

Expanding Our Understanding of Backbone Organizations in Collective Impact Initiatives

Wendy DuBow
National Center for Women & IT
University of Colorado, Boulder
417 UCB
Boulder, CO 80309
(303) 735-6671
wendy.dubow@colorado.edu (corresponding author)

Sarah Hug
University of Colorado, Boulder
ATLAS CB 322
Boulder, CO 80309
(303) 735-6671
sarah.hug@colorado.edu

Brian Serafini
Center for Evaluation & Research for STEM Equity
University of Washington
Savery Hall M274, Box 353340
Seattle, WA 98195
Phone: (206) 543-4810
valgaav@uw.edu

Elizabeth Litzler
Center for Evaluation & Research for STEM Equity
University of Washington
Savery Hall M297, Box 353340
Seattle, WA 98195
Phone: (206) 543-4810
elitzler@uw.edu

Abstract

This article explores the question of what mechanisms a backbone organization uses in a collective impact initiative to help diverse participants make organizational and social change. Qualitative data gathered from interviews with and observations of the participant organizations

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

illustrate the ways that the backbone organization facilitated movement toward a common goal, making change. In this initiative, the participants were responsible for making their own organizational changes, which in turn, help to change the larger inequitable ecosystem. Data revealed five key mechanisms the backbone organization used to facilitate change-making among participating organizations: regular convenings, accountability, national visibility, top-level leader involvement, and coaching. These mechanisms helped participant organizations integrate new knowledge and implement multi-pronged, customized strategies to navigate systemic change together. Finally, four suggestions for intentional backbone facilitation are proposed to help strengthen collective impact initiatives.

Keywords: Applied sociology; backbone organization; collective impact; organizational change; social change; work/industry/organization

Introduction

When a social problem is deep-rooted and multi-faceted, collective impact initiatives are often used to combat these seemingly intractable issues. One topic in the news almost daily has been the lack of gender equity in the technology workplace. Changing the culture of the computing classroom and the tech industry so that it meaningfully includes women and people of color, who are under-represented in the field, is an issue that has garnered increasing attention. Throughout the last decade, researchers and policymakers have turned their attention to women's and racial-ethnic minorities' under-representation in the technology sector. Regarding gender diversity, in the US, women occupy only 26% of computing occupations and are awarded only 18% of computer and information sciences bachelor's degrees (DuBow, 2017). The causes of the

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

problem are complex and varied, but most researchers agree that some combination of workplace conditions, stereotyping, and gender socialization are to blame (Ashcraft & Blithe, 2010; Ashcraft, McLain, & Eger, 2016; Cohoon & Aspray, 2006).

In recent years, funders and practitioners have embraced collective impact to enact community-driven social change and to solve similarly complex problems. Kania and Kramer (2011, p. 39) defined collective impact as:

...long-term commitments by a group of important actors from different sectors to a common agenda for solving a specific social problem. Their actions are supported by a shared measurement system, mutually reinforcing activities, and ongoing communication, and are staffed by an independent backbone organization.

Proponents of collective impact argue that the model is superior to traditional social change interventions in which single non-profit organizations, government agencies, and businesses operate in isolation, often in competition over scarce resources and jurisdiction (Hanleybrown, Kania, & Kramer, 2012; Kania & Kramer, 2011). To date, collective impact initiatives have been formed at the local, national, and global levels to address an array of issues including economic development (Easterling, 2013), public nutrition (Boyce, 2013), and climate change awareness (Ledley, Gold, Niepold, & McCaffery, 2014), to name a few. In the current collective impact literature, initiatives with the national scope of this project are scarce.

While popular, collective impact initiatives have been criticized as relying too heavily on a management paradigm in which top leaders in a field form multi-sector collaborations to improve an existing system (Cabaj & Weaver, 2016). But for many social problems - including

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

the problem of women's meaningful representation in computing - the system requires reformation or even transformation. As Cabaj and Weaver (2016) argue, this requires collective impact partners to work within a movement-building paradigm. Under a movement-building paradigm, establishing a shared agenda becomes building community aspirations; enforcing shared measurement becomes embracing strategic learning; engaging in mutually reinforcing activities becomes leveraging the partners who are best positioned to enact change; and continuous communications becomes inclusive community engagement. Under these revised collective impact conditions, partners are empowered to make change in their own organizations and communities, and, ideally, a movement is born. Such a framework provides a promising solution to the problem of gender diversity in tech fields.

This raises the question, how do collective impact initiatives build a movement? Early collective impact essays frequently attributed the collaboration's success to the presence of one or more backbone organizations, that is, a separate organization tasked with facilitating the major operations necessary for collaboration (Hanleybrown, Kania, & Kramer, 2012; Kania & Kramer, 2011; Turner, Merchant, Kania, & Martin, 2012). The reasoning is straightforward: in the best of circumstances, building and maintaining a coalition of leaders with competing interests and divergent agendas is a daunting task. Backbone organizations facilitate the process by providing the "glue" that bonds participants to the mission; backbone organizations provide the infrastructure, support, and leadership required to steer the collaboration and hold participants accountable. Indeed, Kania and Kramer (2011) went as far as to claim that "the expectation that collaboration can occur without a supporting infrastructure is one of the most frequent reasons why [the collaboration] fails" (p. 40). For most collective impact proponents, then, the success of

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

the initiative depends on the extent that backbone organization(s) effectively serve as an administrator of change.

Cabaj and Weaver's (2016) revision to collective impact also recognizes that backbone organizations are vital to facilitating the collaboration's success. They, however, suggest that practitioners look beyond the backbone organization as an administrator of change and instead recognize their potential as "containers for change" (p. 9). The backbone organization can also be viewed as an entity that can educate, build trust, provide a forum for difficult conversations, support members' efforts, and, ultimately, empower members to become change agents.

We explore how a backbone organization facilitates partners' change efforts in the context of a collective impact initiative designed to increase women's meaningful participation in the technology sector. Specifically, we address the question, what are the mechanisms a backbone organization uses to help participating organizations make change? Our study is a departure from prior analyses of collective impact which are limited by their reliance on anecdotal, post-hoc descriptions of successful initiatives (Wolff, 2016). The backbone organization in this study is in the mid-stages of collective impact, and, while results appear promising, success is not guaranteed. Perhaps more importantly, our study is one of the few to move beyond descriptions of ideal backbone characteristics and instead provides a rare glimpse into the mechanisms through which backbone organizations administrate collective impact.

The evolution: From administrator of change to incubator of change

As the collective impact framework has evolved, so too has the concept of the backbone organization. In this section, we document how the conceptions of backbone organizations have shifted over time. Specifically, we explore how and why practitioners moved beyond

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

descriptions of the backbone organization as a managerial, administrative entity to a more dynamic entity responsible for transforming participants into change leaders, i.e. building a movement (Cabaj & Weaver, 2016).

When collective impact debuted, proponents emphasized the administrative role of backbone organizations. Early essays defined backbone organizations as separate organizational entities that, with the help of a dedicated staff, provide participants with infrastructure support and direction (Kania & Kramer, 2011; Hanleybrown, Kania, & Kramer, 2012; Turner et al., 2012). This begged the question, what are the typical operations that backbone organizations oversee? Further analyses of successful (later-stage) collective impact initiatives revealed that backbone organizations direct six common activities: establishing the common agenda, coordinating activities, standardizing data and measurement, building public will, advancing policy, and mobilizing funding (Turner et al., 2012). In other words, backbone organizations shoulder a considerable portion of the *operational* burden of collective impact.

But good administration also requires strong management, and early descriptions of collective impact were quick to stress the importance of high quality backbone leadership (see especially Turner et al., 2012). Although proponents were careful never to assign backbone leaders formal authority over the initiative, they often invoked authoritative language that clearly conveyed power and control. For instance, Hanleybrown, Kania, and Kramer (2012, p. 7) proposed that the backbone organization “initiates,” “takes the lead,” and “drives” collective impact. Even in the absence of formal authority, some participants may still be reluctant to relinquish control to the collaboration and its leadership. For these reasons, proponents argue that the most effective backbone organizations are those perceived as neutral and objective (Klempin,

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

2016; Turner, Errecart, & Bhatt, 2013). Thus, with effective leadership and the appearance of objectivity, backbone organizations assume a *managerial* burden, guiding the initiative.

From the perspective of would-be collaborators, the inclusion of a backbone organization is an attractive feature of collective impact. Its presence offsets the administrative burden of participation, an important feature for organizations that lack the time and resources to initiate collaboration on their own. Indeed, when Turner and colleagues (2012) asked collective impact partners to evaluate their backbone organizations' effectiveness, they found that backbone value was strong, particularly when it came to guiding vision and strategy and supporting aligned activities. As one of their respondents recounted, without backbone organizational support "...there wouldn't be any coordinated program at all" (Turner et al., 2012, para. 4). Thus, early writings tended to focus on the operational and managerial aspects of backbone organizations, characterizing them as *administrators of change*.

Recent case study evidence suggests that, in addition to leading the collaboration and executing its operations, backbone organizations must also manage the perceptions and expectations of its members (Kania, Hanleybrown, & Juster, 2014; Prange, Allen, & Reiter-Palmon, 2016). These studies generally find that participants' relation to the collaboration is subjective, malleable, and not always aligned with the principles of collective impact. For instance, collaborators must come to terms with the iterative trial-and-error process that collective impact requires, accepting that predetermined solutions are unlikely to be effective when addressing complex, systemic social problems. Given that organizations usually reward short-term solutions and quick profits, this principle of collaboration may trouble some members (Hanleybrown, Kania, & Kramer, 2012; Kania & Kramer, 2013; Prange, Allen & Reiter-Palmon,

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

2016; Weaver, 2016). Also, participants must place a high level of trust in the backbone organization and co-collaborators. In the absence of trust, participants will avoid communication, resist participating in coordinated activities, and refuse to share sensitive data (Cabaj & Weaver, 2016; Kania, Hanleybrown, & Juster, 2014; Prange, Allen, & Reiter-Palmon, 2016; Weaver, 2016). Finally, participants should expect to share credit for successes (Kania, Hanleybrown, & Juster, 2014) and pursue an ecosystem of shared value in which stakeholders accept that improving their competitive advantage or bottom line can occur simultaneously with creating value for the public (Kramer & Pfitzer, 2016; Porter & Kramer, 2011). Thus, much of collective impact – and, by extension, much of the work of the backbone organization, centers on “...changing the attitudes and behaviors of a diverse group of stakeholders” (Turner, Errecart, & Bhatt, 2013, para. 2). As administrators of change, backbone organizations therefore also focus on intangible, relational outcomes.

The backbone role as administrator of change can thus explain the conditions under which participants will join collective impact as well as the types of operational strategies that reduce the burden of participation for time- and resource-strapped organizations. Yet even under the best backbone stewardship, what ensures that participants will return to their organizations and communities and be willing and able to enact change? As Weaver (2016) notes, organizations tend to be risk-averse, making it difficult to convince key constituents to enact change. In the case of gender diversity in tech, organizations may be especially resistant, as attempts at organizational change threaten existing power structures and challenge deeply-held beliefs about gender roles.

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

Recent discussions of collective impact encourage practitioners to move beyond viewing backbone organizations as just a source of administrative support, arguing instead that backbone organizations can pursue strategies to facilitate rather than direct participants' change efforts. For instance, Wolff (2016) asserts that prevailing discussions of collective impact miss a core purpose of backbone organizations, i.e. to *build* coalition leadership rather than *be* coalition leadership. Backbone organizations should help transform collective impact participants and their organizations into change-makers, rather than micro-manage the initiative in a top-down fashion. Cabaj and Weaver (2016, p. 9) elaborate on this notion, arguing that backbone organizations should serve the collaboration as a "container for change," facilitating participants' change. By building coalition and guiding members' change efforts, backbone organizations facilitate movement-building, and collective impact comes to resemble other social change efforts (Cabaj & Weaver, 2016; Christens & Inzeo, 2015). This perspective views backbone organizational support as more than managing participants' attitudes and behaviors but rather transforming participants into agentic change leaders.

But what incubation strategies can a backbone organization pursue to ensure that participants are effective in the collaboration as well as in their home organizations? In the sections that follow, we describe the results of a study in which we explored how a backbone organization facilitated members' organizational change efforts. The collective impact initiative, supported by NCWIT, brought together participants from a wide variety of academic institutions and industry employers with the goal of increasing women's meaningful participation in computing. Our study of this initiative explores the following research question: What are the mechanisms a backbone organization uses to help participating organizations make change?

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

Methods

Participants in this study were members of a collective impact initiative facilitated by the National Center for Women & Information Technology (NCWIT), a non-profit focused on making national change on a broad societal problem. NCWIT's mission is to significantly increase the meaningful participation of women in the field of technology. To do so, NCWIT brings together more than 1,100 corporations and startups, academic institutions, government agencies, and non-profit organizations to make the organizational and social changes in their various sectors that will enable movement forward on this entrenched, historic problem. The NCWIT Pacesetters program is one of many initiatives NCWIT has undertaken since its inception in 2004. The Pacesetters program involves a subset of NCWIT's member organizations, and in its focus and approach epitomizes collective impact. This analysis focuses on data from the Pacesetters program to understand, from the participants' point of view, how the backbone organization supports them to make change.

The Pacesetters program has two goals that enable social change: a) participants make organizational change by setting and then striving to achieve measurable goals for increasing women's participation in the technology field over a two-year timeframe b) participants practice disruptive thinking through engaging in a national project. The NCWIT theory of change proposes that larger societal change (i.e. the increased participation of women in technology) will be achieved through a preponderance of individual organizations making change (e.g. educating, recruiting, retaining, and advancing more women in the field). Because the problem of a lack of diversity in the technology sector is a historically stubborn problem at a national (and global) level, and because it involves both the public and private sectors, both educators and

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

employers, NCWIT recognizes that prompting post-secondary institutions and businesses to recognize and address the issue can be counted as a major outcome. It is also a critical piece of the Pacesetters program that approaches are not dictated by NCWIT, but rather the participating organizations decide for themselves what they will do to attack the problem in their own organizations. The program is comprised of representatives from large and small industry employers as well as faculty and administrators from colleges and universities. As will be described below, the role NCWIT plays in the Pacesetters program is that of a backbone organization, providing coherence to organizations that would not typically work together, and in fact, have little other opportunity or reason to cooperate.

The authors chose a qualitative approach to this research study, utilizing a situative perspective to better understand how collective impact participants make meaning of their participation in this collective endeavor. A situative perspective engages in understanding research participants' processes for making meaning for themselves (Mehan, 1992). Through the focus on participant meaning-making, the work of the backbone organization becomes visible, illustrating how the backbone supported participant change-making.

Authors DuBow, Serafini and Litzler work as external and internal evaluators for NCWIT. These authors were participant observers during the Pacesetters bi-annual in-person meetings. This observation enabled them to understand the program from a third-party, social science-informed perspective (rather than simply based upon the participants' own perspectives) and facilitated analyses for this article. Author Hug works as a research and evaluation consultant for NCWIT and has not historically been involved in the Pacesetters program.

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

The focus of this data collection, the second cohort (2013-2014) of the Pacesetters program, consisted of 39 organizations from across the US—20 post-secondary institutions and 19 private companies. These organizations comprised a variety of industry sectors including telecommunications, banking, social media, hardware and software, email delivery, and video advertising. The education institutions included private and public post-secondary institutions, small liberal arts schools, historically black colleges and universities, large technology-focused universities, and research-focused universities. Within the Pacesetters program, each organizational participant commits a team of two to four individuals to represent their company/college.

While both the post-secondary and industry sectors in the US are concerned with the lack of diversity in technology, they rarely work together on these issues. Thus the Pacesetters program brings together a very diverse set of stakeholders, an important element of success in collective impact initiatives (Cabaj & Weaver, 2016). Importantly, for an organization to be a participant in the Pacesetters program, the team is required to include a variety of roles from across the organization; thus, the Pacesetters program incorporates different perspectives from within a single organization and across the program (Kania, Hanleybrown, & Juster, 2014).

The Pacesetters commitment entails working on a joint national initiative related to increasing women in technology and also working within their own organizations to recruit or retain a certain number of women, a goal referred to as “net new women” (NNW). The NNW goal is defined as technical women who would otherwise not have pursued or remained in computing majors or careers. As part of the “strategic learning approach” (Cabaj & Weaver, 2016) and to acknowledge the “radically different perspectives” (Kania, Hanleybrown, & Juster,

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

2014) and very real differences between the various sectors and participants, Pacesetters participants decide as a team how they will achieve this goal. It is not prescribed by the backbone organization.

For the cohort in this study, the NNW goal was 1,614, which they nearly met with 1,388. The cohort's national project was titled "Transforming Technical Job Ads," a project intended to leverage the university-corporate partnerships by co-writing inclusive job ads to attract a more diverse technical talent pool. This resulted in a Job Ads Toolkit which helps organizations nationwide examine their job advertisements for bias (www.[organizationname]/jobdescriptionanalysis).

The primary dataset for this qualitative research is transcripts from 18 semi-structured interviews (12 post-secondary institutions and 6 companies), conducted by telephone between December 2013 and January 2014 with members of the Pacesetters teams. Interview respondents typically held a leadership position in their organizations, such as director of human resources or regional manager of diversity and inclusion in the companies, and full professor or department chair in the post-secondary institutions.

The interviews were conducted as part of the external evaluation of the Pacesetters initiative by authors DuBow and Litzler, with author Serafini observing. After regular meetings over a period of several months discussing the collective impact literature and the Pacesetters program history and evolution, author Hug used a thematic coding approach utilizing NVivo software.

Coding was iterative, and both deductive and inductive. Interview transcripts were coded using domain analysis (Spradley, 1980). Author Hug searched for units of meaning within the

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

data, coding interview transcripts for examples of “cover terms” within broader “domains.” Taxonomies were then constructed linking coded examples to domain categories. Codes were low-inference, allowing the participants’ meaning-making strategies to be highlighted, and were based on our understanding of backbone organizational functions and collective impact from the literature. Given our goal to highlight participating organizations’ perspectives, interview respondents’ interpretations of backbone strategy and action were privileged over other forms of data, such as observation or document review, when there were differences. Example codes included: “backbone provides leadership regarding vision,” “interviewees describe trust across Pacesetters,” “interviewees describe coordination/collaboration with other CI participant organizations,” “internal target audience is increasingly aware of the initiative,” and “national reputation of backbone supported strategy.” At regular intervals, the entire author team met and reviewed the coding schema as well as a selection of excerpts assigned to each code. Coding evolved over time from a focus on providing evidence that the backbone was fulfilling the list of functions described in earlier collective impact literature (e.g. Kania & Kramer, 2011) such as helping to develop a common agenda, to an emphasis on how, or by what mechanisms, the backbone secures and maintains participant commitment.

Results: How the backbone organization helped participants make change

Emergent coding of the qualitative data indicated five ways NCWIT’s backbone support helped participants in this collective impact initiative work toward change:

- (1) Convenings - NCWIT’s convenings of the Pacesetters organizations created cross-sector collaboration, developed a trusted network of change makers, and focused members on collective strategic learning.

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

(2) Accountability - NCWIT facilitated accountability through the initiation of goal setting, regular reporting, and the development of an environment supportive of positive peer pressure for change making.

(3) National visibility - NCWIT's national visibility and reputation facilitated Pacesetters' organizational efforts by making it easier to spend time and effort on the cause, providing a way to unify and align multiple initiatives, and elevating the conversation about and profile of the social change initiative.

(4) Top leader involvement - NCWIT's requirement of top-level leader involvement from each Pacesetters organization enabled movement building by increasing awareness of the social problem addressed in the initiative, building constituency within organizations, and creating opportunities for authentic engagement of leaders in the work of the collective.

(5) Coaching - NCWIT provided a coach to distill complex knowledge and facilitate the development of customized multi-pronged strategies with the goal of helping Pacesetters navigate systemic change in their organizations. The coach brought in other experts from NCWIT with different areas of expertise to support actions toward change, as needed.

Backbone organization convenes participants

As a backbone organization, NCWIT held bi-annual convenings for Pacesetters teams. The meetings were designed to encourage change-making action through building cross-sector collaborations, developing professional networks of like-minded technical professionals, and solving problems through strategic learning.

Cross-sector convenings facilitated by a neutral party created opportunity for understanding multiple aspects of the social problem and catalyzed new types of collaborative

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

efforts across sectors. Pacesetters annual roundtable meetings bring together groups with different perspectives; the ability to share expertise across sectors led to better understanding of how to influence change in the field of computing. For example, one corporate Pacesetters representative described the utility of engaging corporate recruiters in conversations about gender equity so that academics can better prepare students for the workforce:

In Pacesetters, what companies need to understand is the diversity of majors that prepare students for computing careers. They could find really great talent but their algorithms, when they sift through resumes and reports and so forth won't even give them those majors. They don't know those majors exist, right? So having an industry recruitment professional in the room [at the roundtables] who can hear the conversation regarding relevant majors allows her to take that information back and participate in a way that benefits our organization.

Pacesetters convenings created an opportunity for extended conversation across sectors. It is from these conversations that this corporate representative was able to see what linkages were missing between post-secondary departments and the tech industry. This human resources leader came to realize that unless companies could understand that the new computing majors being offered were both rigorous computer science and attractive to students of color and women, then companies would miss opportunities to add diversity to their employee base. This epiphany, and others like it, would be impossible without in-person, cross-sector communication. The convenings thus revealed systemic issues and led to important realizations such as this one, which lent additional focus to the Pacesetters' actions as they enacted change in their own organizations.

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

According to interview data, the meetings also built a trusted network of other technical professionals who shared values. Those interviewed described how the convenings developed a sense of belonging among participants (72%) as well as instituted a sense of trust (28%). One respondent described how Pacesetters connects participants, forming new relationships around shared aspirations: “[The convenings] have offered a space for dialogue with like-valued organizations that we would not normally get to brainstorm and collaborate with.” Another respondent shared how helpful it has been to build a professional network that is focused on change. This faculty member also described how trust was built through sharing and teamwork among Pacesetters:

I think that the roundtables have been really great, and I think I've mentioned already, that I think the sharing is very helpful, being able to network with other members. And all the other groups are so open to sharing what they're doing, it's definitely a feeling of being a part of a team and that we're working towards the same goal.

Because gender equity in computing is sometimes perceived as a threatening topic, proponents often feel isolated in their home organizations. Some of the academic Pacesetters representatives were the lone advocates in their home departments; some corporate members found it difficult to get their profit-focused organization to address diversity in a meaningful way prior to joining Pacesetters. Thus, the convenings were significant for enabling participants to draw support from trusted colleagues all working on increasing NNW.

Strategic learning—a tenet of Collective Impact 3.0—involves using data to inform practice and, through authentic community engagement, sharing lessons learned with others in

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

the collaborative effort. As Pacesetters organizations tried new strategies to make change in their own organizational policies and procedures, they had a unique opportunity to learn from their peers' trial and error. In the quote below, a participant describes how new strategies were developed from a conversation at the roundtable:

After attending the roundtable in November a topic came up about unconscious bias and unintended bias and raising the awareness of the students and what their bias may be that they're not even aware of. I plan to build a module to incorporate unconscious bias training into our IT ethics class.

Without the conversations in this facilitated convening, this respondent would not have thought of this intervention.

Another interviewee highlighted how the Pacesetters roundtable gave participants opportunities to learn how to best execute their change strategies:

The roundtable has been really helpful in the way that there are different people who are trying the same kind of thing. Hearing what works for them and what doesn't work for them and what problems they ran into, it sort of helps to know what to expect and certain strategies for getting around things. So, I think the connections with other people trying to do the same kind of thing has been very helpful.

While faculty members have a high level of autonomy compared to many in industry, they often do not have the opportunity to hear from others' trials and errors. Hearing the pitfalls others ran into and how they overcame them provided an essential building block for more successful change efforts. As a result of convening Pacesetters participants, NCWIT supported

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

them in making change through encouraging cross-sector conversations, professional networking, and strategic learning.

Backbone organization facilitates accountability

Participants are less likely to contribute meaningfully to a collective impact initiative if they are not held accountable. To facilitate accountability among Pacesetters, NCWIT instituted goal setting, regular reporting, and created an atmosphere supportive of positive peer pressure. By requiring all Pacesetters to set NNW goals, and to report back to NCWIT on those goals and their activities bi-annually at minimum, NCWIT inculcated a strong sense of accountability.

The requirement to set an organizational goal was a key mechanism through which Pacesetters stayed aligned on their change-making activities and kept their focus on what they wanted to achieve and their motivation to do so. An academic Pacesetter described the required goal setting as an impetus to “achieve and exceed” their NNW goal:

I think setting a goal motivated us to achieve and exceed the goal, which created this inherent race – let’s do whatever efforts we can – just to exceed the goal. So, I used this as a motivation because there was sort of a challenge, ‘Can we get more women?’ A good challenge to have, and having the challenge put in action more steps to achieve the goal. If I wasn't part of the Pacesetters or wasn't involved in them, our efforts would have been a little more deflated. But, setting the goal and being as active member as I can in that community, certainly created a lot of help and very strong motivation to achieve.

Although this respondent had considerable autonomy and influence in the university, this professor still felt that the “challenge” created by setting NNW goals was useful for accelerating

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

departmental efforts. The way Pacesetters responded to the NNW goals reflects Cabaj and Weaver's description of backbone organizations as a "container for change"; NCWIT helped participants' feel safe in the collaboration and simultaneously feel challenged to make positive change (2016).

An industry representative echoed the perspective that the focus on goal-setting was valuable:

[Pacesetters was] a great jumping off point for us to solidify our goals and to be very clear with ourselves internally, you know, what it is that we're striving for.

So, I would say in terms of being a part of the program, I think that's holding us accountable to make sure we are focused and we continue to work on these areas.

As a visible, national corporation, this Pacesetters member was not held accountable by the backbone organization in an authoritative way, but rather in an informal manner. It is striking that this informal accountability sparked action for such different types of organizations, as shown in the preceding interview excerpts.

Pacesetters participants explained that the regular reporting on their activities and tracking progress towards their NNW was essential for making change. Respondents repeatedly referred to the Pacesetters program as helping them "keep focused," "stay on track," and keep gender equity "top of mind." In this way, Pacesetters membership supported participants' sustained authentic engagement in the work. A participant from industry described how the regular reporting and continued attention to the data galvanized action:

We have to submit our number, we have to actually sit back and think about it, are we doing all the right things to get to that number, so it just helps us with that

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

accountability ... one of the things about being part of Pacesetters is, at least periodically, having to focus on what the numbers really are rather than whatever our perception of them is.

This respondent's attention to data collection underscores the data-driven nature of collective impact, where authentic engagement involves trial and error and regular assessment of whether or not the changes are having the desired effect. This participant used the data collection and reporting as opportunities to look closely at the numbers and reassess the internal team's strategy.

At the convenings, participating organizations perceived themselves to be held accountable by their peers, a sort of positive peer pressure to contribute to the social movement. This responsibility to one another was another element of accountability respondents described:

I don't want to come back to Pacesetters and be the one person that hasn't done anything or shared any experiences. I think that it certainly has changed my approach.... We have responsibility and we have to do things now. It's not like you can just put up on your LinkedIn profile that you're a member of something, you have to actually do something. Again, it's just an accountability trigger.

This Pacesetter representative ended up implementing a number of different strategies and was able to focus the company's attention on the issue of gender diversity.

Another pacesetter described the benefit of belonging to the Pacesetters community in terms of positive peer pressure: "[It] makes me feel like I need to live up to the expectations of these people that I consider friends now. And I want look good to my friends, so I'm going to

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

work hard.” This quote demonstrates how the community built through the convenings contributes to a feeling of accountability.

Data from Pacesetters interviews indicate the ways in which the design of the collaboration (required goal setting, progress reporting, and positive peer pressure through in-person gatherings) engendered a sense of collective accountability for the gender equity goals of the program. This accountability influenced participants to act, as the quotes above demonstrate.

Backbone organization lends national visibility and reputation

NCWIT’s national reputation as a movement-building organization helped participant organizations by legitimizing the time and effort spent on change-making, providing a unifying umbrella for various gender equity initiatives, and elevating the conversation about the issue. NCWIT’s reputation as an expert in the area of women in computing lent the initiative internal legitimacy, that is, a shared belief among participants in the initiative's potential for social change (Aldrich & Reuff, 2006; Drori & Honig, 2013). Participants were motivated to be part of Pacesetters in part because NCWIT is a nationally known organization and because they knew other well-respected, influential organizations were part of Pacesetters. In this way, NCWIT’s reputation was both a motivator and a facilitator for participating organizations.

Pacesetters participants described this national prominence as beneficial to their internal efforts to make change. Many participants (11 of 18) explicitly stated that the visibility of NCWIT supported their change efforts, half (9 of 18) made note of NCWIT’s strong reputation as supportive of collective action, and many (12 of 18) indicated that the national reach of NCWIT increased the effectiveness of their own reform efforts.

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

Participants described ways they leveraged the visibility, reputation, and reach of NCWIT to motivate action. Respondents noted that the designation as “Pacesetters” elevated the profile of their work on the issue. Being part of Pacesetters legitimized the time and effort the participants spent on increasing gender diversity in computing. It helped manage the large amount of time collective impact initiatives can take by reframing the activity as essential rather than tangential to their own organization’s goals. One respondent described a feeling of validation expressed by others in the initiative as well:

[The work is] much more legitimate, it’s not just ‘Oh it’s a pet project.’ Instead, it’s a ‘national organization has deemed this important and my involvement important.’ So it allows me to do what I really wanted to do, but have it be viewed as much more than just my pet project.

Another Pacesetters representative described how the designation of Pacesetters serves as a way to unify multiple organizational strategies for achieving gender equity in technology. The Pacesetters label is seen by participants as a marker of prior success as well as an indicator of continued commitment. The connection to NCWIT increased the amount of focus participating organizations could give the work, and heightened the legitimacy of the work within their organizations.

We mention it [our membership in Pacesetters] as much as we can. The really great thing about it is that it’s become the umbrella that we can tie all these other initiatives under. It just really helps it make sense and it adds credibility, I think, to what we’re doing. Any time that we are reaching out to community partners or to national partners to help come be a part of what we’re doing, I just feel it kind

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

of heightens that conversation because it recognizes success in what you've already done, but also a real commitment to looking ahead and how you're going to grow and remain dedicated to it in the long-term.

The language this respondent uses suggests that NCWIT as a backbone provides not only a unifying umbrella through the Pacesetters program but also enhances the participants' long-term commitment to making change, both of which "heighten the conversation." This respondent was able to leverage being part of this collective impact initiative to amplify their many interventions to increase gender diversity.

The data suggest that being part of Pacesetters brought national visibility and legitimacy to organizations' change-making work, which was amplified by the national scope and reputation of NCWIT as well as by the reputations of other members of the collective impact initiative. The legitimacy conveyed by participation in the initiative could be leveraged by participants to garner internal support for continuous, authentic engagement with Pacesetters by making it easier to spend the necessary time and effort, providing a way to unify and align multiple initiatives, and elevating the conversation about and profile of this work.

Backbone organization requires top-level leader involvement

Becoming part of Pacesetters means securing at least one senior leader as part of the team. Our data suggest that engaging top leaders in the participant organizations increased awareness of the social problem being addressed in the initiative, led to constituency-building within organizations, and created opportunities for authentic engagement of leaders in the work of the collective. Ultimately, this requirement strengthened participants' abilities to make change in their organizations.

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

One respondent described how garnering the support of a top-level organizational leader increased organizational awareness of the diversity problem throughout the organization:

Our partnership with NCWIT has made our CEO more, made this more top of mind for him. He's blogged about it. The women in the workplace issue is important to him as well. If your top leadership is talking about the subject, it makes others think about it and I think that is from our partnership [with Pacesetters].

A plurality of Pacesetters representatives indicated that key leadership in their organizations became increasingly cognizant of the gender equity issue in technology as a result of their organizations' membership in Pacesetters, thus moving towards the "mind shifts" necessary to participate in collective action.

One academic Pacesetter described how the inclusion of leaders on the Pacesetters team created opportunities for coalition building within the university to address gender inequity in computing. She noted that diversity work is now a priority for leaders across the institution because they were designated to be part of the Pacesetters team. This increased their commitment to the cause, and also expanded the constituency within the institution who is ready to work on this type of organizational change.

When I go over to the director of admissions, or when I'm talking with our public relations person or even with our fundraising department—suddenly, [as a result of] having that Pacesetters designation, working with me is a priority rather than just like one of the many departments on campus. It has become a priority. And part of it was when I put in the [Pacesetters] proposal, I got all these people to

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

commit to helping ... It was just that simple act of asking them, and them saying yes, and now they're committed in a way that they weren't before.

Another academic Pacesetter described how the executive champion in the organization, in this case, a dean, is elevating the visibility of the university's work. As the designated "Pacesetter executive champion," this dean used her status to create a path for authentic engagement in supporting change efforts.

[Champion] is fantastic. She's not involved in the day-to-day, but when I say, 'We're having this event can you be there?' She's there. If I hear about a place that she can go and talk about the program, she's there. And, she's coming to me and asking for ways to get involved. She's just like a walking billboard, so she's wonderful for all the things that Pacesetters said you need an executive champion for. She's there to promote the program, she's there to advocate for it and to push for the program. She supplies money when she can, she's great and she really cares about it.

This leadership engagement was common across teams and may not have occurred without participation in the Pacesetters program. The data suggest that intentionally involving top leaders in the initiative helps bolster movement building within organizations. Leaders were vital to generating momentum for the movement through their efforts to increase awareness of the social problem, to develop organizational coalitions, and through their authentic engagement in addressing the Pacesetters goals.

Backbone organization coaches participants toward systemic change

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

As a backbone organization, NCWIT provided a program manager whose role was, in part, to act as a coach for the participating Pacesetters organizations. The program manager typically focused on advising the organizations to try something new or add different layers to existing initiatives, as the intent was to facilitate Pacesetters' development of systemic approaches to organizational change. Equally as important, the program manager assumed all administrative burden for the Pacesetters initiative, including tasks such as scheduling convenings, facilitating discussions, encouraging team involvement, and holding individual NNW goal-setting meetings with every team.

Interview data indicate that coaching supported the collective impact initiative in two ways: by helping participants design systemic, multi-pronged, context-specific change strategies, and by leveraging NCWIT resources to instigate organization-wide authentic engagement with the problem. The coaching helped to support the development of organization-specific *multi-pronged strategies* and helped participants shift their change-making to internal-focused activities. Coaching was necessary to encourage them to push beyond the common K-12 outreach strategy and move instead to targeted (and arguably more difficult) approaches within their own organizations. “[Pacesetters program manager] helped me frame my thoughts and helped me post our [organizational] strategy. I had already begun doing outreach and [the Pacesetters program manager] told me that I needed to consider other strategies.” This respondent goes on to explain that she was prodded to consider “in-reach” strategies, that is, recruiting women already within an organization to technology roles or majors. Through guided conversations with the Pacesetters program manager, this respondent developed other aligned activities that were relatively easy to implement in her academic setting, even given limited

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

resources. Coaching from NCWIT helped her consider “more than one way” to address the larger social problem Pacesetters addresses. Galvanized into action, this faculty member went on to develop a constellation of activities that were well beyond the original K-12 outreach idea.

Through brainstorming with cross-sector collaborators and coaching from NCWIT, Pacesetters representatives expanded their ideas of what activities could affect change without expending extraordinary effort or developing new programs. The following example from academia particularly illustrates the way coaching can lead to context-relevant change-making strategies:

We had seen that based on some other past experience and recommendations that [in-reach] programs seemed to work fairly well ... in our retention of students. The first year experience had never been offered in our building before, but it was a course that's already in place on campus. ... so we thought, let's offer a section here in our building that will draw some new students that maybe wouldn't necessarily walk in the door of our building [otherwise].

The increased efficiency of utilizing strategies that take advantage of existing organizational resources resolves one of the tensions identified by the literature, that collaborating often requires more work and more time and is therefore less appealing to many organizations (Cancialosi, 2015).

Through coaching, participants were more likely to adopt and adapt new approaches. For example, one respondent discussed how developing an organizational strategy that emphasized aligned activities maximized impact without stretching efforts too thin, because of NCWIT's

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

support and coaching. The representative's description of the design of a system of strategies indicates an understanding of the social problem Pacesetters addresses.

If you just pick one strategy, you're not going to get too far, so you certainly have to have more than one. But if you pick out too many, then you may get distracted, you may get lost and so, it's just kind of picking out the right balance where you feel like you're going to cover all your bases, but be able to go deep in each one and have some results that come out of this.

Coaching was not limited to the Pacesetters program manager, and in fact, through continued communication with the organization, Pacesetters *leveraged other backbone organization resources*, such as social scientists and the CEO, a former tech industry leader, to facilitate organization-wide authentic engagement with gender equity issues. In the following excerpt, a Pacesetters representative describes assistance received for two activities—organization-wide training on implicit bias and consultation on job advertisements. Unconscious or implicit bias training is a research-based strategy meant to shift participants' awareness of the ways in which their implicit perceptions of others perpetuate stereotypes (Jackson, Hilliard, & Schneider, 2014).

[An NCWIT social scientist] provided unconscious bias training for us. We've [also] received guidance for job description review and, I think that's the way we've used resources the most is either one-on-one time with [an NCWIT social scientist or the Pacesetters program manager], or you know unconscious bias training. [The Pacesetters program manager] will meet with us periodically and we talk through what we're doing and we just get new ideas from her.

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

This industry representative learned how to use the coaching from NCWIT in ways that were particularly applicable to that company.

As a backbone organization, NCWIT's customized coaching to the Pacesetters organizations resulted in organizational approaches that were aligned with NCWIT's systemic change philosophy and that took into account organizational constraints and opportunities. Coaching helped organizations to develop their vision for change and their multi-pronged strategies, as well as supported authentic community engagement and action in activities that aligned with the shared goal of improving gender diversity in tech. Our evidence suggests Pacesetters coaching was customized to reflect organizational priorities and constraints while still encouraging change-making activities that were more systemic in nature. Coaching was an inclusive, differentiated practice that engaged participants at various levels and scaffolded change based on their organizational contexts, as well as the influence and autonomy of the individual Pacesetter representative. The Pacesetters participants leveraged NCWIT resources to assist in the implementation of systemic change efforts, as needed.

Discussion

For a collective impact initiative to be successful, its participant organizations have to make change. Through the Pacesetters program, participants are engaged in a national initiative they hope will eventually change the technology ecosystem by increasing the diversity of its core innovators. They strove to achieve this, in part, by making systemic change within their own organizations. To varying degrees, Pacesetters took important steps to change their own organizational cultures as they sought to achieve their NNW goals. As an organization aimed at making large-scale social change through the work of its participants, NCWIT used the

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

Pacesetters collective impact initiative as a way to engage participating organizations in concrete actions with visible results. The NNW achievements may have been small for some participants (NNW in this cohort ranged from 2 to 238, as participating organizations varied greatly in size); but collectively they were able to report over 1,300 NNW, of which they all felt pride and ownership, deepening their commitment to their shared goal of increasing the participation of women in the field of technology.

Uniformly, participants reported that their Pacesetters' progress on tackling the diversity issue was significantly accelerated because of the presence of a backbone organization. Rather than authoritatively managing the collective impact initiative, NCWIT provided critical structuring and support, through five primary mechanisms: regular convenings, implementing accountability frameworks, lending their national reputation to the initiative, requiring senior leader involvement, and coaching of participants. These mechanisms address many of the challenges inherent in collective impact initiatives and provide a blueprint for facilitating organizational and social change in a multi-sector collaboration. Intentionally using these mechanisms can help other backbone organizations refine their role in collective impact initiatives.

Drawing from our study's findings of five specific mechanisms by which backbone organizations can support a collective impact initiative, we propose suggestions for strengthening these initiatives through intentional backbone facilitation.

First, a backbone organization should convene participants in person, in a neutral setting. This provides a space to exchange ideas, ask questions, share struggles, and build trust. Strategic learning can emerge through interaction with peers and backbone staff. The backbone

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

organization can assume the role of administrator and motivational leader without exerting formal authority over participants. Participants should be treated as status equals whose participation is integral regardless of their organizational positions outside of the initiative, thus reducing power differentials and competitive tensions. This treatment encourages and maintains commitment by minimizing dynamics that might otherwise become fraught due to power struggles and turf wars.

Second, the backbone organization should coach each participating organization, helping participants to adapt the collective impact work to their own environments and needs. The convenings cannot in themselves provide sufficient specifics to address the issues that collaborators encounter in their own organizational change-making efforts, so the customized coaching is essential for bridging the gap between good ideas and what actually can be done. It is critical to have a dedicated staff person whose role is to provide collaborators with resources and hands-on coaching. This both motivates engagement and reduces the burden of collaboration for the individual participants. The coaching facilitates commitment and, thus, frees participants to focus on change-making.

Third, the backbone organization should provide a “respectful” structure of accountability. Since participation in a collective impact initiative is voluntary, it can be difficult to ensure participants are held accountable for action, or inaction, but a neutral backbone organization can help to address this accountability dilemma if it observes a few key tenets. Require members to track their progress and report results at the convenings. In this way, the backbone organization exerts informal pressure on participants to perform. Participants need not face sanctions or expulsion should they underperform or not participate; this informal

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

accountability in itself incentivizes action, particularly as participants begin to feel like a community with a shared purpose. If reporting occurs directly between each participating organization and the backbone, the data remain confidential, and therefore, more likely to be reported. Creating a friendly, competitive environment in which organizations compete to keep up with, or outperform, peers, helps participants attain small victories. And for some, the dread of being viewed as an underperformer is enough to encourage action. In this structure, failure is not just tolerated, but treated as a learning opportunity. In sum, respectful accountability can encourage commitment through informal pressures, stimulating team work within each organization and activities that might not otherwise take place, and an understanding that initial failures can beget future successes.

Fourth, the backbone organization can add legitimacy to the processes of collaboration (e.g. “internal legitimacy”) and to the initiative itself (e.g. “external legitimacy”), particularly if the backbone has a positive reputation, positional power, or some other prestige within the target community. In our study, NCWIT’s national scope and visibility set it apart from other backbone organizations described in the collective impact literature and emerged as an important strength. This legitimacy spurs both motivation and action on the part of the participating organizations while at the same time conferring legitimacy on the initiative’s goals and processes. If the backbone has a reputation as a prestigious and legitimate authority on the social problem, members (and their upper-level superiors) are more likely to commit to working on the cause.

NCWIT

Simply knowing the core functions of a backbone organization is not sufficient for successfully replicating these functions in different initiatives. Rather, understanding the

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

mechanisms that participants have identified as helpful to them for making change, and applying them intentionally, provides a platform for replication. Intentional backbone support can strengthen initiatives. Making both deep and broad change in organizations – and in society – is difficult but important work. The authors hope that these findings and suggestions prove useful to others involved in collective social change movements.

Acknowledgements

The authors would like to thank the NCWIT Pacesetters for their time and cooperation in data collection. The Pacesetters initiative is partially funded by the National Science Foundation under CNS # 01203206. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect those of the National Science Foundation.

References

- Aldrich, H. E., & Rueff, M. (2006). *Organizations evolving* (2nd ed.). Thousand Oaks, CA: Sage.
doi:10.4135/9781446212509
- Ashcraft, C., & Blithe, S. (2010). *Women in IT: The facts*. National Center for Women & Information Technology (NCWIT). Retrieved from www.ncwit.org/resources.thefacts.html
- Ashcraft, C., McLain, B., & Eger, E. (2016). *Women in Tech: The facts*. National Center for Women & Information Technology (NCWIT). Retrieved from www.ncwit.org/thefacts
- Boyce, B. (2013). *Collective impact: Aligning organizational efforts for broader social change*.

This is an Accepted Manuscript of an article published by Taylor & Francis in *Journal of Community Development* on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

Journal of the Academy of Nutrition and Dietetics, 113, 495-497.

doi:10.1016/j.jand.2013.01.026

Cabaj, M., & Weaver, L. (2016). Collective impact 3.0: An evolving framework for community change. *Tamarack Institute Community Change Series*. Retrieved from

<http://bit.ly/2CYWBt7>.

Cancialosi C. (2015, September 15). Shifting organizational culture to enable collective impact.

Gotham Culture. Retrieved from <http://bit.ly/2l0VIJ8>.

Christens, B. D., & Inzeo, P. T. (2015). Widening the view: Situating collective impact among frameworks for community-led change. *Community Development*, 46, 420-435.

doi:10.1080/15575330.2015.1061680

Cohoon, J. M., & Aspray, W. (2006). A critical review of the research on women's participation in postsecondary computing education. In J. M. Cohoon & W. Aspray (Eds.), *Women and information technology: Research on underrepresentation*. Cambridge, MA: MIT Press.

doi:10.7551/mitpress/9780262033459.003.0005

Drori, I., & Honig, B. (2013). A process model of internal and external legitimacy.

Organizational Studies, 34, 345-376.

doi:10.1177/0170840612467153

DuBow, W. M. (2017). *Women and information technology: By the numbers*. National Center for Women & Information Technology. Retrieved from www.ncwit.org/bythenumbers

Easterling, D. (2013). Getting to collective impact: How funders can contribute over the life course of the work. *The Foundation Review*, 5, 67-83.

This is an Accepted Manuscript of an article published by Taylor & Francis in Journal of Community Development on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

Retrieved from <https://collectiveimpactforum.org/sites/default/files/Easterling%20-%20Getting%20to%20Collective%20Impact.pdf>

Jackson, S. M., Hillard, A. L., & Schneider, T. R. (2014). Using implicit bias training to improve attitudes toward women in STEM. *Social Psychology of Education, 17*(3), 419-438.

doi:10.1007/s11218-014-9259-5

Kania, J., Hanleybrown, F., & Juster, J. S. (2014, Fall). Essential mindset shifts for collective impact. *Stanford Social Innovation Review, 12*(4), S2-S.

Kania, J., & Kramer, M. (2011). Collective impact. *Stanford Social Innovation Review, 9*, 36-41.

Kania, J., & Kramer, M. (2013, January 13). Embracing emergence: How collective impact addresses complexity. *Stanford Social Innovation Review*. Retrieved from

<http://bit.ly/2eY19XR>.

Klempin, S. C. (2016). Establishing the backbone: An underexplored facet of collective impact efforts (Report No. 60). New York: Community College Research Center.

doi: 10.7916/D8W095RF

Kramer, M. R., & Pfitzer, M. W. (2016, October). The ecosystem of shared value. *Harvard Business Review, 94*, 80-89.

Ledley, T. S., Gold, A. U., Niepold, F., & McCaffery, M. (2014). Moving toward collective impact in climate change literacy: The Climate Literacy and Energy Awareness Network (CLEAN). *Journal of Geoscience Education, 62*, 307-318.

doi:10.5408/13-057.1

Mehan, H. (1992). Understanding inequality in schools: The contribution of interpretive studies. *Sociology of Education, 65*(1), 1-20.

This is an Accepted Manuscript of an article published by Taylor & Francis in *Journal of Community Development* on April 9, 2018, available online: <https://www.tandfonline.com/doi/full/10.1080/15575330.2018.1458744>

doi:10.2307/2112689

Porter, M. E., & Kramer, M. R. (2011, January-February). Creating shared value. *Harvard Business Review*, 89, 62-77.

Prange, K., Allen, J. A., & Reiter-Palmon, R. (2016). Collective impact versus collaboration: Sides of the same coin or different phenomenon? *Metropolitan Universities*, 27, 86-96.

Spradley, J. P. (1980). *Participant observation*. Orlando, FL: Holt, Rinehart and Winston.

Turner, S., Errecart, K., & Bhatt, A. (2013, December 2). Exerting influence without formal authority. *Stanford Social Innovation Review*. Retrieved from https://ssir.org/articles/entry/exerting_influence_without_formal_authority.

Turner, S., Merchant, K., Kania, J., & Martin, E. (2012, July 18). Understanding the value of backbone organizations in collective impact: Part 2. *Stanford Social Innovation Review*. Retrieved from <http://bit.ly/2gwnr5e>.

Weaver, L. (2016). The promise and peril of collective impact. *The Philanthropist*, 26, 11-19.

Wolff, T. (2016). Ten places where collective impact gets it wrong. *Global Journal of Community Psychology Practice*. Retrieved from <http://www.gjcpp.org/en/resource.php?issue=21&resource=200>.