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# A review of community and connectivity strategies for the acceleration of sustainable transitions

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## Abstract

In the face of the escalating climate crisis, a cross-disciplinary understanding of strategies for stimulating transitional change is critical (Newell et al., 2022). To meaningfully stimulate and accelerate transitions toward more sustainable practices, it is essential to foster broad community action, which requires connectivity within and across disciplines. This article presents the findings of a literature review on physical and digital community organization and connectivity strategies, articulating the potential of participation and knowledge sharing within communities to stimulate meaningful change. Eight physical, community-based strategies are reviewed and analysed, alongside four digital strategies. The selection of physical strategies conveys a range of tried-and-tested methods of stimulating change, while the review of digital strategies explores how traditional methods have been adapted to the digital age. Middle-out approaches to change are particularly focused upon, as middle actors hold a balance of both agency and capacity to drive sustainable transitions, compared to top or bottom actors (Janda & Parag, 2011; Simpson et al., 2020). Awareness of the value of middle-out action is growing, with an example being the European Union's introduction of formal support for 'transition brokers' capable of providing middle-level facilitation for change (Cramer, 2020). By bringing together into one place an analysis of a range of existing concepts and strategies, this review takes an initial step toward establishing a cross-disciplinary source of community organizing and connectivity strategies, which may be implemented by middle actors.

**Keywords:** Community and connectivity strategies, Middle-out, Sustainable transitions, Acceleration

## Introduction and background

In the face of the escalating climate crisis, there is an urgent need to accelerate transitions toward more sustainable practices, and a recognition that better support for the social infrastructure and processes needed for behavioural change would help (Newell et al., 2022). Supporting that, some European Union countries have started introducing formal support for 'transition brokers' capable of providing middle-level facilitation for the necessary transitions (Cramer, 2020). However, better understanding of how to stimulate the collective acceleration of sustainable transitions is still needed (Feeney et al., 2023; Newell et al., 2022).

This article presents the findings of a literature review on 12 physical and digital community organization and connectivity strategies, articulating the potential of participation and knowledge sharing within communities to stimulate meaningful change. The strategies analysed originate from a wide variety of disciplines, including education, economics, policy, business, grassroots activism and organizing. This review synthesizes the acquired knowledge into a cross-disciplinary understanding of methods for accelerating sustainable transitions. A brief historical background of these strategies, including their disciplines of origin,

is provided. The identified strategies are analysed through the lens of a middle-out approach, to identify effective strategies for middle actors seeking to influence transitional change (Janda & Parag, 2011; Simpson et al., 2020).

#### *Top-down, bottom-up and middle-out approaches*

Approaches to change are often discussed as either ‘top-down’ or ‘bottom-up’ and attract a range of slightly different definitions. The strengths of bottom-up approaches include the potential to identify local issues through participatory community involvement and the ease with which local disciplinary or indigenous knowledge bases can be tapped into (Panda, 2007). Top-down approaches also have their merits within the broad ecosystem of change but also attract some valid criticisms. Finger and Princen (1994) critique the failure of top actors (whether they be corporations or states) to prioritize climate over capital, observing that economic growth often trumps ecological constraints. Finger and Princen (1994) further caution that the bottom-up focus on decentralized, community-led responses makes it harder to influence widespread societal change – hence the importance of using a range of approaches.

As an alternative to this dichotomy, Janda and Parag (2011) proposed a middle-out approach to sustainable transitions. They asserted that through middle-out activity, one might influence actors upstream (i.e. at the ‘top’), downstream (i.e. at the ‘bottom’) or sideways – influencing actors in adjacent or competitive positions (Janda & Parag, 2011; Simpson et al., 2020). A series of case studies by Simpson et al. (2020) found that middle actors within the industry often had less upstream influence and that sideways influence amongst professionals was common.

Janda and Parag (2011) discuss the relationship between individuals as ‘bottom’ actors and governments or corporations as ‘top’ actors. Compared to top or bottom actors, middle actors hold a balance of both the agency to drive and the capacity to support sustainable transitions (Janda & Parag, 2011; Simpson et al., 2020). Middle actors are therefore workers or professionals engaged in any field or discipline below government level (Mindell et al., 2021).

This review does not focus on middle actors in any discipline, but instead draws and synthesizes knowledge from a range of disciplines – toward a broader range of tangible middle-out strategies to support transitional change.

#### *Historical context*

During the 20th century, there have been some radical expansions and re-conceptions of this area (Sites et al., 2007). Community organization has been viewed as a multi-paradigm field that does not privilege any one strategy (Sites, et al., 2007). On the other hand, it has been recognised that community organizations tend to share four key concepts: development, organizing, planning and change (Weil, 2012).

Although activities during and after the 1960s are often seen as the point of origin of numerous community organization strategies, the beginnings were earlier (Fisher, 1984). In the 1920s and 1930s, following the Red Scare of 1918, the professionalization of social work led to community organization (Fisher, 1984; Lubove, 1975). This is when a distinctive social work practice area became recognised, and these early developments often used mass mobilization (Fisher, 1984; Sites et al., 2007). Further expansion of community organization took place after World War Two when academics and activists called for an increase in equality and improvements in working conditions (Fisher, 1984; Sites et al., 2007). This was

followed by further expansion during the 1960s as part of the civil rights movement and general resistance to Western influence (Fisher, 1984), continuing into the 1970s with the anti-war and early second-wave feminist movements (Evans, 2014; Fisher, 1984).

Early conceptions of what is now known as social entrepreneurship emerged in the 1970s (Nicholls & Collavo, 2019). Fisher (1984) discusses the transition in the mid-1970s from mass mobilization to grassroots organizing. Social entrepreneurship is often critiqued for its reliance on collective action and community organizing methods (Nicholls & Collavo, 2019; Sud, VanSandt & Baugous, 2008), which can be interpreted due to its roots in the post-Fordist economic restructurings of the late 1970s (Sites et al., 2007). The term 'game changer' can be traced to baseball commentary from 1982, before an expanded uptake in economic and political commentary in the 1990s (Safire, 2008). Today, game changers are often discussed with social change and innovation (Avelino et al., 2017), constituting another often-financed approach to social change (Sites et al., 2007; Westley et al., 2016).

The framework of intersectionality was introduced by the Combahee River Collective in 1983 and later expanded upon as intersectional activism by Kimberlé Crenshaw in 1989 (Loopmans et al., 2021). This preceded third-wave feminism, which began in the 1990s (Evans, 2014). The 1990s also saw the introduction of several other strategies. Community of practice (CoP) was introduced by Jean Lave and Etienne Wenger in 1991 as a framework for understanding how knowledge is shared in professional communities (Lave & Wenger, 1991). Furthermore, in 1997 the term 'disruptor' emerged out of the Harvard Business School (Christensen, 1997), and in 1999 the community of inquiry framework was introduced (Garrison et al., 1999).

This shows that there is a range of approaches in this area, which may employ a broad variety of actors. Before determining which concepts or strategies would be most useful for acceleration of pro-sustainable transitions, a literature review was undertaken.

## **Methodology**

The purpose of the review was to explore discussions of communities of practice, game changers, disruptors and similar strategies. Literature was sought based on shared keywords, authors and publications. Communities of practice, game changers and disruptors were identified as three initial strategies to review, with the remainder of the strategies identified throughout the review process. The following series of literature reviews explores the background, functionality, variations and key parameters of the 12 identified strategies. Considerable variation is identified in the status and function of the strategies. They also address whether the strategies can be characterized as top-down, middle-out or bottom-up approaches.

Quantification of the list of identified strategies was conducted by citing data from the Altmetric database, which breaks down 'mentions' of the search term by source type, separating research outputs and publications from other sources of mentions. This quantification was undertaken to ensure that the concepts being reviewed were not too emergent or peripheral to later inform valuable and deployable strategies. The Altmetric database was selected for its broad coverage and variety of analytical metrics for interpreting search results. The results of the physical and digital strategies are listed in Table 1. The prominence of each term in the literature is primarily indicated by the 'research outputs' column, while the

‘mentions in policy documents’ column indicates how much uptake strategies may have had in political spheres. Unsurprisingly, the more recent digital strategies tended to return fewer results.

*Table 1: Mentions of strategies across the literature (Data Source: Altmetric Explorer).*

Strategy	Research outputs	Mentions in policy documents	Mentions in peer reviews
Community of Practice	14,162	2,290	156
Social Entrepreneurship	2,551	195	16
Mass Mobilization	2,331	1,518	69
Disruptors	1,699	880	33
Game Changers	867	99	5
Community of Inquiry	722	49	7
Community Capacity Building	470	96	8
Intersectional Activism	207	37	2
Digital Mobilization	1,889	1,608	15
Digital Storytelling	940	26	4
Virtual Community of Practice	225	8	1
Digital Artefacts	210	70	1

### *Analysis*

Two levels of analysis were undertaken: a content analysis and a VOSviewer analysis. The content analysis examined the whole body of literature for critical differences and was used to compile most parts of this review. VOSviewer is a data visualization software, and for that part of analysis, the same 53 texts were used in order to further understand key themes in the body of literature. VOSviewer was used because of the comprehensiveness of the software, which provides immediate digital 2D bibliometric graphs. According to Viswalekshmi et al. (2023) and Elshaboury et al. (2022), VOSviewer is emerging as a widely used network mapping tool. To prepare the data for use in VOSviewer, the bibliographical data for these texts was compiled using the Zotero reference manager application for input into the VOSviewer data visualization software. VOSviewer clusters and maps connections between keywords as indicated by the cluster colour and visualizes their frequency through the size of the nodes.

## **Results of the literature review**

### *Community of practice (CoP)*

A CoP is a group with a shared profession or field of activity, which comes together with a mutual desire to share knowledge, typically regarding a collective concern (Li et al., 2009; Wenger, 1999). These communities are typically informal, ever evolving and bound by mutually valued knowledge production (Wenger et al., 2002), as well as inter-generational participation between newcomers and older members (Lave & Wenger, 1991). The concept originates from education theory (Lave & Wenger, 1991; Wenger, 1998), but has been developed across a range of other disciplines since. If considering architects as middle actors (Janda & Parag, 2011) and acknowledging the proven need for further knowledge sharing to activate the agency of the profession (Simpson et al., 2020), it becomes clear that the CoP is an optimal middle-out strategy for a range of improvements.

In-person workshops, coaching, roundtable discussions and storytelling are tools which support the operation of a CoP (Lave & Wenger, 1991; Wenger, 1999; Wenger et al., 2002). A community coordinator is typically needed to guide the development of a CoP (Wenger et al., 2002). Where members wish to gain knowledge from a range of sources, dividing the workload is often successful, with members then reporting back to the group – documentation and recording of information is also critical (Wenger et al., 2002).

### *Social entrepreneurship*

The field of social entrepreneurship integrates and appropriates a variety of methods from the broader practice of community organization to generate positive and effective outcomes (Nicholls & Collavo, 2019). A social entrepreneur acts as a change agent within society, generating opportunities through transformative action (Maas & Grieco, 2017) and following a similar structure to standard entrepreneurship, but to generate social value over financial capital (Maas & Grieco, 2017). The concept of social entrepreneurship originates from business studies (Nicholls & Collavo, 2019) that note a common critique of social entrepreneurship and the capitalization on collective action. Approaches to social entrepreneurship may be collaborative and even interdisciplinary (de Bruin et al., 2017); however, these still constitute top-down approaches and as such are of less significance to the middle actor.

### *Mass mobilization*

Checkoway (1995) defines mass mobilization as the process of unifying people around a cause through a collective mass activity, such as protests, boycotts or strikes. Mass mobilization is one of the oldest strategies, and its origin cannot be attributed to any discipline. Shultziner and Goldberg (2018) argue that mass mobilization is comprised of three phases: origin, protest and outcomes. Grassroots movements which deploy mass mobilization tactics can be considered bottom-up actors, as the organizing, decision-making and activity come directly from the community, putting pressure on top actors (Finger & Princen, 1994). Finger and Princen (1994) argue that established organizations are functionally no longer grassroots movements but that their inability to dictate downward clearly rules out any top-down intervention. Grassroots movements which deploy mass mobilization tactics may indeed be considered bottom-up actors, as the organizing, decision-making and activity come directly from the community (Finger & Princen, 1994).

Mobilization organized or sponsored by established organizations may not be more effective than grassroots efforts by default, as the use of resources and the effectiveness of leaders are still critical factors (Shultziner & Goldberg, 2018). Social media, digital forums, planning workshops and visual artefacts are tools which support organization-led mass mobilization (Shultziner & Goldberg, 2018).

### *Disruptors*

Disruptors are agents that materially disrupt the status quo of their given industry through entrepreneurial action, acting as a force for change across one or more sectors toward a more equitable society (Burgelman & Grove, 2007; Nicholls & Collavo, 2019). The concept originates from the business sector (Christensen, 1997). Burgelman and Grove (2007) also discuss the cross-boundary disruptor, whose entrepreneurial actions significantly impact the status quo of an adjacent industry. Alpan and Gemici (2016) caution that disruptors must exercise ambidexterity and be capable of adapting different capabilities to enjoy the most success in driving innovation and change. From a business perspective, newcomers typically take the form

of start-ups (Burgelman & Grove, 2007). This may not be the case for all disciplines, as disruption may also be prompted by shifting discourse or social action (Seglem & Bonner, 2022).

Internal disruptors or cross-boundary disruptors may use a range of discipline-specific tools as available to them (Burgelman & Grove, 2007; Christensen, 1997). Disruptors and their capacity to drive change across one or more sectors (Nicholls & Collavo, 2019) are alluded to by Simpson et al. (2020), who discuss middle actors' potential to act as disruptors across interconnected disciplines. Simpson et al. (2020) discuss middle-out disruption as something which actors may stimulate through their everyday activities.

### *Game changers*

In the context of social change, a game changer can be defined as a macro trend or shift which shapes the trajectory of an industry or practice (Avelino et al., 2017). The concept, as it is discussed, originates from economic and political discourse (Safire, 2008). Innovative ideas or concepts which catalyse social innovation are seminal game changers, while external events which disrupt social innovation are exogenous game changers (Avelino et al., 2017; Westley et al., 2016). The endogenous game changer is the most significant approach for generating change, as it is the only variation to be developed and deployed by the actors themselves (Avelino et al., 2017; Westley et al., 2016). As endogenous and seminal game changers are generated directly and indirectly by the activity of actors in or adjacent to a given field, they can be employed as middle-out approaches.

A seminal game changer is typically driven by new research, policies, theories or concepts, which typically result from a range of efforts (Avelino et al., 2017; Westley et al., 2016). One could also consider conferences, seminars and publications as tools which enable such aggregation. Due to this nature, a seminal game changer cannot be perfectly targeted at a specific audience. Awareness of the phenomenon is still useful, however, as researchers can use their best efforts to predict and contribute to future seminal game changers (Westley et al., 2016).

### *Community of inquiry*

The community of inquiry is an organizing framework for groups within communities who share a mutual interest in a problematic issue and work to investigate, understand and overcome the issue (Shields, 2003). The framework is rooted in educational theory (Garrison et al., 1999) and can be defined as an intersection between cognitive, social and teaching presences; however, the presence of disciplinary experts is not required to facilitate the presence of teaching in a community of inquiry (Garrison et al., 1999; Sharp, 2017). As the community of inquiry forms organically without the presence of a shared domain or profession, the strategy lends itself to the bottom-up approach outlined by Panda (2007), with a focus on learning and participation.

Tools employed by a community of inquiry may include focus groups, storytelling, mapping exercises to gauge opinions and understanding and other accessible research tools (Shields, 2003). As a community of inquiry may have members from broad backgrounds, it may be necessary to test and develop methods during an intervention (Shields, 2003). Tools employed should support participatory democracy so all members can contribute (Shields, 2003). Like the CoP, a 'leader' is typically needed to guide discourse and support the group (Sharp, 2017; Shields, 2003).

### *Community capacity building*

Community capacity building is a practice which has been interpreted in a myriad of ways since its conception in 1992 and may also be referred to as community capacity development or capacity strengthening (Craig, 2007; McGinty, 2003; Sarapura, 2009). The strategy originates from a policy context, specifically environmental policy (Craig, 2007). Nonetheless, the practice principally centres around collaborating with communities to strengthen their capacity to engage with and inform social, political, economic or environmental change – often through policy development and the upskilling of community members (Craig, 2007). Community capacity building is often driven by top-down forces such as government agencies (Varcoe et al., 2011), unlike the more community-driven community of inquiry. In response to this, Varcoe et al. (2011) propose a two-way approach, where the sharing of knowledge and experience is welcomed in both directions. Varcoe et al.'s (2011) two-way approach to community capacity building embodies a middle-out approach, as both upstream and downstream influence is generated (Simpson et al., 2020).

Two-way community capacity building may employ two-way interviews, roundtable discussions, storytelling or visual artefacts as tools (Varcoe et al., 2011; Singh, 2011). Visual artefacts, whether they be physical or digital, can support this strategy as tools for collaborative research and knowledge sharing (Singh, 2011). The inclusion of incentives may strengthen capacity-building initiatives within professional environments (Sarapura, 2009). With a two-way approach, integrating back-and-forth discussion into the methods employed is critical (Varcoe et al., 2011).

### *Intersectional activism*

Ortiz-Wythe et al. (2022) characterize intersectional activism as activism which consciously considers the intersectional dynamics between social hierarchies such as race, gender, class or sexuality. Intersectional activism does not originate from a given discipline, but instead from black feminist activism (Crenshaw, 1989; Loopmans et al., 2021). From a decolonial perspective, Apostolopoulou et al. (2021) argue the importance of analysing intersectional dynamics to equitably advance climate justice, environmental policy and conservation policy.

As a framework, intersectionality may be meaningfully employed by both top and bottom actors, who naturally would employ different methods (Heaney, 2021). While intersectional activism originates from bottom-up grassroots organizing, the core principles can and should be extrapolated and applied to any method of community organizing (Apostolopoulou, et al., 2021).

### *Digital mobilization*

Digital mobilization refers to collective action catalysed by social interaction on digital forums, often regarding a political issue (Koc-Michalska & Lilleker, 2017). Collective action occurring due to digital mobilization may happen physically rather than digitally – often digital organizing tactics strengthen the coherence and turnout of physical action (Koc-Michalska & Lilleker, 2017; Morgan & Davis III, 2019). Earl and Kimport (2011) characterize digital mobilization as operating similarly to standard mass mobilization, but without the organizational demand of co-presence, due to the flexibility afforded by the internet. Like mass mobilization, digital mobilization may be considered a bottom-up approach if initiated by individuals or groups of individuals (Oyedemi, 2020), or middle-out if initiated by an existing organization (Finger, 1994).

Social media, digital forums, surveys, videos and digital artefacts are tools which may support organization-led digital mobilization (Shultziner & Goldberg, 2018). If the result is in-person action, a hybrid approach may be appropriate, utilizing traditional mass mobilization methods as well (Koc-Michalska & Lilleker, 2017). Despite the educational and organizational value of digital tools, it has been observed in some contexts that the opportunity for direct digital engagement with political actors may be limited or even non-existent (Koc-Michalska & Lilleker, 2017).

### *Digital storytelling*

Digital storytelling refers to the act of delivering information in the format of a short story through various forms of digital media, such as video audio, and static imagery (Pasupa & Pasupa, 2017; Robin & McNeil, 2019; Rossiter & Garcia, 2010). Pasupa and Pasupa (2017) argue that digital storytelling can play a critical role in influencing behavioural change toward sustainable outcomes, due to the strategy's persuasive capabilities when well-executed. Gubrium and Scott (2010) also explore examples where digital storytelling has been used as a workshop tool, in which participants are empowered to communicate stories from their positionality and worldview. As digital storytelling is typically conducted by actors in any given field (Robin & McNeil, 2019), it can be employed as an effective middle-out approach. Digital storytelling may also be employed as a tool to support broader strategies referred to in this paper.

### *A virtual CoP*

A virtual CoP reflects the traditional community of practice as defined by Lave and Wenger, in that participatory learning among a group with a shared profession is the focus (Lave & Wenger, 1991; Thoma et al., 2018; Wenger & Lave, 1999). Dubé et al. (2005) stress that the structuring characteristics of physical and virtual communities of practice are different, and one looking to deploy these concepts must be aware of the differences. Research before the COVID-19 pandemic indicated that in-person meetings were typically critical to the success of a virtual CoP, as they better facilitate the development of relationships (Hildreth et al., 2000; Dubé et al., 2006). There is still a limited body of literature exploring shifts which have occurred since the COVID-19 pandemic. However, Lehr and Vaughan (2023) found virtual communities of practice to be a critical tool for improving adaptability and resilience in the wake of the COVID-19 pandemic. Fayez et al. (2023) similarly found that a virtual CoP supported teachers to adapt to pressure and uncertainties during the COVID-19 pandemic. Due to the discussed similarities to the traditional CoP, the virtual alternative can also be considered a middle-out approach.

Typical tools which may be employed to support a virtual CoP include video calling, email, digital storytelling and discussion forums or threads (Dubé et al., 2005, 2006). The virtual CoP may often be more fluid than the traditional CoP, due to the nature of digital systems (Li et al., 2009). In-person methods used in a standard CoP may also be employed to supplement digital methods (Dubé et al., 2005). A shared database both for the viewing and recording of information is also critical when operating a virtual CoP (Dubé et al., 2006).

### *Digital artefacts*

Digital artefacts, also commonly referred to as digital objects, have been conceptualized in various and often complex ways throughout the literature (Hron et al., 2022). The clearest definition of a digital artefact is an entity generated by computing practices (Ekbia, 2009), with examples including social media profiles, blogs, webpages and repositories or databases (Ekbia, 2009; Kallinikos et al., 2013). Regarding social change, Mitchell et al. (2017) discuss the value of visual digital artefacts for disseminating knowledge

beyond publications to reach broader communities and support sustained participatory dialogue. As such, visual digital artefacts may facilitate a two-way approach in research scenarios, and examples of such artefacts include digital images, paintings, maps and slideshows (Mitchell et al., 2017; Singh, 2011). A digital artefact can be considered more a tool than a strategy of its own (Ciriello et al., 2019) and therefore may feed into a variety of approaches to stimulate change.

## **Analysis**

### *Groupings and content analysis*

From the literature review, content analysis determined a list of 16 strategies (Table 3). Of these, 10 have been identified which embody middle-out approaches. The positionality of each strategy in terms of top-down, bottom-up and middle-out approaches has been established in the literature review. For the middle-out approaches reviewed, strategies with upstream and downstream influences are differentiated from those with sideways influences (Janda & Parag, 2011; Simpson et al., 2020). It became evident during the literature review that not all the strategies hold the same status, for example digital artefacts are tools (Ciriello et al., 2019) and digital storytelling is a mediatic activity (Gubrium & Scott, 2010), both of which may support broader strategies or practices. Furthermore, intersectional activism is omitted here, as it is more appropriate to apply as a fundamental principle for any method of organizing (Apostolopoulou, et al., 2021).

A CoP is notable for its capacity to influence upstream and downstream, as well as sideways. Some strategies may be characterized as middle-out approaches, dependent on the actors responsible for carrying them out. For example, community capacity building is typically a top-down measure, but a two-way approach empowers middle actors to exert influence from the middle upwards (Varcoe et al., 2011). The game changer may be a middle or top actor, and mass mobilization may manifest as bottom-up action, or middle-out action if driven by an established organization. These variations of strategies offer a greater nuance of middle-out approaches than initially expected, as well as several notable bottom-up and top-down strategies. While different approaches, strategies and tools will naturally suit different actors, causes and contexts, this review provides a base point for future research and the development of more detailed frameworks.

An additional analysis is shown in Table 3, based on Simpson et al. (2020), who categorize the actions of groups based on their function into enabling, mediating or aggregating. Enabling refers to actions which promote the adoption of something, mediating refers to actions which facilitate knowledge sharing, and aggregating refers to the process of knowledge accumulation or development across multiple projects or scenarios (Simpson et al., 2020). Overall, these show limited patterns, as most directions of influence can have the most functions. However, it also shows that aggregating is challenging from the bottom-up approach, just as middle-out approaches are most likely to engage in mediating.

Table 3: Positioning of strategies based on direction of influence.

Direction	Strategy	Enabling/ disabling	Mediating	Aggregating
Bottom-up	Grassroots mass mobilization	•		
	Grassroots digital mobilization	•		
	Community of inquiry		•	
Middle-out: Up/Down	Organization-led mass mobilization	•		
	Organization-led digital mobilization	•		
	Internal disruptors	•		
	Digital storytelling	•	•	
	Community of practice*		•	
	Two-way community capacity building		•	
Middle-out: Sideways	Cross-boundary disruptors	•		
	Community of practice*		•	
	Virtual community of practice		•	
	Seminal game changers			•
Top-down	Endogamous game changers	•		
	One-way community capacity building	•		
	Social entrepreneurship		•	•

#### Accessibility analysis

Accessibility is still recognised as a considerable issue for digital methods of organizing and mobilization, in that digital activists are more likely to be financially and racially privileged, to speak English and to belong to the middle class or above (Fenton, 2016). When planning entrepreneurial action, it may be more impactful to function as a game changer, but acting successfully as a disruptor may be less complex and more accessible (Alpkan & Gemici, 2016; Westley et al., 2016).

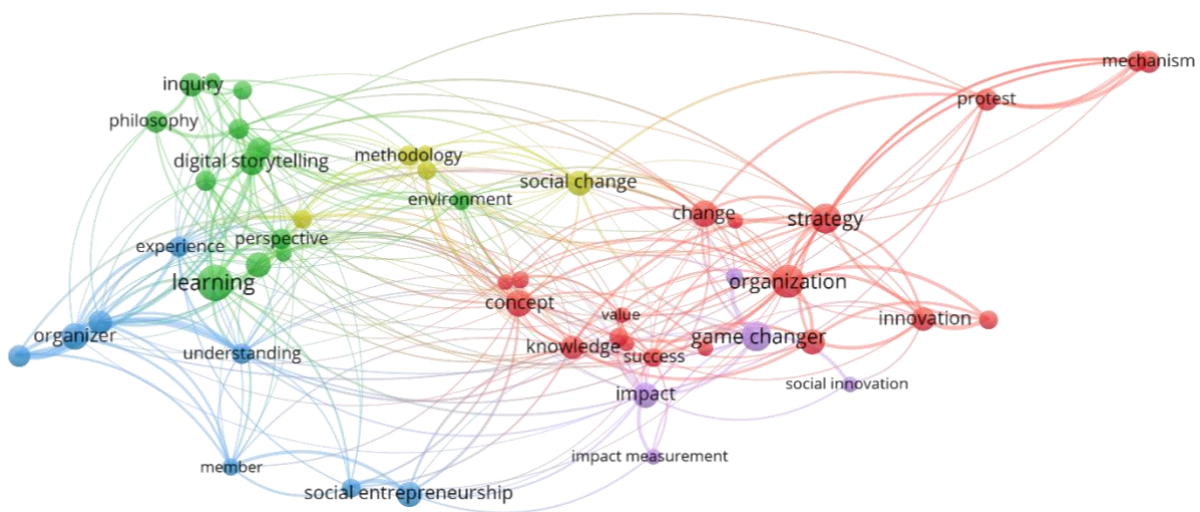
The literature review touched on the rapid development of digital organizing strategies and tools following the COVID-19 pandemic, primarily for virtual communities of practice, which had historically relied on ancillary in-person meetings (Dubé et al., 2006; Hildreth et al., 2000). However, the accessibility of digital community and connectivity practices is likely to continue to shift and improve drastically.

Another aspect of accessibility is physical accessibility, and there is an existing body of evidence of certain groups tending to be more represented in various in-person formats (Bora et al., 2017; Meyer et al., 2021). Such formats might unintentionally privilege able-bodied people in retirement, while lower representation can easily happen for groups with reduced mobility or neuroatypical sensory needs, or those experiencing higher demands on their time, such as parents, and especially single parents. The issues associated with access to digital media should be considered against the historical issues associated with access to events in person. Further innovation is needed in this area to achieve effective and truly inclusive approaches.

#### VOSviewer analysis

The VOSviewer analysis focused on the frequency and interconnectivity of the keywords in the reviewed articles (Image 1). The most significant cluster is depicted in red and groups key terms relating to the recurring themes of organization, strategy, concept, knowledge, focus on change and mechanisms to

achieve change or even specifically protest as one of the mechanisms, but it also includes innovation as an important aspect. Of the strategies listed amongst this cluster's key terms, the majority can be classified as enabling/disabling strategies, based on the framework presented by Simpson et al. (2020). Moreover, these concepts relate to how to organize and facilitate change. The green cluster focuses on learning, storytelling, philosophy, inquiry and perspective, which explain the importance of shared knowledge and dissemination of that knowledge. The blue cluster contains terms related to the actors of the change such as the organizers, members and social entrepreneurs and their experience and understanding. The yellow and purple clusters are small and appear to deal with a methodology for social change (yellow), impact measurement, social innovation and game changers (purple). Jointly, these clusters describe the key practices which any actors need to engage with in this area.



*Image 1: VOSviewer keyword clusters and co-occurrence in the reviewed literature.*

## Discussion

This article situates community organization and connectivity strategies within their historical context from the start of the 20th century. In some ways, efforts to form groups and drive change through those can be seen as an antithesis of Western individualism, which was over the same period starting to exercise global domination (Siedentop, 2014). This collection of the different methods can be useful for scholars in any of the areas interested in fostering and accelerating change but is especially useful within the context of the contemporary understanding of the immediate and urgent need for climate action.

The review considers a range of disciplinary approaches which have helped with localised development, but also indicates a possible lack of connectivity between and across the approaches. There is also similarity in the methods and tools used by diverse groups when pursuing social change. Of these, communities of practice, mass mobilization and, to a lesser extent, communities of inquiry stand out as the most used. Meanwhile, most digital methods can be seen as more recent additions to this body of knowledge.

The content analysis undertaken shows that middle-out approaches might be especially critical for climate action because of the limited capacity for bottom-up approaches to aggregate or even mediate, and because there is a limited capacity to drive all the needed change using top-down approaches. This is where the range of middle-out approaches can be critical for transitions. The example of the introduction of 'transition brokers' in some European countries (Cramer, 2020) signals a recognition of the importance

of supporting middle-level facilitation for change. This shows that even the leading top-down initiatives are starting to recognise the importance of using middle-out strategies to increase the quality of recruitment, engagement and participation of large communities of actors. Such a broad range of participation is necessary for the much-needed acceleration towards climate action.

The VOSviewer analysis summarizes the needed competencies for action to consist of three main dimensions: organizational strategy and mechanisms, shared perspectives and learning and a set of actors with a shared understanding. These key components are complemented by the methodological approaches and impact factors and measurements.

Finally, the accessibility analysis shows mixed trends with the potential for both a decrease and increase in accessibility for organizational activities due to the introduction of digital media. Further research is needed in this area to evaluate these evolving patterns.

## Conclusion

The selection of strategies reviewed in this article offers a range of approaches for individuals or groups of individuals wishing to stimulate the acceleration of sustainable transitions within their field of practice. These strategies originate from a range of disciplines. This review has taken an initial step toward establishing a cross-disciplinary repository of community organizing and connectivity strategies for the collective benefit of all disciplines seeking to accelerate sustainable transitional change. The emphasis on middle-out approaches builds upon prior literature, acknowledging the importance of empowering middle actors to influence sustainable transitions through diverse methods instead of relying on the perhaps outdated bottom-up versus top-down dichotomy. Further research in this area may include the application of these principles to specific disciplines, further analyses of the practical requirements of the strategies or the development of detailed deployment frameworks and field guides.

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