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To cite this article: Peter Kalum Schou & Gilbert Kofi Adarkwah (2023): Digital communities of inquiry: How online communities support entrepreneurial opportunity development, Journal of Small Business Management, DOI: [10.1080/00472778.2023.2236177](https://doi.org/10.1080/00472778.2023.2236177)

To link to this article: <https://doi.org/10.1080/00472778.2023.2236177>



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Published online: 31 Aug 2023.



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Digital communities of inquiry: How online communities support entrepreneurial opportunity development

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ABSTRACT

In recent years, scholars have argued that entrepreneurs develop opportunities through social engagement in communities of peers. These entrepreneurial communities of peers, so-called communities of inquiry, are moving from the physical to the virtual realm as digital technologies proliferate society and entrepreneurial processes. However, little is known about how entrepreneurs partake in online communities and how this partaking may affect opportunity development. To improve knowledge on this matter, we analyzed 18,670 comments from four different entrepreneurship communities on Reddit. We find that online communities support entrepreneurial opportunity development by providing feedback, emotional support, and models that reduce uncertainty. By unpacking how online communities may support opportunity development, the paper contributes to the nascent stream on the social aspects of opportunity development and to the growing interest in digital entrepreneurship.

KEYWORDS

Digital entrepreneurship; opportunity development; social model of opportunity development; online communities; communities of inquiry; qualitative methods

Introduction

How entrepreneurs develop entrepreneurial opportunities is key to understanding how new products and services are created (S. A. Alvarez & Barney, 2007; S. A. Alvarez et al., 2015). Traditionally, the literature has focused on how individual entrepreneurs develop an opportunity (Grégoire et al., 2010; Shane, 2000). Yet, recently scholars have argued that past research has focused too much on entrepreneurs as individuals (Dimov, 2007; D. Shepherd, 2015), not considering that entrepreneurial opportunities often are developed through interactions with others (Seyb et al., 2019; D. A. Shepherd et al., 2020; Wood & McKinley, 2010). Instead, this newer research stream argues that entrepreneurial opportunities are “co-created” as the entrepreneur engages with other actors (Dimov, 2020; Kaffka et al., 2021; Karami & Read, 2021; Nair et al., 2022; Seyb et al., 2019; D. A. Shepherd et al., 2020). In particular, researchers point to the fact that entrepreneurial opportunities are cocreated in communities of

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inquiry—that is, communities “*that provide feedback on the veracity of the potential opportunity*” (D. Shepherd, 2015, p. 491). As an example of this, Nair et al. (2022) discuss how informal chats and unplanned interactions in start-up cafes can facilitate entrepreneurial opportunity development.

However, although this recent research has brought attention to the role of social interactions and communities in developing entrepreneurial opportunities, our knowledge here is underdeveloped (Hertel et al., 2021; D. A. Shepherd et al., 2020). In particular, we lack a more-fine-grained and nuanced understanding of how communities engage with an entrepreneur’s opportunity (D. A. Shepherd et al., 2020). Such an inquiry would improve our knowledge concerning *what* kind of feedback entrepreneurs receive from inquiry communities and *how* opportunities are developed. *Furthermore*, it is crucial to consider that communities of inquiry are shifting from physical communities to online communities as digital technologies permeate society (Nambisan, 2017; N. Wang et al., 2022). This shift has become ever more prevalent with the advent of COVID-19, which has accelerated a transition to online communities (Meurer et al., 2022; Nair et al., 2022). A nascent stream of research has started to investigate how entrepreneurs use online communities and what they gain from them (Choi, 2021; Orrensalo et al., 2022; Secundo et al., 2021; W. Wang et al., 2020). This work has found that the increased exposure to information resulting from online community participation can increase entrepreneurial action and innovation capabilities (Autio et al., 2013; de Zubielqui & Jones, 2020; V. P. Seidel et al., 2017) and that online communities provide new avenues for entrepreneurial learning (Schou et al., 2022). Practical examples also illustrate how online communities can be used for opportunity development. For example, Dropbox used the online community, Hacker News to test whether people wanted their product and were willing to act as testers for it (Berglund et al., 2020). Hence, recent work has suggested that online communities may serve as new forms of support systems for entrepreneurs, aiding them in forming opportunities (Nair et al., 2022). *However*, scholars are only starting to gain an understanding of how entrepreneurs engage in online communities and how they may use them to develop opportunities (Nair et al., 2022; Nambisan, 2017; Orrensalo et al., 2022; Schou et al., 2022).

Overall, while there is a growing acknowledgment that entrepreneurs develop opportunities through social interactions in their communities, research here is scant and nascent (D. A. Shepherd et al., 2020), and there is especially little knowledge about how online communities affect opportunity development, despite entrepreneurial communities increasing presence in the digital realm. Therefore, this paper asks, *How can online communities support entrepreneurs in developing opportunities?*

To answer this question, we conducted an inductive, qualitative study of four online communities (Schou et al., 2022; Vaast, 2021). Relying on purposeful sampling (Lincoln & Guba, 1985), we sampled the top 100 threads in the

four communities resulting in 18,670 comments in total. We then focused on how opportunities were discussed in the communities by separating them into three phases: *opportunity recognition*, which concerns threads wherein an entrepreneur asks the community for feedback on an idea; *opportunity enactment*, which concerns when an entrepreneur asks the community for advice in how to deal with a problem he or she has in a venture; and *opportunity reflection*, which concerns when entrepreneurs share their stories of success and or failure. Using these three phases as a foundation for our coding, we then outline five propositions for how opportunity development is affected by participation in online communities.

The article makes two overarching contributions. *First*, we extend work on how social interactions affect entrepreneurial opportunities (Seyb et al., 2019; D. A. Shepherd et al., 2020; Wood & McKinley, 2010). In particular, we extend D. A. Shepherd et al.'s (2020) social model of opportunity development by outlining different ways that the communities engage with the entrepreneurs and how these different engagements affect opportunity development. Second, we enrich the nascent debate around how online communities may affect entrepreneurs (Kuhn et al., 2017; Nambisan, 2017; Orrensalo et al., 2022; Schou et al., 2022; Williamson et al., 2020). In particular, we offer new insights into the digital affordances and constraints of online communities (Meurer et al., 2022; Nambisan, 2017).

Theoretical background

Entrepreneurial opportunities and cocreation

Although now controversial,¹ the concept of entrepreneurial opportunities has been key to entrepreneurship going back to its foundation with the seminal work of Von Mises (1949) and Kirzner (1973). As Kirzner (1973) was boxed into a neoclassical economic paradigm, he imagined the entrepreneur as an arbitrageur, spotting opportunities as imbalances in the general equilibrium to be corrected through entrepreneurial action. Earlier work on entrepreneurship in management studies, such as Shane (2000) and Shane and Venkataraman (2000), worked with the same notion as Kirzner. Entrepreneurial opportunities—that is “*those situations in which new goods, services, raw materials, and organizing methods can be introduced and sold at greater than their cost of production*” (Shane & Venkataraman, 2000, p. 220)—exist out there irrespective of entrepreneurial action. In this view, entrepreneurial alertness to information is crucial for whether they discover opportunities (Kirzner, 1973; Shane,

¹Due to scope, I will not be covering the so-called “opportunity wars” that has taken place in the entrepreneurship literature in recent years (see S. Alvarez & Barney, 2020; Davidsson, 2021; Foss & Klein, 2020; Wood & McKinley, 2020 for an overview of the debate).

2000). However, to critics, most prominently S. A. Alvarez and Barney (2007), this meant that the entrepreneur lived in a neoclassic economist's view of the world rather than a real social environment. Over the years, Kirzner himself noted the veracity of this critique (Kirzner, 2009; Korsgaard et al., 2016). Hence, many entrepreneurship scholars have updated their view. Opportunities are not merely discovered through alertness to information but primarily by how entrepreneurs develop new ideas, take actions to learn about their environment, and engage with communities of inquiry (D. Shepherd, 2015; D. A. Shepherd et al., 2020, p. 3; Wood & McKinley, 2010). It may be that entrepreneurs subjectively identify a potential opportunity—that is, a business idea—but it is when they put the idea out there among peers that is crucial for whether they recognize an opportunity and act upon it (Wood & McKinley, 2010). When entrepreneurs put a potential opportunity in front of their peers, the entrepreneurs start a sensemaking process wherein they test the viability of their idea to see if it is viable and worthy of pursuit (Wood & McKinley, 2010, p. 70). As such, the entrepreneurial opportunity construct is defined as *a subjective belief that entrepreneurs seek to recognize and enact* (Wood & McKinley, 2010). In sum, this more recent view argues that we should focus on opportunity development wherein entrepreneurs through various means and interactions seek to develop their ideas into profitable offerings (Clausen, 2020; Dimov, 2020). This also means that opportunity development is more than just getting an idea, it is also carrying it out through starting and managing a venture. In this regard, social learning—learning through interacting with others—is a crucial element (D. A. Shepherd et al., 2020).

As a result of seeing entrepreneurial opportunities as socially constructed by the entrepreneur engaging with others. In the past, this research has primarily focused on how social networks may support opportunity development. In an influential study, Jack (2005) studied how strong and weak ties are used by entrepreneurs and found that in particular strong ties were essential in opportunity development because they provided knowledge and information. Building on this, more recent research has focused on the role of communities in opportunity development. For example, Seyb et al. (2019) uncover how opportunities are coconstructed through a collective process involving both stakeholders and the entrepreneur. Similarly, D. A. Shepherd et al. (2020) show that different forms of engaging with a community of inquiry affect opportunity development. Open engagement allows for diverse information gathering and generating multiple alternatives, while focused engagement hinders the development of alternatives. Finally, Hertel et al. (2021) show how entrepreneurs can raise resources from their communities, helping them enact opportunities. Karami and Read (2021) summarize this research stream as a “co-creative” perspective, wherein opportunities are socially created as the

entrepreneur engages with their social environment—for example, peers and stakeholders.

Overall, this recent work argues that (1) communities of inquiry can provide important feedback to entrepreneurs, which helps them make sense of their idea and recognize it as an opportunity (D. Shepherd, 2015; Wood & McKinley, 2010, p. 2) Communities of inquiry can provide diverse information to the entrepreneur (Autio et al., 2013; D. A. Shepherd et al., 2020, p. 3) and communities of inquiry can “probe” an entrepreneur’s idea and help develop it (Seyb et al., 2019). Through these elements, communities actively cocreate the opportunity with the entrepreneur to a varying degree, sometimes as sounding boards for ideas and sometimes as full partners. However, despite these advances in how opportunity development may facilitate community engagement, there are still some important gaps, which is unsurprising given the novelty of this stream. For example, D. A. Shepherd et al. (2020) note that we know little about the different ways communities can engage with an entrepreneur and their opportunities. They also note that there might be differences in how communities influence entrepreneurial action. Furthermore, Seyb et al. (2019) propose that future research is needed to explore the dynamics of opportunity-based interactions in communities in more “everyday” contexts, where entrepreneurs encounter peers rather than experts with specialist knowledge. Finally, Nambisan (2017) proposes that online communities may be communities of inquiry that play a role in opportunity development. Yet, the role of online communities may be different from physical communities because online communities have unique characteristics, such as having anonymous users (Massa, 2017) and having specific cultures around engaging with a topic (Faraj et al., 2016). To summarize, knowledge is still gated with regard to *how different community interactions can support opportunity development* and with regard to *how online communities may serve as communities of inquiry*.

The possibilities for opportunity development in online communities

Online communities are virtual gatherings of individuals around a shared interest or activity (Faraj et al., 2016). As such, there are good reasons to believe that online communities may be communities of inquiry, which function as useful avenues for entrepreneurs to try out ideas and receive feedback and information. Kuhn et al. (2017), for instance, found that many entrepreneurs prefer advice from online communities to family and friends. In a similar vein, Schou et al. (2022) uncovered how entrepreneurs learn vicariously through engaging in conversations in online communities. Finally, Autio et al. (2013) showed how exposure to information from online communities can drive entrepreneurial action. Furthermore, from a theoretical perspective, it makes sense that online communities may play a role in

opportunity development. If we accept that knowledge is widely distributed and individualized (Hayek, 1945), then online communities are important because they allow for a large number of users to come together, irrespective of time, geography, and even social hierarchy (Hwang et al., 2015). For primarily this reason, several studies suggest that online communities can drive innovation (Lifshitz-Assaf, 2018; V. P. Seidel et al., 2017).

However, due to their virtual nature, online communities function differently than physical communities, and it is crucial to take these differences into account (Faraj et al., 2016). To analyze this, information systems research recognizes that online communities possess a number of affordances—action possibilities offered by the design of online communities (S. Seidel et al., 2013), and constraints (Etter & Albu, 2021). Among these affordances are the low entrance barriers of these communities, which thus allow many users to freely join (Hwang et al., 2015). Furthermore, many online communities allow members to be anonymous, thus allowing them to share more personal and emotional information about themselves (Vaast, 2021). Finally, online communities allow for wider knowledge sharing and storing than physical communities (Leonardi, 2014). However, online communities also suffer from constraints. Among these are trolling, disruptive and destructive behavior enabled by the anonymity of online communities (Etter & Albu, 2021). Furthermore, when compared to physical communities—that is, social networks—the quality of social ties in online communities is lower, suggesting that information, knowledge sharing, and quality may also be lower (Massa, 2017; Vaast, 2021).

In sum, it is likely that online communities could function as communities of inquiry for opportunity development (Fischer & Reuber, 2011; Nambisan, 2017; Nambisan & Zahra, 2016). However, to my knowledge, there are no studies on this (*cf.* Nambisan, 2017; Schou et al., 2022; Secundo et al., 2021). Furthermore, it is likely that online communities may differ in forms of engagement and dynamics in conversations from other communities due to the nature of their affordances and constraints (Majchrzak et al., 2013). Thus, this paper seeks to improve knowledge on how online communities support entrepreneurial opportunity development. In doing so the paper contributes to the streams of research examining how communities of inquiry affect entrepreneurs (Seyb et al., 2019; D. Shepherd, 2015; D. A. Shepherd et al., 2020) and how online communities affect entrepreneurs (Nambisan, 2017; Schou et al., 2022; Williamson et al., 2020).

Methodology

Given the lack of theory and empirical knowledge on opportunity development in communities in general (Seyb et al., 2019; D. A. Shepherd et al., 2020) and, in particular, on how online communities may contribute to opportunity

development, inductive, exploratory qualitative methods are appropriate. We employ a multiple case study of four different communities, which allows for theory building (Eisenhardt, 2021). The focus of the analysis is on how entrepreneurs engage, interact, and share information in the communities (D. A. Shepherd et al., 2020). More precisely, we treat the entrepreneurs' conversations as the locus of opportunity development, as they share information, feedback, critique, support, and stories (Myers, 2018; Schou et al., 2022; Seyb et al., 2019; D. A. Shepherd et al., 2020).

Research context

We studied four entrepreneurial online communities on Reddit. The reason for choosing Reddit communities is two-fold. The first reason is that Reddit is probably the most well known and often used online community hosting site. It is also open to everyone. The entrepreneurial communities on Reddit provided mundane cases that represent “everyday entrepreneurship” rather than specialized and very successful entrepreneurs who are far between but overrepresented in research (Welter et al., 2017). The second reason is that there are multiple entrepreneurship communities on Reddit, thus allowing me to compare communities of different sizes and purposes. As outlined in Table 1, the communities do differ in size, ranging from approximately 20,000 to over 700,000 (at the time of writing). The communities also differ in purpose. R/EntrepreneurRideAlong, for example, is often used by entrepreneurs to share their stories, while r/start-up_ideas is used to try out new ideas.

A characteristic of Reddit is that users are anonymous and only identifiable by a handle. This characteristic likely influences behavior in the communities. For instance, Williamson et al. (2020) find that the anonymity makes

Table 1. Overview of entrepreneurial communities.

Community	Description (the sub-Reddit introduction used by the communities)	Number of members
r/start-ups	<i>“Welcome to/r/startups, the place to discuss startup problems and solutions.”</i>	Approx. 709,000 members
r/EntrepreneurRideAlong	<i>“A community of like minded individuals that are looking to solve issues, network without spamming, talk about the growth of your business (Ride Along), challenges and high points and collab on projects together.”</i>	Approx. 167,000 members
r/Appleideas	<i>“This subreddit is designed to be a professional environment where developers, entrepreneurs, and creators can come together to share their amazing app ideas.”</i>	Approx. 20,100 members
r/Startup_Ideas	<i>“This subreddit is for sharing innovative startup ideas ... Share ideas. Improve ideas. Expand upon other ideas. Combine ideas. Implement ideas.”</i>	Approx. 35,100 members

³As of Primo 2022.

entrepreneurs more willing to share stories of failure and insights into their mental health.

Data collection

Our data collection started with the first author familiarizing himself with the various entrepreneurial online communities of Reddit, such as r/start-ups, r/entrepreneur, and r/appideas. Similar to scholars in other fields who use online communities as data (e.g., Massa & O'Mahony, 2021; Rahman et al., 2023), the first author spent time “lurking” in the communities, conducting passive observations. He followed the communities from 2018 and on. We ended up at my sample of four different communities based on two criteria. First, we decided to have four communities wherein each set of two had different focuses. In this case, r/startup_ideas and r/appideas—as the names suggest—focus on idea generation and evaluation, while r/EntrepreneurRideAlong and r/start-ups focus on sharing and solving problems that arise along the entrepreneurial journey. Second, we wanted communities of a certain size and quality. For this, we decided to cut out communities that had too little activity. We set this cutoff at 10,000 members. We also decided to not focus on the largest entrepreneurial community on Reddit, r/entrepreneur for the opposite reason. The larger online communities get, the more they may lose focus and quality (Massa & O'Mahony, 2021). R/entrepreneur exhibits signs of this. During the first author's “lurking” in this community, we found members complaining about the quality of the community, especially complaining about rampant self-promotion.

We used a Python Reddit API wrapper (PRAW) to scrape data from the communities. Relying on purpose sampling, we collected the top 100 most popular threads in the communities (Schou et al., 2022). The reason for this choice is that due to the power-law of the internet—and thus social media—activity in online communities is very skewed toward the top threads (Adamic et al., 2000). Studying these threads thus covers much more activity than a random sample and was thus more adept at answering my research question (Lincoln & Guba, 1985). In total, our data collection resulted in a *sample of 18,670 comments* distributed over the four communities (see Table 2).

Data analysis

We then started coding the data following an inductive qualitative coding scheme, which has gained prominence in the study of social media data (Levina & Vaast, 2015; McKenna et al., 2017; Vaast et al., 2017). *The first step* in our analysis was to code threads in the community according to the topic and the community response (emotional and technical) and their level of detail and complexity (Schou et al., 2022). An emotional thread would often be

Table 2. Descriptive coding of the communities.

Community	Total number of comments	Median number of comments in each thread	Percentage of threads about opportunities	Level of detail and complexity	Emotionality	Types of opportunity discussions
R/start-ups	10,277	84	48%	Low = 33% Medium = 44% High = 23%	65% Emotional 35% Technical	10% Opportunity Recognition 52% Opportunity Enactment 38% Opportunity Reflection
R/Entrepreneur Ridealong	5,129	39	46%	Low = 40% Medium = 25% High = 35%	31% Emotional 69% Technical	15% Opportunity Recognition 11% Opportunity Enactment 74% Opportunity Reflection
R/Start-up Ideas	1,735	13	84%	Low = 76% Medium = 21% High = 3%	18% Emotional 82% Technical	93% Opportunity Recognition 6% Opportunity Enactment 1% Opportunity Reflection
R/Appideas	1,529	12	75%	Low = 80% Medium = 20% High = 6%	3% Emotional 97% Technical	100% Opportunity Recognition

about handling personal relationships, such as working with a cofounder. We use the term *emotional* to signal that the thread is about feelings and a personal topic. An example could be: *“Just had to skip an investor pitch meeting due to an anxiety attack. I feel like shit.”* (r/startups). A response to such topics would often be emotional support such as (from the same thread): *“Keep going. You’ll be fine. After 100 it’ll be easy-peasy.”* A technical thread could be about how to set up Facebook ads in an efficient manner. Responses would often focus on the technical aspect; for example, in a thread on r/startup_ideas, a member commented on an idea to build a private cloud server: *“Playing a little devil’s advocate here tho, hope you don’t mind, but I want to know. My data is still duplicated somewhere on two locations that you control. Are these two locations more unbreachable than dropbox?”* Level of detail and complexity referred to the length of the posts and the complexity and detail in the post—for example, some original posts would be extremely long (over 2,000 words) and very detailed, which would often be followed by longer replies as well. Other threads would consist of shorter original posts and comments and thus lack detail and complexity. Doing so, we gained an overview over what kind of conversations unfolded in the communities—for example, we gained insight into whether they provided an original poster with deep insights or whether there was a lot of emotional support (Schou et al., 2022). The result of doing this initial, manual scoring was that we could better separate what happened in the different communities and get a sense of what they offered to

entrepreneurs. *The second step* was to code whether the conversations in the communities were about opportunities. This allowed us to focus on relevant threads and disregard threads that did not inform the research question. To determine this, we worked with the notion that an entrepreneurial opportunity is an “umbrella construct” that covers several phases in the entrepreneurial process (Wood, 2017; Wood & McKinley, 2020) and that an entrepreneurial opportunity is a mental representation, a subjective idea of how a new product or service can be sold at a profit that entrepreneurs seek to recognize and enact (Wood, 2017; Wood & McKinley, 2010, 2020). Based on this conceptualization of entrepreneurial opportunities, we identified three phases of opportunity development in the data. The three phases are whether the original post was about finding or testing a new opportunity (*opportunity recognition*), how to pursue an opportunity and challenges while doing so, for example, having issues with cofounders or investors (*opportunity enactment*), and finally entrepreneurs’ reflecting back on their journey (*opportunity reflection*). The first phase, opportunity recognition, here refers to a socially driven process wherein entrepreneurs engage with peers to form beliefs about opportunities (D. A. Shepherd et al., 2020). For example, by testing ideas on peers, entrepreneurs may experience a sensemaking process wherein they come to see an idea as an opportunity—that is, a product or service that can be sold at a profit (Wood & McKinley, 2010). This phase comes after entrepreneurial alertness (Webb et al., 2011) and before entrepreneurial action (Wood & McKinley, 2010). The second phase, opportunity enactment, refers to how entrepreneurs are pursuing an opportunity, such as starting and managing a venture (Webb et al., 2011; Wood & McKinley, 2010).

These two first phases are well established in the literature, while the third phase, opportunity reflection, is a construction of data and theory. A frequent occurrence in two of the communities was entrepreneurs sharing learnings from their successes and failures. We decided to include this type of thread for three reasons. First, online communities can have a strong social contagion effect, leading individuals to copy peers (Bapna & Umyarov, 2015). Hence, it is possible that when entrepreneurs share learnings from successes or failures, they influence other entrepreneurs. Second, the entrepreneurship literature has argued that reflection is a critical element in entrepreneurial learning (Cope, 2005) and recent research has indicated that entrepreneurs may learn vicariously in online communities (Schou et al., 2022). Hence, although the opportunity reflection threads are backward and do not provide direct feedback or help to an entrepreneur, it is possible that entrepreneurs may be influenced in how they think about or pursue, opportunities through the information shared in such threads. Third, it is possible that sharing stories of failure may be a way for entrepreneurs to “let go” of an opportunity and move on (Cope, 2011). Hence, we included *opportunity reflection* as a phase, which refers to when entrepreneurs share detailed narratives about an

opportunity they pursued and how and why they were either successful or unsuccessful.

In a final step, we analyzed how these three types of conversations about opportunities may influence entrepreneurial opportunity development. We sought to develop propositions by comparing my emergent findings to theory on opportunity development, such as Wood and McKinley (2010), and theory on learning from others (Holcomb et al., 2009). As a result, we build new theory on how online communities support opportunity development. In Table 2, we present an overview of the communities and my coding.

To ensure the validity and reliability of our coding, we took the following steps. First, the first author familiarized himself with the communities in the sample, as well as other entrepreneurial communities on Reddit (McKenna et al., 2017). This served as a foundation for the coding and to triangulate emerging results (Pratt et al., 2020). Second, we constantly compared the data across the four communities. Matching and comparing emergent patterns served to ensure the internal validity of the coding (Eisenhardt, 2021; Pratt et al., 2020). Third, we engaged in insider-outsider coding (Bartunek & Louis, 1996). The second author, who had not participated in the initial coding of the data, then independently coded a random subset of the data. Following guidelines, the second author coded 10% of the data—that is, random threads from the four communities (see O'Connor & Joffe, 2020). As we reached a high inter-coder agreement ($k = 0.84$) on the key dimensions (phase of opportunity, complexity, and emotionality), we determined that the findings were robust.

Findings

Development during the opportunity recognition phase

In the first phase of opportunity development, entrepreneurs seek to test the viability of their ideas through interaction with peers (Wood & McKinley, 2010, p. 70). This activity was particularly present in two of the communities: r/appideas and r/start-up_ideas.

As the name suggests, r/appideas was a place where community members could test out new ideas for apps. For example, one community member suggested: *“Tinder but for finding side-project collaborators”* or *“Dating app that reveals the photo the more you talk to someone.”* Many of the app ideas were quite simple and close to rip-offs of existing apps, especially dating apps. Yet, there was also a subset that had a more societal angle—for example, one member suggested: *“How about a RateMyLandlord to help renters avoid getting screwed over?”*

On r/start-up_ideas the breadth of ideas was larger, but apps and platforms were clearly the most popular set of ideas here too. Similar to r/appideas, members would ask for feedback on their ideas and ask other members to try them out:

Foundery is platform where individuals with ideas can find people with the skills necessary to bring those ideas to life. If you have a great startup idea, but can't find the team to help you bring it to life, give it a look! The website is currently in BETA and everything is free to use.

In these cases, posters would often receive critical feedback from other members, who probed to find out whether the presented idea was worth pursuing. In the case of the “ratemylandlord” idea, a member responded: *“Doesn't this get covered in online reviews for rentable spaces? I've seen plenty of online reviews of apartments where a low star rating on Trulia or Google Maps is due to management and not the apartment itself.”*, while another posed a problem: *“It is a possibly lucrative but surprisingly capital intensive operation. Your expenses will be legal fees because you'll be sued a lot.”*

Similarly, in an example from r/startup_ideas on *“Gaming apartments for rent,”* members would probe the feasibility of the concept: *“Thats AirBNB with gaming hardware and snacks provided. Not a bad idea, and you could make money, like how Airbnb does, but you're going to have to charge way more than \$70/night. I'm guessing 2-5 times that cost.”*

Another way that posters would receive feedback would be by having members test their products or service. In the example of Foundery (the platform where entrepreneurs could connect, as mentioned above), members would beta test the service and provide feedback:

I tried to add an idea and it didn't work, it just kicked me out and I lost all the work I went through posting it and I got no feedback . . . I really implore you to fix these issues; it doesn't seem professional nor does it inspire putting much time into the site if it is going to waste my time like that. Really like the idea, just gotta work on the execution.

A final way that posters could use the community to test ideas and recognize opportunities was when other members volunteered to join them. For example, in the case of “ratemylandlord,” members would offer to join, as one stated: *“Would be open to help with on the dev[eloper] side.”* Thereby, the communities may also offer resources to entrepreneurs, or at least indications that their ideas are valuable from the fact that people want to work on them. In [Table 3](#), we summarize the different forms of posts and the feedback and help received.

By providing these forms of feedback, the community may spur on opportunity recognition by (1) providing information about the market and technologies, as argued by previous work (Webb et al., 2011) and (2) through the poster experiencing a sensemaking process as they put words

Table 3. Opportunity recognition representative data.

Types of questions and requests	Representative original posts	Types of community interactions	Style of interactions	Representative quotes from interactions
Testing out new ideas and looking for feedback	<p>"How about a RateMyLandlord to help renters avoid getting screwed over?" (r/appideas)</p> <p>"Would you use this? A Kanban board for your bookmarks" (R/start-ups_ideas)</p>	<p>Feedback on ideas, such as highlighting competing products or showing interest in the product/service suggested</p>	<p>Often low on detail and complexity and mostly technical</p>	<p>Feedback on idea</p> <p>"I feel like your concept has at least one very distinct advantage over most other new social apps in that this concept could work with even a very small userbase." (r/appideas)</p> <p>"I've had this idea for a few years and started building it out late last year. :)</p> <p>The hard part (as with most ideas) is hosting and marketing. Getting people to actually use it is the hard part. In the beginning, very few people would use it. When few people use it, the chances of them getting responses to their messages is low, which means they'll start to use it less and less. K</p> <p>Also- this would likely more often be used as negative messages, as many of these things tend to be used for.</p> <p>Do you have plans for how to fix those issues?" (r/appideas)</p> <p>Showing interest in product/service</p> <p>"I would back this kind of kickstarter. The only issue is security, so I'll likely only use it for not so important stuff like pictures and homework". (r/start-ups_ideas)</p> <p>"Good stuff! I've been messing around with this same idea. Definitely a need in the market." (r/startup_ideas)</p> <p>Offering collaboration</p> <p>"I've thought a lot about this and almost pursued it. If you're interested in talking more, feel free to hit me with a pm [private message]" (r/appideas)</p> <p>"I am trying to pick up Swift right now. I could pick up flutter as well and contribute. I love this app idea." (r/appideas)</p> <p>Volunteering for beta testing</p> <p>"If this is something you actually have a prototype of for people to beta test, I'd love to be a part of that. PM'd" (r/start-up_ideas)</p> <p>"Really nice idea, it would be fun to code it." (r/start-up_ideas)</p>
Searching for resources, such as beta testers and feedback	<p>"Turn your USB into a full private cloud" (r/start-up_ideas)</p> <p>"Neighborhood Collective Bargaining – how to monetize?" (r/start-up_ideas)</p>	<p>Offering help, in rare cases members of the community show interest in joining the start-ups in question.</p>	<p>Often low on detail and complexity; mostly technical</p>	

to their idea and receive feedback on the viability of their idea. A process that has been highlighted in prior work (Kaffka et al., 2021; Wood & McKinley, 2010), Seyb et al. (2019) use two terms regarding how communities can support a sensemaking process by the entrepreneur—namely “co-probing” and “collective issue raising.” These two terms refer to when a community of inquiry asks questions regarding the desirability of a product or service and when they raise technological or feature-related issues. Interestingly, we find similar instances in online communities as Seyb et al. (2019) did in physical, high-tech communities. As a result, we therefore propose:

Proposition 1a: *Entrepreneurial online communities may facilitate sensemaking of opportunities by providing information and testing ideas.*

However, we find a large degree of variance in the quality and quantity of feedback that the posters receive. Some may receive very detailed and knowledgeable feedback, as in the case of the poster who wanted to build “rate-mylandlord.” When this poster asked for feedback, he received detailed replies:

You would need to learn a programming language (most people default to Java, but Kotlin or JavaScript would also work), then follow a guide to learn to create a blank sample app, then learn how to use Android’s UI libraries to make a user experience. For this app, you’d also need a database and probably a web server, so you could learn Google Firebase which gives you both those things. All in all, if you put ten hours a week into learning and keep making small amounts of progress, in 6 months I think you could have something that’s usable.

In other cases, the responses lacked detail or did not show that the member had any particular knowledge about the idea proposed. For example, when members suggest a new idea, other members may respond with a negative such as: “*These apps exist. I’ve played with them before. It’s a novelty but it gets tedious/boring quite fast.*” Or a simple positive such as: “*Sh*t, this is a good idea. I might give it a shot, seems super fun to do!*” As entrepreneur needs knowledgeable peers, someone whom they can trust to provide them with good information, short responses (like the the last one) might not be very helpful (Vaast, 2021). Furthermore, they do not provide much useful information about the market, technology, or other areas.

Our data suggests that the more complex a post and discussion, the better the feedback and sparring the original poster receives. For example, a poster may receive in-depth feedback from someone who has tested their product or service or from someone who is an experienced coder. While research has shown that getting help from strangers in online communities is useful (Kuhn et al., 2017; Vaast, 2021), it seems reasonable to believe that differences in

quality and quantity affect whether online communities can help an entrepreneur develop an opportunity. First, short, curt remarks may just be unhelpful because they do not contain information. Second, original posters may struggle to assess the credibility of advice given. Given the anonymity of users, the posters cannot directly assess the expertise of the responding member. Therefore, members would have to signal their expertise and experience to be taken more seriously (see also Bucher et al., 2023). Members may do so in longer posts where they signal their expertise, as exemplified by the quote above in which the member explains in detail how to set up an app. We, therefore, propose:

Proposition 1b: *Entrepreneurial opportunity development in online communities is moderated by the frequency and level of detail and complexity of community interactions.*

Finally, we note that the two communities dedicated to testing out new ideas, r/startup_ideas and r/appideas, suffer from a lot of trolling and “shitposting.”² For example, a member on r/appideas suggested “Catching Hilary Clinton deleting e-mails” as an idea for an app and suggested further, “A game, similar to Pokemon Go, where you walk around towns and the like having to take screenshots of Hilary while she is doing tasks, such as deleting e-mails, or moving things out of embassies.” This form of trolling was also present at r/startup_ideas, where one member jokingly suggested: “Space X but for deep sea.” On r/appideas up to around 25% of the posts were such forms of trolling and it made the community appear less serious and helpful to potential entrepreneurs. Indeed, most research on social media considers such behavior to be destructive and disruptive (Etter & Albu, 2021). As such, we propose:

Proposition 2: *The level of trolling behavior moderate opportunity development in entrepreneurial online communities—that is, high levels of trolling reduce opportunity development.*

Overall, we find that online communities may play a role in helping entrepreneurs recognize opportunities because they can provide feedback on ideas and even resources, such as people volunteering to help. Two of the communities studied are designed for exactly this purpose. However, we also find that these communities lack depth in the interactions and knowledge provided, as threads are often short (even the most popular ones) and lack detail and

²The Cambridge Dictionary defines shitposting as: “something put on the internet that is not especially funny or interesting and does not make much sense, or does not have anything to do with what is being discussed, especially in order to make it difficult for other people to discuss something”

engagement. Thus, while the communities could afford entrepreneurs rich feedback from knowledgeable peers spread around the world, this does not happen as often as one might think. Moreover, the communities are constrained by trolling and a lack of engagement, possibly because the members of the Reddit communities are anonymous (Etter & Albu, 2021).

Development during the opportunity enactment phase

A second phase of the opportunity development process is opportunity enactment, which refers to when the entrepreneur is gathering, applying, and managing resources to pursue an identified opportunity (Webb et al., 2011; Wood & McKinley, 2010). In this section, we outline how online communities may help entrepreneurs in this regard. We find that the communities help by providing advice and especially providing emotional support to entrepreneurs who are struggling with enacting their opportunities. This is further evidenced in Table 4.

An example of how entrepreneurs may seek help from an online community was from r/start-ups, where a member asked for help as his cofounder was quitting the start-up and wanted the poster to pay back the capital, thus threatening the start-up. The community would respond both with emotional and tangible support. For example, one responded:

To be blunt he has no foot to stand on. You are not liable for the money he put in. There is no contract in place stating that if leaving you are 100% refunded your investment. That is not the way startups work otherwise every investor will invest in everything and then if they fail will request money back.

A characteristic of this thread was that several members chimed in and there was a detailed discussion on legal advice. For example, one advised: *“Be sure you file a counter-claim for if he does file a suit. It ensures you have leverage to recover your legal fees and gives you a nice stick to swing at him to get him to drop the case quickly down the road.”* Another advised the original poster to avoid getting into a legal fight with the leaving cofounder: *“You really want to avoid a court fight even if you are 100% in the right. Particularly against a better funded opponent.”* The result was that the original poster received both advice and support. In the end, the original poster addressed and thanked the community: *“Hi everyone, I appreciate all the input, and trust me, I have read each and every reply from top to the bottom of the thread. I’m just overwhelmed that a lot of people are pitching in to help my situation. I am truly grateful.”*

Another example, again from r/start-ups, was an entrepreneur who shared a debilitating experience with the community in an original post:

I was scheduled to be one of a few startups to pitch to an angel investor today. I’m very confident in my business. The financials are solid, and we have more interest from customers than I am able to handle. Also, I’m confident in the content my pitch deck.

Table 4. Opportunity enactment representative data.

Types of Problems	Representative original posts	Types of Community Interaction	Style of Interactions	Representative Quotes from interactions
Problems with work-life and working relationships	<p>"Just had to skip an investor pitch meeting due to an anxiety attack. I feel like shit." (r/start-ups)</p> <p>"Co-founder quits on start-up, wants me to pay back his capital" (r/start-ups)</p>	<p>The Community provides more emotionally oriented feedback, sometimes leading the original poster to self-reflect.</p>	<p>Often a medium-high level of detail and complexity while also being emotional</p>	<p>Emotionally Oriented feedback</p> <p>"First off, remember that anxiety is fear of the unknown. Your body is creating a flight mode because it doesn't know what is going to happen. Investor meetings are a great example of "what if. . ." moments that will cause these reflexes. Its the same sensation that causes "omg am I having a heart attack?" (r/start-ups)</p> <p>"Great job! Fuck your partner. This was the most important lesson that I learned in my first startup experience. My partner had the idea, I was doing 90% of the work, and he wanted 70% of the equity (even before we built a product). He never included me in meetings with mentors, incubators, or even 3rd party developers. Threatened our friendship and my place in the company if I didn't blindly obey his leadership. I promptly told him, that I could easily Zuckenberg him. We are no longer friends." (r/start-ups)</p> <p>Emotional Support</p> <p>"100% keep going. In fact keep going harder, and if it is possible, play up user privacy, and if that means that you need to engineer some features to add some privacy talking points, then do it. A lot of people do not trust Google with their data – take advantage of that." (r/start-ups)</p> <p>"29 years young, 2 PRETEEN kids and a wee one? Working starbucks and kripsy kreme, starting a business and in 2020 no less?"</p> <p>You guys rock, no way around it. Honestly, true inspiration!" (r/entrepreneurship_ridealong)</p>

(Continued)



Table 4. (Continued).

Types of Problems	Representative original posts	Types of Community Interaction	Style of Interactions	Representative Quotes from interactions
Problems with learning new skills	<p>"How do I learn the art of selling software?" (r/start-ups)</p> <p>"Consumer app startups: how long did it take for you to get 1,000 users and how did you do it?" (r/start-ups)</p>	Community provides tangible and technical advice, sometimes combined with emotional support.	Often detailed, complex, and technical	<p>Technical Advice</p> <p>"I work in SaaS sales, have done for around a year now, with 8 years sales experience... my tips for you are: When trying to book meetings, ask them how they currently perform the task your product solves, get them thinking about the pain, and tell them your product will help XYZ and that you'd absolutely love to show it to them" (r/start-ups)</p> <p>"It's a delivery app using Google Maps/Place/Geocoding etc API + Stripe for all the heavy lifting, everything else seems like basic CRUD to me. Unless it's generating a net profit (taking into account all his personal efforts) he will have a very hard time selling it." (r/start-ups)</p> <p>Marketing Advice</p> <p>"If you want to go the free route, you should have started working on finding users as early as possible because things like SEO, content marketing or even answering questions on Quora will take time before they drive traffic to your app." (r/start-ups)</p> <p>"I sell a different thing but I use 3 tier pricing. Very high middle and cheaper. I made sure every option meets their needs and mine. Offer one option at a time until rejected and start high. The very high price generally pulls their expectations up with it's shock value. They almost always go for middle and if they go cheap then they don't expect much so they are easy to please. Plus when I offer the lower cost options they feel like I'm saving them money. Never upsell, down sell." (r/Entrepreneurship_Ridealong)</p>

However, I have some of the most debilitating levels of anxiety of anyone I've ever met . . . today about an hour or two before the event I started having a full blown anxiety attack which made me skip out on the event. Even medication wouldnt alleviate the symptoms.

In response to this very emotional and personal original post, community members would share their own experiences, provide encouragement and advice on how to deal with anxiety. For example, one provided the following advice:

I have found it helps to really think of it as a conversation. You are clearly confident in the company, as well as its KPIs. Just go tell them about it as if you were explaining to your favorite uncle. Tell him how amazing it is, how everyone is clamoring for it, and that you are SO excited to bring it to the world. You got this!

The community here acts like a group of friends or a “care-space” (Schou et al., 2022). Seemingly, the emotional support and advice provided by the community can help the entrepreneurs. In this case of the anxiety attack, the original poster returned to the community with this message after having received their support:

I just want to give a general thank you to everyone. You are all extremely supportive and I really appreciate the time you each took to respond. I feel much better today than I did yesterday and I'm long forward to the next stage of my professional and personal growth.

Thus, a possible conclusion is that when the online communities provide emotional support to entrepreneurs struggling with problems, they increase the self-efficacy of the entrepreneurs (Bandura, 1997). In other words, the encouragement and feedback serve as social persuasion that convinces the entrepreneur of their abilities (Bandura, 1997; Boyd & Vozikis, 1994). Our findings indicate that this is a possible interpretation, which is evidenced by the two examples above. In both cases, the original poster responds to the community with seemingly increased vigor and belief. Thus, following that social persuasion—that is, the emotional support and feedback—increases self-efficacy, we propose:

Proposition 3: *Entrepreneurial online communities can provide emotional support that increases the self-efficacy of entrepreneurs and thus facilitates opportunity enactment.*

In this section, we have focused on how entrepreneurs received emotional support as they sought to enact their opportunities. Yet, entrepreneurs could also receive instrumental support—that is, tangible assistance with solving a problem (Klyver et al., 2018). This was particularly the case with the other communities, such as r/entrepreneuridealong and r/start-up_ideas. Overall, we find that communities

can also help entrepreneurs with enacting their opportunities, such as by providing advice and support in problems concerning cofounders, employees, or investors.

Opportunity reflection phase and influence on opportunity development

In this section, we present vignettes of how entrepreneurs reflect on their successes and failures and how community members engage with these stories. We argue that entrepreneurs may learn vicariously from each other, which affects their opportunity development by reducing uncertainty, as entrepreneurs can observe the behavior of others (Holcomb et al., 2009).

The sharing of success and failure was very frequent and took the shape of entrepreneurs' composing long and detailed original posts outlining their stories. R/EntrepreneurRideAlong would frequently have such posts—for instance, one of the most popular ones was titled, “From ‘From \$0 to \$323,010.43 in 14 months with a simple startup. The exact Facebook ads, landing pages, website, pricing strategy, sales aids and everything you need to do it yourself in one massive post. Nothing is held back.’” In this over 2,000-word original post, an entrepreneur outlined how they built up this start-up, including all the details on going-to-market strategy, sales tactics, and so forth. This post initiated a long thread where other members asked questions to the original poster.

Examples here ranged from price strategy: “How did you go about adjusting your pricing model?/How did you determine what folks were willing to pay?” to how to build a product when you have to hire an outside developer to do it: “A concern of mine when it comes to paying someone to design a product for me is trouble shooting down the road or adding any updates/changes. Have you had to deal with that?” Then the original poster would often answer, for example, to the member asking about how to deal with others developing the product, the original poster answered: “If you can validate a market (starving crowd and you're selling burgers), then it's a lot easier to find engineers who want to partner with you.”

In rarer cases, entrepreneurs would share stories of how they failed. One instance of this, from r/EntrepreneurRideAlong, was a post called: “How we almost got acquired by Facebook and failed. Here's what I learned.” In these posts, entrepreneurs would share personal and emotional stories of their failure and how it made them feel. In the example with the start-up nearly getting acquired by Facebook, the original poster wrote:

We were devastated. I was immature enough and almost took it personally. At the end of the day, it was business as usual for a big company like Facebook — they ended up acquiring Source3 to help them solve the problem. For us, it was a Technical Knock Out.

The most common response to such posts was emotional support from the community: “*I really hope you achieve double the success you dreamt during this endeavor.*” In Table 5, we summarize the different types of opportunity reflection posts, the information shared, and community responses. We provide further examples.

The question is how may it help entrepreneurs to read stories about other entrepreneurs’ learnings from failures and successes? A possible answer is that reading these stories serves as a vehicle for vicarious learning. Bandura (1997, p. 93) noted that written summaries can provide vicarious learning as they symbolically represent a model’s behavior (see also Myers, 2018, p. 611). As entrepreneurs learn vicariously, they perceived that uncertainty is reduced as they obtain knowledge and behaviors that they can replicate (Holcomb et al., 2009, p. 176). When entrepreneurs feel that uncertainty is reduced—for example, they find a way to market their product or service by frequenting entrepreneurial online communities and getting inspiration from a successful member, they are more likely to pursue entrepreneurial action themselves (Holcomb et al., 2009). Hence, if online communities provide vicarious learning as members share their experiences, as argued by prior work (Schou et al., 2022), then the following proposition can be offered:

Proposition 4: *Vicarious learning in entrepreneurial online communities facilitates opportunity recognition and enactment through uncertainty reduction.*

Thus, while we argue that entrepreneurial online communities can have a *direct effect* on opportunity development by aiding opportunity recognition through providing information and feedback on entrepreneurs’ ideas, as well as aiding opportunity enactment by providing emotional support, we argue that opportunity reflection has an *indirect effect* on opportunity development through vicarious learning.

A model of how online communities support opportunity development

The main takeaway from our results is that online communities can support entrepreneurs in recognizing and enacting opportunities. Thus, entrepreneurs who participate in online communities are more likely to engage in developing opportunities than comparable entrepreneurs who do not participate.

We use the term *increased entrepreneurial opportunity development* to mean that entrepreneurs who use online communities are more likely to move along in their entrepreneurial process—that is, fleshing out their ideas into profitable business offerings (Dimov, 2020). This requires both recognition and enactment (Webb et al., 2011). However, we are not claiming that the entrepreneurs



Table 5. Opportunity reflection representative data.

Types of reflections	Knowledge Shared	Representative Quotes from Original Poster	Style of Interactions	Representative Quotes from interactions
"How I built this" (Entrepreneurs sharing their success stories)	Advice on sales, marketing, product development, and working relationships	<p>Advice on Sales: <i>"We started with a single \$200/month price point. We left so much money on the table that I still cry every time I think about it. The best thing we've done is increase our price and start selling annual deals ... Same product. Different prices. More money" (/r/entrepreneurshipidealong)</i></p> <p>Advice on Marketing <i>"Instagram is very hard to grow organically, but TikTok is incredibly easy (right now at least) ... " (/r/entrepreneurshipidealong)</i></p> <p>Advice on product manufacturing <i>"PRO TIP: if you visit a Chinese factory, ask politely to use the bathroom. They will have to oblige, and if you find a really messy, disgusting bathroom, then it's definitely a red flag ... these factories have millions of dollars worth of machinery, if they can't put together a decent bathroom for their workers, then they are probably corner-cutters." (/r/entrepreneurshipidealong)</i></p>	Members ask follow-up questions or in some cases critique the original poster. Often detailed, complex and technical.	<p>Probing and trying to learn more <i>"Awesome post! If you don't mind, what went in to learning how to create the software you are selling? Did you design it yourself or did you hire someone with the technical knowledge already in place to build it for you?" (/r/entrepreneurshipidealong)</i></p> <p><i>"what was the process you used for facebook ads? Can you dive a little deeper into that? I'm launching a store soon and facebook ads is on the table for our strategy." (/r/entrepreneurshipidealong)</i></p> <p><i>"Great stuff! However, I'm not really sure I understood your partner channel -> you reaching out to agencies that build websites? Can you describe it a little more precise?" (/r/start-ups)</i></p>
"Lessons Learned" (entrepreneurs sharing stories of how and why they failed)	Advice on how to avoid failure	<p>Advice on how to avoid failure <i>"if you are being evaluated (by customers, partners or possible acquirers) define success KPIs beforehand. That way everyone will have the same common ground." (/r/entrepreneurshipidealong)</i></p> <p><i>"When I initially created my startup I realized that I needed someone to help me with the massive workload. I specifically needed someone with a lot of programming experience. So I decided to find someone at my school. ... I had found a cofounder (we'll call him Cody, even though that isn't his real name). While Cody was extremely talented in programming, his stubbornness proved to make him hard to work with. So, my lesson here is to find a cofounder who not only has skills and experience but one that you work well with." (/r/startups)</i></p>	Often more emotional responses, not as complex	<p>Emotional support after failure <i>"Wow what a roller coaster ride. Hopefully you've recovered from the bruises and are back in the studio working on something even better, with these life lessons in mind!" (/r/entrepreneurshipidealong)</i></p> <p><i>"You've done something amazing here. Don't doubt yourself ... Own your expertise and learn to be comfortable admitting that there are other things you don't know. That's how you grow and learn." (/r/start-ups)</i></p> <p><i>"That was really inspiring. Thanks for sharing your experience and I wish you all the luck in your future." (/r/entrepreneurship_idealong)</i></p>

will be more likely to be successful in their endeavor just because they use online communities. The claim we are making is that participation—that is, active posting and time spend in online communities—may inspire entrepreneurs to develop their opportunities further, not that this inspiration necessarily makes entrepreneurs successful or profitable. If the model was to be tested quantitatively, the dependent variable could instead be whether entrepreneurs launch new ventures, what Davidsson et al. (2020) refer to as “triggering.” It could also be whether entrepreneurs who participate in online communities are more likely to improve existing offerings or offer new ones. In Figure 1, we illustrate the findings and propositions.

In this figure, we outline how online communities support opportunity development. We argue that the three discussions about opportunities—opportunity recognition, opportunity enactment, and opportunity reflection—support opportunity development in different ways. Opportunity recognition wherein information and feedback are shared may initiate a sensemaking process, which facilitates opportunity development (Wood & McKinley, 2010). Opportunity enactment provides emotional support and thereby increases self-efficacy (Boyd & Vozikis, 1994). The increased self-efficacy may inspire entrepreneurs to keep up the pursuit of their identified opportunity. Opportunity reflection can support opportunity indirectly through providing models (Myers, 2018), which entrepreneurs can learn vicariously from and thereby reduce the uncertainty they feel (Holcomb et al., 2009). Studies have found that vicarious learning is very helpful for entrepreneurs. For example, Jones and Schou (2022) show that using ideas and frameworks from others is very helpful for entrepreneurs in organizing their ventures.

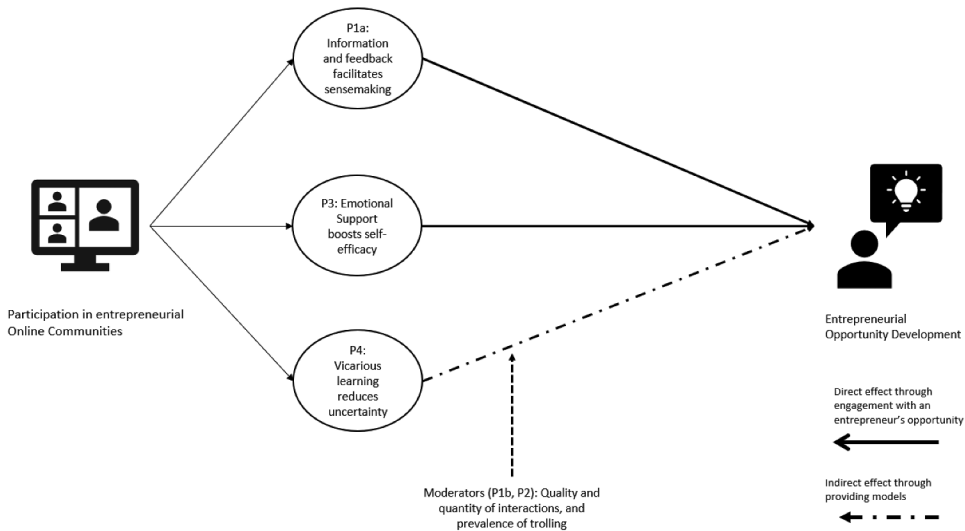


Figure 1. Model of how online communities support opportunity development.

Finally, we argue that the quality of interactions and the amount of trolling may reduce the usefulness of online communities. This means that when quality is low and trolling is high, online communities are less able to support opportunity development in the three ways we have outlined.

Overall, we propose that online communities can support entrepreneurial opportunity development in different ways. Thus, it is crucial to note that the communities serve different purposes (Schou et al., 2022). For example, the two communities *r/appideas* and *r/start-up_ideas* are predominantly spaces for getting feedback and testing ideas. They are also the smallest and most disturbed by trolling. The largest community in the sample, *r/startups* is mostly used to get help with enacting an opportunity—that is, dealing with problems in running a venture. Last, *r/EntrepreneurshipRideAlong* is mostly used to share reflections. Put differently, whereas one physical community could potentially cover all aspects of opportunity development, online communities become specialized into one area. Hence, entrepreneurs would have to participate in more than one community to access the different forms of support in opportunity development.

Discussion

The paper adds to the streams of research around communities of inquiry and their effect on opportunity development (Seyb et al., 2019; D. Shepherd, 2015; D. A. Shepherd et al., 2020). It also adds to the literature on the role of online communities and other forms of social media as “critical infrastructure” for entrepreneurs (Nambisan, 2017). Moreover, this research seeks to tie these streams together, allowing for future research to investigate online communities as communities of inquiry.

Implications for communities of inquiry and the social aspects of opportunity development

This research offers new theoretical insights into the literature on communities of inquiry and the social aspects of opportunity development. First, we show that online communities can serve as spaces where entrepreneurs test out ideas. Consequently, we propose that the feedback and probing from the communities serve to spark a sensemaking process in entrepreneurs, facilitating opportunity recognition (Wood & McKinley, 2010). Thereby, our study extends prior work. For example, while Autio et al. (2013) found that information exposure enhanced entrepreneurial action, they did not consider joint sensemaking between a poster and community as the way online communities may spark entrepreneurial action. This is important to consider as more recent work in entrepreneurship has argued that it is not just information exposure that drives opportunity development but joint coconstruction (Karami & Read, 2021; Seyb et al., 2019). Our research also extends Seyb et al.’s (2019)

study of how communities of inquiry may probe and raise issues. As Seyb et al. (2019) note, their study is limited by being in a very specific high-tech context (exoskeletons). We show that their findings of probing and collective issue raising may be extended to very different, more everyday communities. Thus, we affirm nascent theory about the role of communities of inquiry, and our study shows how everyday communities of nonexperts can also serve as a community of inquiry.

Second, we add insights to D. A. Shepherd et al.'s (2020) social model of opportunity development. Relying on separating opportunity development into distinct phases, we show that communities not only may help entrepreneurs obtain diverse information but also provide emotional support and advice that entrepreneurs can use to solve problems during opportunity enactment, such as dealing with cofounders and investors. Moreover, we propose that communities of inquiry may help entrepreneurs through vicarious learning, as entrepreneurs share detailed accounts of their journey. This proposal rests on the assumption that uncertainty reduction is crucial in the construction of opportunities (Sarasvathy, 2001; Wood & McKinley, 2010) and that summaries of other entrepreneurs' journeys serve as symbolic models that can be instructive (Bandura, 1997; Myers, 2018).

Overall, our study extends the social model of opportunity development in two ways: (1) Our study highlights how more-rudimentary, "everyday" exchanges in communities may facilitate sensemaking similar to expert communities (Seyb et al., 2019; D. A. Shepherd et al., 2020); as such, entrepreneurial online communities could have a "democratizing" effect as they allow entrepreneurs to gather information and feedback that they normally would get at universities (see also Pergelova et al., 2019). (2) Our study shows that communities do not just provide information and feedback (Autio et al., 2013; Seyb et al., 2019; D. A. Shepherd et al., 2020); they also provide emotional support, which may increase self-efficacy, and they provide models, which may reduce uncertainty.

Implications for digital entrepreneurship and entrepreneurial use of online communities

To the growing research stream on digital entrepreneurship and the entrepreneurial use of online communities, this paper offers the following insights. First, while previous work has noted that online communities may act as "safe spaces" where entrepreneurs can receive support to deal with traumatic events, such as experiencing lockdowns and failure (Meurer et al., 2022; Williamson et al., 2020), we propose that this emotional support may not only improve the well-being of entrepreneurs (c.f. Williamson et al., 2020), but also serve a constructive role in helping entrepreneurs find self-efficacy to deal with issues in their ventures. Second, we extend knowledge on the affordances and

constraints that entrepreneurs face when engaging with digital technology (Autio et al., 2018, Belitski et al., 2023; Meurer et al., 2022). In particular, we note that the prevalence of trolling might hamper the efficacy of entrepreneurial online communities. While it is conceivable that online communities could connect entrepreneurs with different experiences and knowledge from across the globe, we find that this is hampered by trolling and lack of serious engagement. Our findings indicate that the anonymity offered hampers serious social networking and increases the prevalence of trolling. It also seems that trolling reduces interactions and activity in the communities.

In sum, we find that while the online communities have the technical possibilities of offering entrepreneurs information and feedback from a much larger pool of peers, it is rarely used actively in this regard. Hence, our study highlights the limitations of digital technologies, specifically online communities. In doing so, our paper wants to temper the tendency to overly hype the transformative potential of all digital technologies in the context of entrepreneurship. Digital technologies may come with serious drawbacks that limit their potential impact. This was one of the surprising findings. We expected that online communities would be fruitful avenues to test ideas, but we found that communities with this focus were quite small and infested with trolling, which severely hindered their usefulness. On the other hand, we found that individuals would share deeply personal stories and provide emotional support, which one would think belonged more in physical social networks. Paradoxically, it seems that the obvious use case for online communities—information sharing and feedback (Autio et al., 2013)—is underused, while the less obvious use case—emotional support—happens more frequently.

Limitations and future research

As an inductive study of an understudied phenomenon—entrepreneurial activities in online communities—our study comes with a set of limitations. First, our study is limited by the sampling of online communities on Reddit, which are self-organized communities. Online communities focusing on crowdfunding or crowdsourcing may differ from the communities studied in this paper (see V. P. Seidel et al., 2017, p. 222, for comparison of online communities). Hence, an avenue for future research is to compare different types of online communities. Another avenue is to investigate how online communities and physical communities differ in their effect on opportunity development. For example, while it is clear in physical communities who is the expert and their level of expertise—for example, this is clear in a university context (Seyb et al., 2019)—it may be less clear in an online community context. However, expertise may not be the most important thing for opportunity development. Recent work shows that entrepreneurs

do not apply advise without question, they need to probe it and question it in order to integrate it (Miller et al., 2023). This may be easier in an online community where anonymity and low thresholds may negate status barriers to questioning experts. Thus, there may be a paradox here that future research could explore.

Second, the study is constrained by the data in the way that we cannot detect the actual effect that communities have on opportunity development—that is, numbers of ventures launched, venture survival, and so on. Because of this limitation, we do *not* causally claim that online communities necessarily lead to better opportunity development, we *propose* that they might have an effect when we compare our findings to theory following accepted methods (see Eisenhardt, 2021). For example, when we make the argument that testing ideas in online communities supports opportunity recognition, we draw heavily on previous research and theory (e.g., Autio et al., 2013; D. A. Shepherd et al., 2020; Wood & McKinley, 2010). Thus, it is important to consider that this is an inductive study aiming to develop testable mechanisms based on logic and empirics not to test theory (Eisenhardt, 2021). It is crucial to test the theoretical statements made in this paper to ground knowledge on how online communities affect opportunity development. To test the propositions from this study, future studies could apply mixed methods combining online community data and survey data (Autio et al., 2013).

Conclusion

In this study, we investigated how online communities may support entrepreneurial opportunity development. Based on our findings, we develop five propositions and an overall model of how online communities can support opportunity development. We propose that online communities can affect opportunity development positively (1) by providing new information and feedback on an entrepreneur's idea; (2) through advice and emotional support to entrepreneurs dealing with issues with cofounders, employees, or investors; and (3) through vicarious learning. Our study contributes to research streams on opportunity development through social engagement in communities and how online communities may provide crucial “architecture of participation” for entrepreneurs (Nambisan, 2017). Overall, we find that online communities can play a diverse role in opportunity development and may even have a “democratizing” effect by acting as a sort of “university without walls” for ordinary entrepreneurs who may otherwise be isolated and without support (see also Kuhn et al., 2017). However, we also find that online communities can be limited in overall quality due to trolling and

lack of interactions. Hence, we caution future scholars from automatically thinking that digital tools will simply transform entrepreneurship as we know it. We also seek to provoke future research into understanding how we get entrepreneurs to grasp the possibilities offered to them by online communities.

Disclosure statement

No potential conflict of interest was reported by the authors.

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