26	F	b2b manufacturing	Cliff	29	M	online b2b service
Nick	37	M	b2b manufacturing	Miles	51	M	online b2b service
David	28	M	b2b service	Jim	58	M	online b2b service
Susan	36	F	b2b service	Audrey	24	F	online b2c service
Joan	27	F	b2b service	Anita	23	F	online b2c service
Rick	52	M	b2b service	Cassey	26	F	online b2c service
Sam	32	M	b2c manufacturing	Jason	33	M	online b2c service
Bruce	63	M	b2c service	Mark	32	M	online b2c service

One important assessment concerns homophily, the perceived sociodemographic or internal state similarity between actors (Lazarsfeld and Merton, 1954). *Homophily assessment* is the action of seeking to find some basis of similarity with others. Building on a similarity-attraction logic that suggests 'similarity breeds connections'

(McPherson et al., 2001), entrepreneurship research has established that positive homophily assessments increase liking and trust, and in turn, the likelihood of association between actors (Phillips et al., 2013). Homophily assessment of information contained in digital user profiles reduces relationship uncertainty and facilitates initial interaction. This likely supports network broadening behavior and the accrual of bridging social capital.

Such assessments can be positive or negative depending on whether others are perceived to be similar or dissimilar (Yuan and Gay, 2006). Founder David is typical in demonstrating that entrepreneurs use digital user profiles in this fashion when trying to broaden their networks: “*So, one of the key things that I use it for is to build my network... I try to connect with [people who match me and my venture]. Of course, I would try to write up a nice intro to say, ‘Hey, I looked at your profile. You look really impressive. My venture fits your interests. Just want to get some advice from you.’*” While positive assessments of homophily facilitate the development of weak tie relationships, negative assessments may discourage the development of weak tie relationships with heterogeneous others (Granovetter, 1985), thus limiting access to bridging social capital.

Considering the preceding conceptual support and anecdotal evidence, we propose:

**P1:** *Entrepreneurs’ accrual of bridging social capital through network broadening behavior online is enhanced or diminished by the ability to use SNS digital user profile affordances to make positive or negative homophily assessments.*

Through the SNS signaling affordance (Table 1), digital user profile content also communicates information that entrepreneurs and others may use to make social judgment inferences. *Social judgment assessment* is the action of making decisions about, or rendering opinions of, the cognitive legitimacy, sociopolitical legitimacy, reputation, and status of another (Bitektine, 2011). Substantial evidence in the CMC literature indicates that ‘others’ make social judgment assessments based on digital profile information and that these assessments impact networking behavior (Tong et al., 2008; Walther and Parks, 2002), in addition to the development of social connections online (e.g., Antheunis and Schouten, 2011; Rosenberg and Egbert, 2011). Founder Miles makes this point: “*It [my digital profile] is a way of getting the message out there and people to know [that] I know what I’m*

*talking about. So legitimacy is number one.*” Concern for social judgment assessment by others is conveyed by founder Cassey: *“If you’re not there [a profile on SNSs], it’s kind of weird. Others would think you are weird.”*

CMC researchers DeAndrea and Walther (2011: 820) argue that, “apparently, everything one posts on Facebook can be used against him or her in the court of social approval.” This observation is supported by founder Cliff’s insight: *“I want to see what somebody has on their [LinkedIn profile] ... so I can make a judgment on them. Not that I’m using that fully but it’s just giving me more information to understand that person.”* Photo tags, comments, or endorsements by others regarding an entrepreneur’s digital user profile can also provide highly visible and potentially valuable third-party credibility signals (Schlenker and Britt, 1999). This is evident in founder Bruce’s comment: *“[My profile] validates me to a certain extent because I have lots of work experience in the industry, lots of connections, lots of endorsements — [my] credibility goes up big time.”*

Highly visible system-generated sociometric cues on SNSs — such as how many Facebook ‘friends’, Twitter followers, or LinkedIn connections are displayed — can also positively or negatively affect the social judgments of viewers (cf. Lee and Jones, 2008; Tong et al., 2008.) Founder Joan indicates her awareness of this possible outcome: *“If you are not on LinkedIn it gives the impression that you are not active enough, you are not present enough. The same with Facebook and Twitter. If you don’t have [enough ‘friends’] it will appear that you are not established enough.”*

Considering the preceding conceptual support and anecdotal evidence, we propose:

**P2:** *Entrepreneurs’ accrual of bridging social capital through network broadening behavior online is enhanced or diminished by the ability to use SNS digital user profile affordances to make positive or negative social judgement assessments.*

Unlike face-to-face interactions, in which entrepreneurs have the opportunity to alter their presentations of self for specific audiences (Goffman, 1959), the SNS affordances of viewability and replicability (Table 1) make both intended and unintended digital user profile information readily seen, copied, or directed to others. *Self-presentation curating* is the action mechanism of crafting digital user profiles to create digital identities that are a distinct



embodiment of self (Warburton and Hatzipanagos, 2013). It is exacerbated by audience collapse, which is the convergence of network contacts on SNSs across public and private lives and interests (Papacharissi, 2010).

Research suggests that successful entrepreneurs are likely to have diverse sources from which they draw varied information, resources, and subsequent connections to benefit their firms (Dubini and Aldrich, 1991; Shaw, 2006). Founder Jason identifies the importance of self-presentation curating: “[*Being*] image-conscious on Facebook is definitely important. You’re fully expressing yourself and being vulnerable and a lot of people have a window into your world. And it’s your job to monitor that content and to decide what you want to put on.” Entrepreneurs aware of the need to curate their self-presentation (Schlenker, 1980) may hold back from presenting their ‘ideal’ selves on their profiles (Walther, 2007) because assessments of what constitutes ideal differ by audience (Goffman, 1959). In turn, this could restrict the success of network broadening behaviors and the accrual of bridging social capital by making it more difficult to establish certain connections and engage weak ties (Jensen Schau and Gilly, 2003). The consequences of holding back are highlighted by founder Anita: “*I find Facebook is actually quite restricting... you only have one common thread, you only have the ability to have one voice.*” Unless an entrepreneur is adept at self-presentation, audience collapse can result in potentially damaging repercussions from profile information conveying unintended or mixed messages. Founder Jim’s remark reflects the potential for these social capital effects: “*I didn’t realize the scope and breadth of [my audience]... it is like you have a massively big gun and misfiring can be really easy.*” Unintended and mixed messages can hamper entrepreneurs’ network broadening efforts by creating relational uncertainty around who entrepreneurs are, what they stand for, and whether they may be trusted.

Considering the preceding conceptual support and anecdotal evidence, we propose:

**P3:** *Entrepreneurs’ accrual of bridging social capital through network broadening behavior online is enhanced or diminished by the ability to effectively use SNS digital user profile affordances for self-presentation curation.*

### 3.2 Impact of digital search affordances on bridging social capital

Sophisticated algorithms enable users to search vast amounts of digital content on SNSs, thus effectively overcoming the spatial and temporal constraints inherent in face-to-face networks. SNS affordances such as searchability, retrievability, and asynchronicity (Table 1) enable entrepreneurs and their connections to ‘lurk’, ‘troll’ and ‘creep’ to gather information about others (Lampe et al., 2010). These affordances allow entrepreneurs to identify weak tie opportunities and find calculative ties (Hite and Hesterley, 2001) more quickly and at a lower transaction cost (Morse et al., 2007). Vissa (2011) defines *connection finding* as the strategic pursuit of network contacts, indicating that entrepreneurs pursue network contacts whom they believe will benefit their venture. The significance of connection finding mechanisms is reflected in founder Sam’s statements: *“A number of influential players in the industry are on Twitter and they are easy to find. Very easy. Finding their email address is nearly impossible. Finding them on Facebook is...an intrusion. But finding them on Twitter and engaging them in a conversation works. They are quite often prepared to engage and actually tweet back and we can open a dialogue with someone we would never otherwise have been able to reach.”*

Almost all SNSs proactively suggest digital contacts (connection prompting), thus helping entrepreneurs grow their networks. This connection finding action mechanism also makes it easier to be found — potentially increasing the span of entrepreneurs’ networks (Mitchell, 1974) at a low cost. This is important because it has been suggested that ventures able to add network partners quickly, increase their bridging social capital, and are more likely to survive (Venkataraman and Van de Van, 1998). Founder Abbey highlights the value of connection finding using LinkedIn ‘groups’: *“I’ve had more professional people [contact me] from random parts of the world that I’ve never met, they are like, oh, we’re talking [in the LinkedIn group] about [my industry] and they add me as a connection. So... that is pretty awesome and valuable.”* A network of diverse contacts helps entrepreneurs access the resources needed for their ventures, increasing bridging social capital (Jonsson, 2015). This connection finding benefit is expressed by founder Jason: *“I asked for an introduction through another friend of mine on Facebook [through friend-of-friend prompt]. He introduced us and then that’s where we ended up putting our first office.”*

Considering the preceding conceptual support and anecdotal evidence, we propose:

**P4:** *Entrepreneurs' accrual of bridging social capital through network broadening behavior online is enhanced by the ability to use SNS digital search affordances for connection finding.*

### *3.3 Impact of digital relations affordances on bridging social capital*

Compared to offline networks, CMC studies show that SNSs allow users to manage a broader, more complex network of digital relations that encompass diverse resources (Ellison et al., 2014c; Hampton et al., 2011). Affordances such as social interactivity, scalability, and interoperability (Table 1) can increase efficiencies and decrease the costs of managing networks (Lampe et al., 2007). These may help increase the number of ties entrepreneurs can effectively manage online. *Network management* is the action of creating, interacting, and building relationships with others to achieve relational outcomes (Thornton et al., 2015). Network management facilitates network broadening behavior which supports the accrual of bridging social capital (Davidsson and Honig, 2003) by making it easier to initiate and maintain weak tie relationships (Granovetter, 1985). Founder Bruce conveys this benefit: *"It is convenient to get in touch with everyone all at once if you have news."* SNS digital relation affordances also make it easier to develop heterogeneous ties. Yardi and boyd (2010), for example, found that Twitter users interact more with heterogeneous others than non-Twitter users, exposing them to fresh ideas and perspectives.

Network management may also help build the absolute size of entrepreneurs' networks, thus increasing diversity and supporting the accrual of bridging social capital. The benefits of a diverse network of connections for entrepreneurs are well documented (cf. Dubini and Aldrich, 1991; Ruef et al., 2015). The human ability to maintain social connections offline is thought to be limited to about 150 active friendship ties at any one time (Hill and Dunbar, 2003). The role of the network management action mechanism in increasing the size of networks is aptly described by founder David: *"When I first started, I was kind of like a fresh grad who has no connections, no networks anywhere, right? At that time, my LinkedIn connections [were] about 50 people, but now I have over 1,000. So, one of the key things that I use it for is to build my connections, find the people that know the area [industry] that*

*I'm in and just connect with them.*" Such broadening of network size is recognized as being linked to bridging social capital (Davidsson and Honig, 2003).

Key SNS digital relation affordances (Table 1) may also help entrepreneurs access more types of weak tie digital relations, supporting network broadening behavior and the accrual of bridging social capital. CMC research suggests that SNS users tend not to delete old connections (Ellison et al., 2014c). Consequently, connections from earlier periods in entrepreneurs' lives might be more readily available to access through their online networks than offline where decay rates may be higher (Kwon and Alder, 2014). This is evident in the perspective of founder Jim: *"I don't see a point in deleting them [contacts]. Maybe I could talk to them in the future if I ever needed it."* Levin et al. (2011) describe these dormant ties as a valuable source of social capital. As the stage of their ventures change, entrepreneurs may more readily access these dormant ties for resources they had not anticipated needing. Since the costs associated with keeping dormant ties on SNSs are low, entrepreneurs may opt to keep them for future consideration, rather than culling them as the venture evolves (Zhang, 2010).

Considering the preceding conceptual support and anecdotal evidence, we propose:

**P5:** *Entrepreneurs' accrual of bridging social capital through network broadening behavior online is enhanced by the ability to use SNS digital relation affordances for network management.*

### 3.4 Impact of network transparency affordances on bridging social capital

SNS affordances such as visibility, association, and transversability (Table 1) enable the action mechanism of *network content viewing*, defined as being able to view and traverse whole networks and represent them graphically to gain insight (Trottier, 2012). Founder Joan outlines the benefits of network content viewing: *"In the broader context, you can really see who [is] posting similar things and you can build a bit of a community within that, especially when you can see overlap in 'followers', 'friends', or connections. I am more inclined to contact those people or to re-post something they have posted if we have overlap in our networks."*

SNS tools enable 'big data' reports to be generated by entrepreneurs that provide a clear picture of their network and networking activities; this includes information such as recent posts or the activity levels of 'followers'.

This information can influence users' networking behaviors (Marwick and boyd, 2011). Founder Sam illustrates why this might be the case: *"Twitter is very transparent and any one of my competitors can come onto Twitter and... follow the 300 people that I follow and now they have exactly the [same] data set that I am trying to learn from."* This ability to literally 'see' network connections in their entirety has important implications for entrepreneurs, since research has shown that people often have no comprehensive understanding of their networks offline (Krackhardt and Kilduff, 2002). Founder Miles highlights the benefits of network connection viewing: *"Online [viewing] tools have helped us make connections [with] people we didn't know before, and connected us to people in different circles."*

Many entrepreneurship researchers have highlighted the benefits of spanning structural holes (cf. Baum et al., 2000). Structural holes are "a place in a network where brokerage could create value. They exist between two people or groups when either party is unaware of the value available if they were to coordinate at some point" (Burt, 2005: 26). Through the affordances of visibility and transversability (Table 1), SNSs offer an almost infinite number of opportunities to bridge structural holes (Rainie and Wellman, 2012). Hoang and Antoncic (2003: 172) argue that "identifying and exploiting opportunities are linked to occupying a bridging position in a network." Research findings suggest that spanning structural holes increases bridging social capital for entrepreneurs (Burt, 2000; 2005; Lee et al., 2011). Entrepreneurs who can see their online social network, identify structural holes, traverse through their online indirect ties, and broker across those holes through calculative tie formation, are likely to strategically build their bridging social capital.

Considering the preceding conceptual support and anecdotal evidence, we propose:

**P6:** *Entrepreneurs' accrual of bridging social capital through network broadening behavior online is enhanced by the ability to use SNS network transparency affordances for network content viewing.*

The visibility and association affordances also allow others to see entrepreneurs' online networks in their entirety, not just their individual connections. This allows others to see an entrepreneur's potential social capital. Network transparency may lead to positive social judgment assessments by others, encouraging positive exchange outcomes (Hoang and Antoncic, 2003). This transparency may also increase positive responses to entrepreneurs'

network broadening actions such as connection requests. Khoury et al. (2013) find that the transparency of an entrepreneur's social capital may have important implications not only for the valuation of a venture but also concerning quality and legitimacy assessments by others. This highlights that 'the company you keep' is important to entrepreneurs' network connections. At the same time, entrepreneurs concerned about the effects of unfavorable evaluations face the challenge of shielding this online network information. Founder Jason conveys this double-edged aspect of the social judgment assessment action mechanism: *"When I go to do business with a company, [and] I'm going to spend any type of money with them... I click on their Facebook presence and see... no community building - it kind of gives me a window in the methodology that their company is operating under. And the whole idea of the online world is that you can't hide from that now."*

Considering the preceding conceptual support and anecdotal evidence, we propose:

**P7:** *Entrepreneurs' accrual of bridging social capital through network broadening behavior online is enhanced or diminished by the ability to use SNS network transparency affordances to help others make positive social judgement assessments.*

While the previous discussion focused on the bridging social capital implications of key SNS affordances, the following four sections consider the bonding social capital implications of these and other key SNS affordances.

### *3.5 Impact of digital user profile affordances on bonding social capital*

Actors considering strong tie relationships typically move beyond an assessment of homophily to make an assessment of common ground. Studies of homophily in entrepreneurship have generally focused on sociodemographic similarity (cf. Grossman et al., 2012). *Common ground assessment* is an action mechanism in which either shared referents or understanding (Lampe et al., 2007), or mutual comprehension of commonality of action, thought, or relationship (Olson and Olson, 2000) are considered. Common ground assessment is distinct from most conceptualizations of homophily. This assessment concerns the shared understanding of a sense of relationship between actors, including commonality of vision, purpose, goals. However, it is similar to what Phillips et al., (2013) label 'strategic homophily,' which they find central to the development of strong ties. In

entrepreneurship, common ground assessment has been found to play an important role in the creation and effectiveness of founding teams (Leung et al., 2013; Leung et al., 2006), startup recruitment decisions (Chandler and Hanks, 1998), and angel investment decisions (Roome and Wijen, 2006).

In CMC literature, digital user profiles have been shown to convey individuals' systems of meanings, attitudes, beliefs and other cognitive attributes (Jensen Schau and Gilly, 2003) which help others assess common ground (Ellison et al., 2011a). For entrepreneurs, these cognitive attributes often include their venture vision, mission, goals, and approach. Whether intended or not, SNS shareability and signaling affordances (Table 1) make this digital profile information readily available to others. The common ground assessment of this information is an action mechanism because it facilitates network deepening behavior by enhancing a sense of liking and trust (Lee and Jones, 2008), reducing relationship uncertainty (Leung et al., 2006), and relationally embedding entrepreneurs (Jack and Anderson, 2002). Thus, common ground assessment creates a base upon which the strong ties inherent in bonding social capital can be built (Rooks et al., 2016). This process is illustrated in the comments of founder Mark: "[Facebook] provides additional information that I might not otherwise have, like which 'friends' we share in common and what subjects we might relate on... Using Facebook makes it easier... to communicate, which helps strengthen the relationship." Craig and Wright (2012) also find that having similar attitudes prompts self-disclosure that strengthen ties, demonstrating that common ground assessment impacts network deepening behavior.

Considering the preceding conceptual support and anecdotal evidence, we propose:

**P8:** *Entrepreneurs' accrual of bonding social capital through network deepening behavior online is enhanced or diminished by the ability to use SNS digital user profile affordances to make positive or negative common ground assessments.*

The effective display of these cognitive attributes on digital user profiles requires social competency. Social competency is an entrepreneur's overall effectiveness in interacting with others, and comprises such social skills as correctly perceiving others and situations, adaptability, and effective communication (Baron and Markman, 2003). Social competency is known to influence entrepreneurial success (Baron and Markman, 2003; Obstfeld, 2005). As

an action mechanism, *conveying digital social competency* through the use of online tools indicates that a user has the requisite communication, situation reading, and other social skills to be relationally acceptable (Papacharissi, 2010). Whereas self-presentation curating determines what information entrepreneurs choose to show about themselves, conveying digital social competency is how they communicate this information and how others interpret their competency in doing so.

The editability and viewability affordances of SNS digital profiles (Table 1) allow entrepreneurs to digitally demonstrate social competency in how they craft and disseminate digital profile information. Conveying digital social competency likely impacts the extent to which entrepreneurs can accrue bonding social capital. This is because others' assessment of this competency influences their perceptions of an entrepreneur's trustworthiness and reliability. Social exchange theory (Homans, 1961) suggests that these qualities are required for accepting and reciprocating network deepening behavior. Founder Jason reflects the value of digital social competency: *"The thing with having a digital presence is that you actually can't get away with as much.... In the real world, I think it is much easier to say something that is not as accepted by society [as] it is online. Online you only have so many characters to explain yourself."*

CMC research suggests that some individuals may be more capable in demonstrating their social competency online rather than face-to-face (Walther, 2007), which may prompt them to intentionally keep relationships online (O'Sullivan, 2000). However, an entrepreneur may be less able to convey competency on SNSs; this is reflected in founder Susan's concerns: *"There are some people who are really judgmental on Facebook. About spelling mistakes, or grammar, or fragmented sentences, or whatever it is... I'm just not confident enough in my being able to articulate something correctly without looking uneducated or immature."*

Here again, audience collapse exacerbates entrepreneurs' challenges in conveying digital social competency and establishing the trust needed for network deepening behavior. Information inadvertently seen by the wrong connections could negatively affect assessments of an entrepreneur's digital social competency. This risk may limit an entrepreneur's willingness to engage in network deepening behavior on SNSs.



Considering the preceding conceptual support and anecdotal evidence, we propose:

- P9:** *Entrepreneurs' accrual of bonding social capital through network deepening behavior online is enhanced or diminished by the ability to effectively use SNS user profile affordances to convey digital social competency.*

### 3.6 Impact of digital search affordances on bonding social capital

The searchability, persistence, and asynchronicity affordances (Table 1) associated with digital search make it easier and more cost effective for entrepreneurs to access substantive information about others. Rather than examining superficial commonalities that support weak tie development (3.1 above), *substantive information finding* is an action mechanism that focuses on understanding the character, values, attitudes, and behaviors of SNS contacts as part of strong tie development. This mechanism is a relational construct concerned with active, intentional learning about others on SNSs via direct interaction, observation, and/or third party commentary (Borgatti and Cross, 2003). Founder Nick's experience is typical: *"I've used LinkedIn primarily as a research tool, and actually LinkedIn has a great [information] hunt capability."* CMC literature indicates that network deepening behavior is facilitated if the outcome of substantive information finding is positive (Ellison et al., 2011b; Rui et al., 2015).

Substantive information finding differs from Lazarsfeld and Merton's (1954) concept of internal state homophily assessment: actors are not assessing similarity of personal attributes, but rather are determining the suitability of others for deeper relational engagement, relational commitment, and other network deepening behaviors. Founder Jason describes the substantive information finding action mechanism: *"As the world gets more complicated [and], as an entrepreneur becomes more public, it's important to figure out who you are dealing with, and I think Facebook allows you to get that access... [Until you look] you have no idea what that company believes in, who they are, [whether] they have a voice..."* Such network deepening behaviors support the development of bonding social capital (Vissa, 2012). This is consistent with the CMC finding that mutual understanding fosters long-term interdependence, which is crucial for the mutual reinforcement of social capital (Reer and Krämer, 2014).

The SNS affordances of persistence and reviewability (Table 1) may also make it difficult for entrepreneurs to hide from a past that they may not wish to disclose: the failure of a venture, dissatisfied stakeholders, or prior

less-informed opinions. Such information may negatively affect relational embedding, an important aspect of network deepening behavior. This is expressed by founder Jim: *"I used to be able to hide, and now, the entire marketplace is seeing [me] go through four corporations. In the old days no one would see that."* Founder Anita expressed concern about the easy access to past opinions: *"People's opinions change all the time, people change all the time, but their old opinions and old selves are still there. And it's more visible."*

Considering the preceding conceptual support and anecdotal evidence, we propose:

**P10:** *Entrepreneurs' accrual of bonding social capital through network deepening behavior online is enhanced or diminished by the ability to effectively use SNS digital search affordances for substantive information finding.*

### *3.7 Impact of digital relations affordances on bonding social capital*

While network management is an action mechanism that facilitates weak ties, it can also promote strong ties (Granovetter, 1985). SNS digital relation affordances such as social interactivity, scalability, and interoperability (Table 1) enable entrepreneurs to manage relationships collectively or individually. Vissa (2012) concluded that time-based interaction pacing and network preserving are important network deepening actions for entrepreneurs. CMC research has shown that interaction frequency is the most important predictor of enacted support (and access to resources) for SNS users (Stefanone et al., 2012). Many network management tools are now available to assist entrepreneurs with pacing and network preserving efforts on SNSs, as explained by founder Sam: *"We'll take them [posts] in, load them to Hootsuite, and set them for different times of day for the next 30 days. So it augments my Twitter feeds in case some days I'm slow or I'm not active, [and] we'll have some regularity going out."* By using the interoperability affordance (Table 1), site aggregators like Hootsuite allow entrepreneurs to spool posts, pins, or tweets and pace their release onto one or more SNS platform.

Many SNS platforms also enhance the social interactivity affordance by reminding entrepreneurs of birthdays, anniversaries and changed statuses among their digital relations. This enables entrepreneurs to send

relationship maintenance gestures at a cost lower than is possible offline (Thelwall and Wilkinson, 2010). Founder Rick appreciates this capability: *"I always wish everyone a happy birthday. It can be daunting with 2,600 friends... I have a quick look at their profile to see if there is something [personal] I can comment on... it keeps me connected with everyone."* These network deepening actions are likely important for enhancing entrepreneurs' bonding social capital for they suggest more than instrumental motivations for maintaining relationships (Kwon and Alder, 2014). In addition, the site norms associated with these practices may make it acceptable for entrepreneurs to try to deepen their relationship with a venture-related contact when to do so offline might be socially inappropriate. Founder Audrey describes this usage: *"So what I find good about LinkedIn is [that] you can push the envelope a little bit; without being creepy about it.... So, when I was in the basement alone [starting my venture], I would just use it in that little subtle way of... [strengthening relationships] without really bugging people."*

Likewise, SNS tools such as poking, liking, tagging, and retweeting have been shown to support network deepening efforts (Lawler and Yoon, 1996) by enhancing trust through interaction frequency (Jonsson, 2015) and familiarity (Komaromi, et al., 2010). Facebook and Twitter use has been correlated with an increase in bonding social capital within friendship networks (cf. Ellison et al., 2011b; Papacharissi and Mendelson, 2011; Sajuria et al., 2015). This may be because SNSs lower the demands and costs of relationship management activities and enable one-to-many communication (Ellison et al., 2014b). Founder Joan highlights the benefits accruing from online network management activity: *"[Retweeting helps] manage relationships by saying, 'Hey, we [saw] this and we think it's cool.' It is a quick communication that could be done via text but if it is done via Twitter then people see this interaction so there is value to it."* Lower-cost interactions, such as retweeting and reposting, indicate attention and likely remind digital relations that the user is available for reciprocal interactions (Ellison et al., 2014b). Such relational embedding actions help entrepreneurs accrue bonding social capital (Jack and Anderson, 2002), by allowing them to engage in lower cost network deepening behavior than they can offline.

Considering the preceding conceptual support and anecdotal evidence, we propose:

**P11:** *Entrepreneurs' accrual of bonding social capital through network deepening behavior online is enhanced by the effective use of SNS digital relation affordances for network management.*

### 3.8 Impact of network transparency affordances on bonding social capital

The affordance of visibility (Table 1) also makes SNS requests for support and exchanges of resources more visible to both intended and unintended others. Also referred to as mobilization requests in the CMC literature (e.g., Ellison et al. 2014b), *network requesting* is defined as seeking help, support, favors, information, or other actions or resources from others. Founder Joan describes the possible risks of network requesting behavior: “*I don't really like it — asking for help on a social media site. I don't want to seem needy for resources. I want us to appear resourceful within ourselves.*” The consequence of highly-visible, one-to-many requests for support is that reciprocity also becomes transparent (Steinfeld et al., 2008): all users are able to see who has and has not responded to an entrepreneur's request. Once posted, such requests may have positive or negative social judgment implications, depending how the request is answered, and by whom (Zott and Huy, 2007). This may impact trust and the willingness of others to respond positively to entrepreneurs' network deepening efforts, particularly since some sites ‘reward’ reciprocal behavior by displaying these posts more prominently. Network requesting may also help to ‘activate expectations of reciprocity’ on SNSs (Ellison et al., 2011b) which improves the likelihood that an entrepreneur's support request is answered, thus deepening ties that support bonding social capital.

Considering the preceding conceptual support and anecdotal evidence, we propose:

**P12:** *Entrepreneurs' accrual of bonding social capital through network deepening behavior online is enhanced or diminished by the ability to effectively use SNS network transparency affordances for network requesting.*

In summary, our 12 propositions identify the mechanisms by which the affordances of key SNS features likely impact entrepreneurs' accrual of bridging and bonding social capital. They address why the online context is likely different. Collectively, they direct a research agenda for addressing a key gap in entrepreneurship social capital literature that has not yet followed entrepreneurial practice into the online world. In the following section, we provide direction for how the 12 propositions might be investigated to address this gap.

#### *4.0 Discussion*

Our evidence suggests that entrepreneurs are using SNSs differently than offline networks to accrue the social capital needed to build and grow their ventures. In order to advance social capital theory, we argue that empirical studies must explicitly acknowledge these differences. CMC literature demonstrates that the uniqueness of the online context arises from the action enabling affordances of key SNS features. From this foundation, our propositions identify how these affordances likely impact entrepreneurs' accrual of bridging and bonding social capital through specific action mechanisms. A deeper understanding of how entrepreneurs use these mechanisms to accrue social capital online would extend social capital theory and make entrepreneurship social capital research relevant in today's digital world.

Understanding how and why entrepreneurs' accrual of social capital differs online has important implications for practice. The 12 propositions developed above identify potential benefits to entrepreneurs using SNSs. We have identified that SNSs readily permit entrepreneurs to make homophily, network content, and social judgment assessments that aid network broadening behaviors that would be too time-consuming or socially awkward to do face-to-face. SNSs also allow entrepreneurs to leverage vast amounts of network information in order to identify calculative ties, visualize and broker structural holes, and make connections not possible with the temporal and spatial limitations of offline networks. Using SNSs entrepreneurs are also able to convert weak ties to stronger ones by leveraging common ground and leveraging shared attributes uncovered by substantive information finding; both are difficult to determine offline. Further supporting more effective network deepening behavior, the care and nurturing of strong ties can be less time-consuming for entrepreneurs online. Research is needed to better understand how entrepreneurs can realize these online social capital benefits to achieve venture outcomes.

We advocate that future research focus on affordances and related action mechanisms as these may lead to new insights for entrepreneurship theory and practice. For example, offline research finds that larger networks are better for entrepreneurs since they likely contain more social capital (Granovetter, 1985). Online, the action mechanisms of social judgement, network requesting, network viewing, and common ground assessment may

mitigate this finding. This is because entrepreneurs may be less likely to receive negative social judgment, network requesting, network content, and common ground assessments from smaller networks high in trust. Contrary to offline networks, entrepreneurs may be well advised to keep their online social networks small until they become adept at leveraging SNS affordances to accrue social capital.

In the following sections, we discuss three key context challenges that will need to be overcome in order to empirically examine entrepreneurs' social capital online. In doing so, we highlight useful theoretical lenses and appropriate methods for overcoming these challenges.

#### *4.1 Dynamic phenomenon*

SNS are moving targets. They are continuously being enhanced with new features, and new platforms are frequently being created to offer new online networking options. Many of the founders we interviewed struggle to keep up with these changes. This dynamic online environment presents a research challenge: constant advances in technology mean that as a research context SNSs are in a state of flux, characterized by new features which generate new affordances, each with the potential to impact entrepreneurial behaviors.

Bourdieu's Theory of Practice (1977; 1984; 1986) provides a useful theoretical lens to help address this challenge. Bourdieu's theory comprises three interrelated concepts: field, habitus, and capital. Fields are differing contexts, such as online SNSs, within which individual behaviors (agency) occur. These actions, such as an entrepreneur's network broadening and deepening behavior, are thought to be shaped and guided by 'habitus': the accepted behavioral protocols which are adhered to, and enacted by, individuals. 'Capital' refers to the types and amounts of resources which individuals are able to acquire. Through acceptable behaviors individuals can use capital to influence their position within the structure of a field; this includes social capital. As applied to our interest in how entrepreneurs acquire and use social capital online, Bourdieu's Theory of Practice indicates that social capital is built within a specific habitus expressed within a field.

Emerging entrepreneurship research suggests that habitus has important implications for entrepreneurs' networking processes (Anderson et al., 2007; De Clercq and Voronov, 2009; Keating et al., 2014). McKeever et al.

(2014: 457) write that “Habitus provides a lens for looking at why people behave and act in the ways they do, the processes in which they are immersed, the practices in which they engage, and how these might impact on the shape and form of entrepreneurial outcomes.” Within entrepreneurship literature, habitus has been conceived of as a “socially constructed cognitive meeting place and a socially conceived operating space” (Anderson et al., 2010: 128). This is supported by CMC research which suggests that SNSs encourage a habitus that is distinct from offline (Papacharissi and Easton, 2013). Habitus has been applied within entrepreneurship to illuminate issues of context (Drakopoulou-Dodd and Anderson, 2007); this is particularly appropriate for the study of SNSs since habitus is “socially created and recreated by actors who engage in networking with others” (Anderson et al, 2010: 123). Building on this, we identify habitus as a useful concept for addressing the dynamism challenge of SNSs as it enables researchers to rise above consideration of specific SNS features to focus on the more generalizable SNS affordances and their impact on entrepreneurial behavior.

While Bourdieu’s (1977, 1984, 1986) theory has the potential to consider the dynamics between entrepreneurial agency and field-level structures (McKeever et al., 2014; Ozcan and Eisenhardt, 2009), this has rarely been achieved. Instead, as applied to entrepreneurship, Bourdieu’s Theory of Practice has encouraged a focus on field-level structural arrangements to the detriment of examining “the role of micro-level individual behavior” (De Clercq and Voronov, 2009: 409). Testing the propositions developed herein will provide an opportunity to apply all three of Bourdieu’s concepts in the same study, something not accomplished elsewhere. This is possible because these propositions indicate how the emerging field of SNSs may impact the habitus of entrepreneurs’ network broadening and deepening behaviors and subsequently, their bridging and bonding social capital.

The dynamism challenge also has implications for methods since retrospective studies are unlikely to capture the current environment faced by entrepreneurs. Entrepreneurship researchers could respond by using in-process data methods that new technologies such as tablets and smart phones provide (Balogun et al., 2003). Netnography (Kozinets, 2002) and experience sampling (Uy et al., 2010) offer promising alternatives to interviews

and traditional surveys for collecting data in real time. New software may also help researchers effectively analyze new forms of data. NVivo 11's capacity to code Facebook screen shots could be used to analyze key characteristics of entrepreneurs' digital user profiles, while CONDOR could be used to track entrepreneurs' common ground-related Twitter postings.

#### *4.2 Plethora of norms*

Our suggestion that online networks may represent a new habitus for entrepreneurs' social capital reinforces the need to consider how norms established on individual SNS platforms may change entrepreneurs' network broadening and deepening actions, and hence outcomes for bridging and bonding social capital online. Norms are the 'rules,' beliefs, or attitudes that guide socially accepted behaviors. They reflect the general acceptance or normality of actions inherent in values, customs, and traditions (Kim et al., 2011; Wang et al., 2014). Since norms are context specific, entrepreneurs should understand the norms for appropriate social capital accrual. Entrepreneurship social capital research needs to articulate how networking and social capital-related norms are developed, learned, and regulated online. These likely differ by industry. High technology industries, for example, might have a higher proportion of 'digital natives' who establish different SNS norms, better understand those norms, and possess a greater ability to navigate SNSs to their advantage. This suggests that SNS research findings may be site, culture, and industry specific: such norm differences present a considerable research challenge.

Institutional theory may be a particularly useful starting point from which to explore these issues. As a dominant theoretical perspective in management, institutional theory has shaped our understanding of corporate entrepreneurship and other forms of institutional entrepreneurship (Weik, 2011). The theory focuses on how social structures and processes "acquire meaning and stability in their own right, rather than as instrumental tools for the achievement of specialized ends" (Lincoln, 1995: 1147). Important concerns are the development of social norms, the construction of meaning, and the pursuit of legitimacy in 'the symbolic realm', one that often conflicts with rational economic behavior, utilitarian perspectives of value, and the pursuit of material goals (Suddaby, 2010). Mitchell (1969: 50) argues that "networks and institutional analyses by their different assumptions and procedures,



in fact complement one another.” This suggests that institutional theory may inform the research propositions presented above. The application of this theory could help us understand how norms are developed regarding the appropriate and inappropriate use of SNSs by entrepreneurs. It can also shed light on the extent to which, and how, entrepreneurs’ social capital is accrued and maintained online (Parkhe et al., 2006).

The plethora of norms across SNSs also has implications for methods. Investigating entrepreneurs’ social capital online across diverse platforms may result in respondent fatigue, thus limiting the number of questions that can be asked and the scope of any one study. As well, entrepreneurs may be unable to clearly articulate their understanding of norms within different online contexts or be able to explain their behaviors; they may simply behave without having given their actions much thought. Observational data collection methods such as content analysis or netnography may be preferred in order to see how norms impact behavior in different contexts.

#### *4.3 Complex SNS behavior*

As SNS features change, so do users’ responses to them. Our founder interviews reveal that while some entrepreneurs use adaptive strategies to maximize SNS benefits while minimizing their investment of time, effort, and money, others struggle. Entrepreneurs’ continuous learning and adaptations make capturing motivations, strategies, and behaviors challenging. Our founder interviews also indicate that disentangling entrepreneurs’ private, venture, and marketing-related SNS usage will be challenging, especially in terms of isolating their online network broadening and network deepening behaviors. Recognizing that entrepreneurs are simultaneously engaged in multiple networks, online and offline, at multiple levels of analysis further complicates the challenge.

Social cognition theory (e.g., Fiske and Taylor, 1984) may also assist in beginning to address the complex SNS behavior challenges associated with investigating entrepreneurs’ social capital online. Social cognition theory suggests that entrepreneurial decisions are made within a configuration of four forces: cognition, motivation, personal entrepreneurial experiences, and perceptions of the venturing situation. These combine in a gestalt to form a key element of an entrepreneurial mindset (Smith et al., 2009). SNSs and attendant network broadening and deepening mechanisms outlined in our framework suggest fundamental changes to at least two of these forces: the

venturing situation and cognition. By clarifying how entrepreneurial behavior, situation, cognition, and motivation may impact the action mechanisms that drive social capital accrual, social cognition theory may help researchers better understand how entrepreneurs develop and manage social capital online.

The complexity of SNS behavior also has implications for methods. Given the newness of the SNSs, the lack of established measures of key constructs, and the challenge of separating online from offline networking behaviors, qualitative methods are particularly suitable for sifting through the complexity of entrepreneurs' social capital online (Hoang and Antoncic, 2003; Anderson et al., 2007; Slotte-Kock and Coviello, 2010). Investigation of our research propositions would also benefit from longitudinal studies: SNSs are established over time and entrepreneurs' online behaviors likely change over time as well, either as digital acumen changes with the growth of their venture or as the features and affordances of SNSs evolve (Ellison et al., 2014b).

## *5.0 Conclusion*

In this paper, we describe how SNS affordances likely impact entrepreneurs' accrual of bridging and bonding social capital by means of action mechanisms that impact entrepreneurs' network broadening and deepening behavior. This work contributes to entrepreneurship social capital literature in three ways. First, we establish why scholars should consider entrepreneurs' social capital online and we provide a conceptual framework, research propositions, and theoretical, conceptual, and methodological insights to guide future research. Second, by identifying a comprehensive set of 16 SNS affordances that impact entrepreneurs' network broadening and deepening behavior, we introduce underutilized CMC concepts that can be applied to examine other online behaviors of entrepreneurs. Third, we present 10 action mechanisms that explain why the accrual of social capital by entrepreneurs is expected to differ online. This extends social capital theory by considering the actual workings of social capital as called for by Gedajlovic et al., (2013), and by explaining why entrepreneurs' behave the way that they do to accrue social capital, as called for by Wiklund et al., (2011). We call for entrepreneurship scholars to address the online context in future social capital research.

Once researchers better understand entrepreneurs' bridging and bonding social capital online, we will be

able to consider important new questions concerning the interplay of entrepreneurs' social capital online and offline. Are some embedded resources easier to access online versus offline? Do network preserving efforts that include both online and offline channels foster higher bonding social capital? What is the habitus of entrepreneurs' social capital? How adept are entrepreneurs at responding to field-specific habitus across online platforms? Answering these questions will bring into focus a more robust picture of entrepreneurs' social capital in the digital age.

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