DELIVERING TRANSFORMATIONAL CHANGE: 
ALIGNING SUPPLY CHAINS AND STAKEHOLDERS IN NON-GOVERNMENTAL ORGANIZATIONS

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Abstract: Governments and global corporations increasingly both confront and rely on International Non-Governmental Organizations (INGOs) to identify, design and deliver interventions that prompt transformational change in societies, industries and supply chains. For INGOs, transformational change is defined as a fundamental, long-lasting reframing of a social or industrial system through synergistically altering the knowledge, practices and relationships of multiple stakeholder groups. With each intervention, the focal INGO assembles its own complex supply chain of non-profit organizations and for-profit firms to provide the necessary resources and skills. While prior supply chain management literature provides a good starting point, with some generalizability to the non-profit sector, this paper begins with several key differences to explore how interventions are delivered, and then, how INGOs’ supply chains must be aligned. In doing so, at least three critical factors must be taken into account to improve alignment: stakeholder-induced uncertainty; supply chain configuration; and supply chain dynamism. By synthesizing these factors with prior literature and emerging anecdotal evidence, tentative frameworks and research questions emerge about how INGOs can better leverage their supply chains, thereby offering a basis for scholars in supply chain management to build a much richer and more nuanced research understanding of INGOs.

Keywords: non-profit organizations; sustainability; rigid resources; services; supply networks.

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1. INTRODUCTION

A growing body of sustainability research has explored how global corporations can create value for society by addressing needs and challenges that extend beyond customers and shareholders (Linton et al., 2007; Pagell and Wu, 2009; Carter and Easton, 2011). While global corporations undoubtedly should take a leadership role in sustainability, their capabilities and relational connections often are limited (Wilhelm et al., 2016), and their motives can be viewed skeptically (Kim and Lyon, 2014). Fortunately, recent sustainable supply chain management literature (Pagell and Shevchenko, 2014; Gualandris et al., 2015; Rodriguez et al., 2016) has started to expand this for-profit-centric perspective to theoretically and empirically examine how Non-Governmental Organizations (NGOs) can actively encourage transitions towards more sustainable social and industrial systems. As a result, we must now explore how NGOs might best fulfill this role, often as focal organizations assembling complex supply chains to pursue key sustainability goals.

This paper builds upon related literatures and emerging anecdotal evidence to examine the central role of international NGOs (INGOs) and their supply chains in prompting societies, industries and supply chains of firms to reduce persistent environmental harm and improve societal health and welfare. While much of what follows is broadly applicable to all NGOs, the scope of supply chains developed by local and national NGOs is often relatively limited. Instead, INGOs are able to elicit donations, win grants, and manage complex supply chains – all to create transformational change that is replicable and scalable (Madon, 1999). INGOs are defined as self-governing, private, non-profit distributing, voluntary organizations that operate across countries (Vakil, 1997); thousands of INGOs exist worldwide (www.ngoadvisor.net), accounting
for more than US$1000 billion and employing many people in both paid and volunteer positions (OECD, 2017).

To date, most operations and supply chain management studies have focused on the complex logistics of INGOs that provide humanitarian aid to populations in distress (e.g., Holguin-Veras et al., 2012). Differently, this paper examines the supply chain of INGOs that focus on collaborative networking and people-centered developmental services. Oxfam, for example, operates through multiple, discrete interventions undertaken to produce social and environmental services that drive transformational change in social and industrial systems. And each intervention relies on a different arrangement of non-profit organizations and for-profit firms that cooperate to provide multiple supporting activities (Madon, 1999; Gualandris and Pagell, 2015; Banks et al., 2015).

At times, INGOs fail to achieve their goals due to their (supply chain) partners failing to work effectively together (Gulzar and Henry, 2005; Shawki, 2011; Balboa, 2014). Unfortunately, existing supply chain management theory provides an incomplete foundation for describing, understanding and predicting factors that might enable INGOs to develop and manage supply chains. These supply chains must leverage both non-profit organizations and for-profit firms, often while operating effectively within and alongside firms’ supply chains. To begin, one might argue that INGOs’ supply chains operate in ways that are similar to supply chains led by global corporations; however, at least two important differences characterize supply chains with an INGO as the focal organization from their for-profit analogues.

First, synthesizing prior research (Banks et al., 2015; Waddock et al., 2015), the primary goal of many INGOs is transformational change, defined as a fundamental, long-lasting reframing of a social or industrial system through simultaneously and synergistically altering the knowledge,
practices and relationships of multiple stakeholder groups. To deliver transformational change INGOs and their partners coordinate complex bundles of activities – from research, to advocacy, to education – that prompt sustainability improvements at both macro- and micro-levels (Balboa, 2014). Targeted stakeholder groups within such systems often are very diverse, including global corporations, consumers, investors, governments and small-scale local producers, and these stakeholders present the INGO and its supply chain with correspondingly distinct demands. Moreover, targeted stakeholders are, to varying degrees, disposed to actively participate in and support transformational change. For example, local farmers in South African countries might have difficulty describing their problems, which in turn, affects the quality of the agricultural training that an INGO’s supply chain can deliver to them. Similarly, local governments might be puzzled as to how to best support transformational change; for instance, what new policies might simultaneously empower local communities, protect human rights and foster foreign direct investments.

The other important difference relates to the rigidity of the resource bases of INGO supply chains. Rigidity, for example, can be introduced through ‘non-negotiable’ values held by individual supply chain partners, combined with funding constraints imposed by specific contracts and conditions from institutional donors (Cooley and Ron, 2002; Andrews, 2014; Banks et al., 2015). Having a rigid resource base can, in turn, confound efforts to effectively respond to the uncertainty induced by targeted stakeholder groups, and to react as needed when developmental services must evolve. For example, differing values and orientations between non-profit organizations and for-profit firms within the chain complicate decision-making and can ultimately lead to failure (e.g., Sharma and Bansal, 2017).
Given these important differences, this paper seeks to make three contributions to the supply chain management literature. First, a clear description is developed about INGO interventions that deliver transformational change; this summary provides a critical starting point for scholars to better understand how the extant supply chain management literature might apply in the unexplored empirical context of INGOs. Second, we examine several factors that collectively might enable the more effective delivery of transformational change, whereby the configuration of the INGO supply chain is aligned with the uncertainty induced by external, targeted stakeholder groups. Third, we offer initial insights into why and how these supply chains organically develop and adapt over time, rather than result from purposeful design by the focal INGO. Collectively, these contributions encourage an extension of our field’s theoretical base, suggest new empirical directions, and expand how INGO supply chains might better deliver transformational change.

The next section examines interventions, the primary means by which INGOs drive the radical alteration of social and industrial systems. The third section leverages anecdotal evidence (Schmitt, 2015; Nketani, 2016; Pearl-Martinez, 2017) and the widely cited customer contact model (Chase, 1981; Larsson and Bowen, 1989) to unpack potential sources of intervention (in)effectiveness. The fourth section theoretically elaborates four specific supply chain configurations that may allow INGOs to cope with varying degrees of stakeholder-induced uncertainty and foster intervention effectiveness. Finally, supply chain dynamism is highlighted, whereby a configuration develops over time under the influence of partisan interests and diverging views of supply chain partners, rather than result from purposeful design by the focal INGO.
2. INGO INTERVENTIONS

INGOs operate through series of discrete interventions and each intervention affects external stakeholder groups that collectively are key participants in a social or industrial system that is targeted for transformational change (Aryal et al., 2012; Ober, 2012; Green, 2013). Multiple change episodes contribute to each intervention, where each change episode is defined as a distinctive sequence of activities that target the knowledge, practices and relationships of a specific stakeholder group. How are these activities delivered? A supply chain, assembled by the INGO, provides the expertise, materials and other resources using both non-profit organizations and for-profit firms.

For purposes of illustration, consider three recent interventions by Oxfam, namely ‘Behind the Brand’ (BtB), ‘Women.Food.Climate’ (WFC) and ‘Worth 100 Men’. BtB targeted transformational change in the food and beverage industry through an approach colloquially termed ‘ranking, spanking and praising’ (www.behindthebrands.org). One change episode targeted global food corporations through a combination of influencing and advocacy activities. Another change episode used campaigning via social media to mobilize responsible consumers. Finally, a third change episode targeted the investors of global food corporations through advocacy and campaigning activities.

In contrast, WFC’s change episodes sought to influence governments and small-scale farmers in emerging south-African countries like Burundi, Rwanda, Tanzania and Zimbabwe; the goal was to empower small-scale female farmers and protect their vulnerable communities whose livelihoods and food security were threatened by climate change (www.womenfoodclimate.org). Within WFC, one change episode targeted local producers and included activities such as training in agricultural techniques and coaching in business management; another change
episode emphasized public confrontation with local governments, which were lobbied and petitioned through the active mobilization of small-scale framers.

Lastly, ‘Worth 100 Men’ aimed to create awareness and reduce violence against women in Egyptian and Tunisian societies through radio soap operas. This ‘edutainment’ service was produced to alter community attitudes via a series of pre-packaged stories and played a central role in two relevant change episodes: one for a disadvantaged social group (i.e., women); and the other for corporations in position of power (i.e., producers of radio and TV series) who needed to be sensitized to how their programs influenced society’s view of women.

BtB, WFC and ‘Worth 100 Men’ required very different supply chains to deliver their respective set of change episodes. With BtB, the supply chain was more centralized and predominantly composed by Oxfam national affiliates; with WFC, the supply chain was more decentralized and relied on several local civil society organizations; ‘Worth 100 Men’ required the involvement of a professional service organization and the support of several local NGOs.

The following two sections define and describe change episodes, and the membership and functioning of INGO supply chains.

2.1 Change episodes

INGOs and their partners begin each intervention by developing a ‘theory of change’ or the set of assumptions and expectations that guide their intervention (Ober, 2012; Green, 2013). Moreover, their view seems to be that transformational change can materialize only by enacting micro-level alterations in the knowledge, practices and relationships of multiple stakeholder groups comprising the targeted social or industrial system. These micro-level alterations are stimulated via multiple change episodes, one for each targeted stakeholder group. A change episode might include public events, private interactions or joint activities.
The change episode construct represents an extension of the ‘service episode’ construct in the service operations literature (Gentile et al., 2007; Voss et al., 2008; Harvey et al., 2016). However, rather than focusing on customer satisfaction, the objective is to prompt the transformation of a specific stakeholder, oftentimes against resistance. Like the ‘strategic episode’ construct in social systems theory (Hendry and Seidl, 2003), change episodes are temporary in nature and their beginning and end can be clearly determined. However, rather than representing an endogenous routine, in our conceptualization, initiation, progression and termination of a change episode is determined by players that are exogenous to the targeted system, i.e., the focal INGO and its supply chain. Our preliminary analysis of anecdotal evidence (e.g., Ndababonye, 2016; Sahan, 2016a; Schmitt, 2015) points to at least five potential stakeholder groups that an INGO might target through distinctive change episodes: global corporations; consumers; investors; governments; and disadvantaged groups.

Figure 1 illustrates how each change episode within Oxfam’s interventions only affects a specific stakeholder, as well as a few instructive examples of activities within each change episode. One targeted stakeholder of BtB was global food corporations in a position of power, which needed to rethink their supply chain practices (Figure 1a). For this change episode, Oxfam and its partners used a combination of influencing, education and public campaigning to stimulate sustainable change in the way these global corporations were doing business (Sahan, 2016a). Two other change episodes targeted consumers and investors, which together represented the ‘spanking’ part of BtB’s model (Figure 1a). Consumers were educated about how the food and beverage industry worked by using social media, and then encouraged to sign petitions and “make noise” to push food corporations and investors to improve their practices (Kinley, 2013). Finally, a third change episode targeted responsible investors: an initial
influencing activity utilized a scorecard designed to simultaneously evaluate food corporations and educate consumers (Sahan, 2016b). This scorecard laid the foundation for subsequent joint activities whereby over 33 major investment funds, representing nearly US$1.5 trillion of assets under management, called on global food corporations to do more to reduce social and environmental risks in their supply chains.

Quite differently, WFC targeted governments and disadvantaged social groups in two distinctive change episodes (Figure 1b). The first change episode targeted vulnerable small-scale farmers – in particular women – to strengthen their agricultural skills and to expand their access to high-end markets. This episode offered training about alternative farming practices, and coaching about how to develop economies of scale. Also, small-scale female farmers were given the opportunity to engage directly with local governments and European embassies; this joint activity (Figure 1b) was instrumental for developing farmers’ capability to lobby collectively, and pressuring governments to adopt more proactive social policies. A second change episode in WFC targeted the government ministries of Justice and Agriculture in Rwanda and other south African countries, who signed memoranda of understanding that allowed Oxfam to participate on and provide technical support for policy steering committees (Ndababonye, 2016).

2.2 Membership and functioning of INGO supply chains

The supply chain assembled by an INGO may include multiple non-profit organizations and for-profit firms that collectively produce change episodes during an intervention. Figure 2 describes a small portion of the supply chain of WFC, noting activities that supply chain members have coordinated and executed to deliver the change episodes detailed in Section 2.1.
In summary, Oxfam worked alongside roughly 25 other organizations to influence governments, and to educate and mobilize small-scale female farmers across African countries. This supply chain comprised connected chains of activities that exchanged information and co-produced services that were instrumental in delivering transformational change.

The initial months of the intervention were characterized by intense education offered to farmers (www.womenfoodclimate.org). The East and Southern African Farmers Forum (ESAFF) worked jointly with the African Institute of Agrarian Studies (AIAS) to design and deliver some of these services. Education initially concentrated on novel agrarian technologies, but soon shifted toward managerial and negotiation skills. Oxfam also put in place a Village Advisory Model (VAM) (e.g., Schmitt, 2015) where female farmers could benefit from dedicated one-to-one support from experienced agronomists formally contracted by Oxfam. At the same time, local civil society organizations such as Southern Africa Rural Women’s Assembly (SARWA), Pan African Climate Alliance (PACJA) and Zimbabwe Union of Journalists (ZUJ) conducted research on the impact of global food corporations on the livelihood of these farmers and developed petitions directed to presidents of African countries. As the intervention continued, small-scale female farmers were co-opted by SARWA, PACJA, ZUJ and others in the supply chain to lobby local government representatives and French embassies by handing over petition letters in person. These supply chain partners, working with one of the targeted stakeholders (i.e., small-scale farmers), collectively continued to push African governments to enact tangible policies that shift benefits toward local farmers and surrounding communities.

WFC also benefited from the involvement of ‘alliance networks’, i.e., officially registered entities each composed of several national and local civil society organizations (Rodriguez,
Two alliance networks participated in WFC, namely CTDT (http://www.ctdt.co.zw/) and ACT (http://actalliance.org). CTDT helped with the empowerment of small-scale female farmers whereas ACT contributed to the change episode targeting governments. Alliance networks are governed by independent secretariats and represent platforms for civil society to coordinate their efforts in sharing information and engaging with specific external stakeholder groups on particular sustainability issues (Rodriguez, 2016). Possibly, they could offer a remedy to rigid resource bases and function similarly to a ‘supplier hub’ (Lee, 2004; Wu and Choi, 2005).

Quite differently, BtB retained most operations “in-house”, tapping into the capabilities of national affiliates including Oxfam Novib, Oxfam UK and Oxfam Ireland (Sahan, 2016a,b). Oxfam Novib was directly responsible for lobbying food corporations and their investors; it also helped other Oxfam affiliates to coordinate research and campaigning in their respective countries. This supply chain was highly formalized and developed a bundle of standardized tools; a pre-packaged scorecard assessed corporate performance across seven sustainability themes using a standard process of secondary data gathering and processing. Also, a standardized reporting template encouraged and guided the mobilization of consumers and investors in western countries to respond to the performance of global food corporations.

Finally, with ‘Worth 100 Men’, Oxfam conducted a power analysis to identify key stakeholder groups in Egypt and Tunisia, established goals and timelines for supply chain partners, and performed an impact assessment. Production and broadcasting of radio soap operas had been outsourced to ‘Womanity’, an independent private foundation headquarterd in Geneva, Switzerland (Hodges, 2016). Oxfam also contracted local civil society organizations in Egypt and Tunisia, which arranged local listening groups and helped Womanity to best tailor the soap operas to local communities.
Further empirical research is needed to validate and possibly refine the proposed definitions and descriptions. Are these the only change episodes and supply chain partners in use by INGOs? What guiding principles and criteria do INGOs apply when designing change episodes and assembling their supply chains? Addressing similar questions would significantly contribute to the supply chain management literature by adding further depth, precision and validity to our field’s understanding.

3. INTERVENTION (IN)EFFECTIVENESS

Institutional and individual donors are increasingly requiring INGOs and their supply chains to demonstrate the effectiveness of their interventions and, from their standpoint, an effective intervention is one that successfully delivers transformational change (Banks et al., 2015). For example, approximately two decades ago, Sweden, Switzerland, Norway, the Netherlands and the European Union started disbursing 25-30 percent of their development budget through short-term, renewable contracts for discrete interventions (Smillie, 1997). As a consequence, INGOs were forced to bid competitively and demonstrate concrete results.

Unfortunately, emerging evidence suggests that INGOs and their supply chain partners often fail to deliver transformational change (Gulzar and Henry, 2005; Shawki, 2011; Balboa, 2014). For example, a recent analysis by Oxfam suggests that governments targeted by WFC are still skewing investments toward infrastructure projects, private sector initiatives and more prosperous geographical areas; climate change mitigation is prioritized over adaptation; and there is little evidence of financial resources and technical assistance reaching female farmers (Pearl-Martinez, 2017). Similarly, BtB initially created a race to the top among global corporations in the food and beverage industry, with more than 700,000 corrective actions undertaken in their supply chains. However, some corporations like Kellogg and General Mills
resisted transformational change and focused on offsetting rather than eliminating harm (Kinley, 2013; Sahan, 2016b). Finally, impact assessment after ‘Worth 100 Men’ demonstrated that people in targeted communities become less likely to justify violence against women, and more likely to advise others who suffered from violence to speak out (Hodges, 2016). However, no impact was found on attitudes that justify women staying in violent relationships, or in terms of how targeted communities thought about the role of women in society. Later, Oxfam tried to replicate this intervention in other countries such as Bangladesh and Mozambique, but results were mixed (Hodges, 2016).

What factors may hinder intervention effectiveness? Practitioner literature suggests that INGOs and their supply chain partners may poorly understand what intermediate and ultimate outcomes are desired, and they might have incomplete information about what, where, when and how activities should involve targeted stakeholders (Ober, 2012; Green, 2013). Transformational change is in fact characterized by high degrees of ambiguity and complexity (Waddock et al., 2015), which makes it very difficult for any individual problem-solver to design optimal change episodes and then organize and coordinate labor. Yet, what may be more problematic for improving effectiveness is the uncertainty inherent in and unintentionally introduced by targeted stakeholder groups, which we label stakeholder-induced uncertainty. Earlier literature, such as the customer contact model (Chase, 1981; Larsson and Bowen, 1989; Frei, 2006), has noted that effectiveness is affected by the degree of incomplete information (i.e., uncertainty) about external stakeholders as it impairs decision-making, and requires more energy, attention, and resources be invested in understanding new situations and adjusting interdependent activities. The next section unpacks stakeholder-induced uncertainty and discusses its potential effects on intervention effectiveness.
3.1 Stakeholder-induced uncertainty

By elaborating on the cases of BtB and WFC using the lens of the customer contact model, we propose that stakeholder-induced uncertainty in this non-profit context varies along two key dimensions: the diversity of stakeholder demands; and the disposition of targeted stakeholders to participate in the performance of the intervention.

Stakeholder diversity captures the variety of stakeholder needs and demands that the INGO supply chain must accommodate. As illustrated in section 2, supply chains deal simultaneously with very diverse targeted stakeholder groups – global corporations, consumers, investors, governments and disadvantaged groups – rather than a somewhat consistent group of customers, as often happens with traditional firms’ supply chains (e.g., Heikkila, 2002). Qualitative differences in inputs and demands are expected across stakeholders, mainly due to their diverse ideologies, political agendas and capabilities. Diversity may imply variance in stakeholders’ preparation for the service encounter and in their reactions to similar activities (Voss et al., 2008). As diversity expands, supply chain partners might face situations for which there are few prior rules or guidelines, and so they proceed with some combination of guiding principles, prior experience, or unverified assumptions (Ober, 2012; Green, 2013). With high stakeholder diversity, interdependencies between activities might also become less predictable as a change in the design of one activity prompts a poorly understood modification in another (Thompson, 1962).

Stakeholder disposition to participate refers to the extent that targeted stakeholder groups play an active role in supplying labor and skills during an intervention. In traditional service operations, customers might have some interaction to each other during the service encounter (Frei, 2006), but rarely deliver complex services to one another (although that is changing, for example, with online reviewer feedback). In INGO interventions, joint activities where one
targeted stakeholder group is co-opted by the supply chain to deliver service to another targeted stakeholder group is more common. As illustrated in Figure 1, consumers and disadvantaged groups around the world seem to find self-mobilization intrinsically attractive, and their active participation in a change episode provides opportunities to shape the emerging discourse, develop their own capabilities and influence the policies of private corporations and public government. However, as stakeholder disposition increases, the usage of joint activities also increases and so does uncertainty about what the stakeholder will actually do in preparation for, during and after the service encounter.

Several anecdotes then suggest that high stakeholder-induced uncertainty hinders intervention effectiveness. During BtB, for example, having fund managers working alongside private investors presented unexpected challenges: many private investors struggled to integrate Environmental, Social and Governance (ESG) criteria in their decision-making processes. To reduce resistance, supply chain partners tried to promote sustainability issues based on their strategic merits, and used another stakeholder group (i.e., consumers) to increase the salience of these issues (Sahan, 2016b). However, targeting consumers for a change episode can also prove difficult, if a broader social movement emerges; for example, responsible consumers may develop peculiar identities, modify their cause over time, and take unanticipated action (Gutierrez et al., 2010; Levy et al. 2016).

During WFC, working with the government proved arduous and required Oxfam and its partners to adjust their activities as time progressed. Local governments tended to be more concerned with building infrastructure and healthcare services, rather than addressing issues of gender and land rights (Ndababonye, 2016). Only later Oxfam realized that government officials wanted to show to their electorate that transformational change was achieved by using their own
strategies and frameworks, not Oxfam’s (Ndababonye, 2016). To an extreme, governments can revoke the Annual Registration Certificates of INGOs and civil society organizations, if they perceive that an on-going intervention diminishes their power or runs against projects that they consider as foundational for the country’s economic growth (Dupuy et al., 2016; Doan, 2016a,b).

Similarly, small-scale female farmers did not participate as envisioned, forcing the supply chain to rapidly recalibrate its activities. For example, despite detailing how farmer associations would allow individuals to benefit from group discounts for inputs and obtain higher yields, small-scale farmers could not clearly see the purported advantages, and struggled to operate cooperatively as time progressed (e.g., Schmitt, 2015). Despite training, individual farmers also lacked the confidence and discipline to formally negotiate production schedules and profit redistribution within the newly established association. Oxfam and its supply chain partners, albeit slowly, adjusted their activities as time progressed; for example, a new ‘memorandum of understanding’ training module was added to the change episode in order to build the capacity of farmers to negotiate with others, and to instill in them the importance of keeping a written record of their agreements (e.g., Schmitt, 2015).

Future empirical research could validate (or challenge) our conceptualization of stakeholder-induced uncertainty. Further field investigation is also needed to verify that stakeholder-induced uncertainty is a primary inhibitor of intervention effectiveness; cases may exist where limited availability and poor reliability of supply chain partners become the primary determinants of ineffectiveness. Finally, a promising research avenue would examine if and how INGOs evaluate diverse sources of operational uncertainty and what decisions they undertake to reduce exposure.
4. FOSTERING INTERVENTION EFFECTIVENESS

How do INGO supply chains manage the pervasive presence of targeted stakeholder groups in their supply chains to effectively deliver transformational change? To date, little research has explored this challenge (Gualandris and Pagell, 2015; Rodriguez et al., 2016; Saunders et al., 2017). One might simply suggest that theoretical and practical insights from existing supply chain management literatures can enable INGOs to deploy their supply chains in such a way that the right services are delivered to the right stakeholders at the right time. Possibly, a reasonable analogy is healthcare, with an improvement in patient health being the primary objective. However, unlike simply improving the health of the patient, the analogous goal for an INGO is to alter the broader underlying system, and the patient and physician might (at least in part) resist improvement, thus prompting the need for progressive change episodes with multiple stakeholders. And all this while working with rigid resource bases.

Notwithstanding unique differences, a supply chain management perspective still offers potentially fruitful avenues if we consider the strategic alignment of two factors: stakeholder-induced uncertainty; and supply chain configuration (Fisher, 1997; Flynn et al., 2010; Lusch, 2011). In fact, it becomes important to understand how INGO supply chains should be configured to minimize internal rigidities and enable timely responses to unexpected stakeholders’ demands and actions. Figure 3 presents our conceptual model while the next section theoretically derives four supply chain configurations that address increasingly higher degrees of stakeholder-induced uncertainty for sustained effectiveness.

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4.1 Aligning supply chain configuration with stakeholder-induced uncertainty

Related literatures that study the management of supply chains (Choi and Hong, 2002; Wilhelm, 2011; Pathak et al., 2014), service delivery networks (Provan and Sebastian, 1998; Provan et al., 2003; Saz-Carranza and Ospina, 2010) and modular networks (Schilling and Steensma, 2001; Brusoni et al., 2001; Brusoni, 2005) have collectively informed our theoretical prescription in Figure 4. We argue that INGOs should select specific configurations that can help their supply chains to function in a way that adjusts for specific degrees of stakeholder-induced uncertainty. As depicted in Figure 4, diverse supply chain configurations consider specific combinations of differentiation tactics and coordination mechanisms.

Differentiation refers to the segmentation of the whole supply chain both organizationally and technically into distinctive sub-groups (Provan and Sebastian, 1998; Choi and Hong, 2002). Externally, differentiation can create variation between sub-groups, for example, with the degree of stakeholder contact or types of capabilities. Internally, sub-groups may manifest various degrees of homogeneity, which can be particularly helpful for INGO supply chains, given their rigid resource bases. For example, a homogeneous sub-group will likely manifest higher redundancy and faster decision-making processes, as this tactic brings together organizations with common values and focuses on key capabilities that deliver specific activities (Provan et al., 2003; Saz-Carranza and Ospina, 2010). A heterogeneous sub-group, however, may work best in presence of stakeholder-induced uncertainty. This second tactic allows diverse organizations in a sub-group to retain specific areas of specialization, but also forces them to develop deeper understanding of how their diverse activities might be adjusted and re-combined in response to uncertainty (Schilling and Steensma, 2001; Pathak et al., 2014).
Coordination mechanisms improve the degree of integration within and between differentiated sub-groups; ideally, better coordination fosters the ability of partners in the supply chain to process information and respond to external uncertainty with activities that are synergistic. Mechanisms such as tightly/loosely specified plans and scripts, and information technology may be especially useful to guide stakeholder participation into individual and joint activities (Frei, 2006). Moreover, centralization around system integrators support chain-wide coordination (Choi and Hong, 2002; Brusoni, 2005) and can help mitigate tension between supply chain partners (Wilhelm, 2011) that can arise as organizations within the supply chain cooperate for sustainable development, but also compete for access to funding and greater legitimacy (e.g., Cooley and Ron, 2002).

In Quadrant (I), stakeholder-induced uncertainty is low, and the intervention is likely characterized by pooled interdependencies (Thompson, 1962) where standardized activities render discrete, generic contributions to similar change episodes. A near-deterministic sequence of activities might suffice to be effective, especially if the desired outcome is to open a window of opportunity for follow-up interventions. Direct stakeholder contact may not be necessary or may simply be standardized through pre-adjusted interfaces; and any collected stakeholder input can be aggregated to inform the production of standardized change episodes. The INGO can rely upon homogeneous sub-groups, each working across change episodes that target similar stakeholder groups. This division of labor helps to minimize the unity-diversity tension that would emerge if organizations with varied values and wide-raying capabilities were put together in the same sub-group (Saz-Carranza and Ospina, 2010). Programming helps to coordinating activities within and between sub-groups and contingencies help with foreseeable deviations.
Moving to quadrant (II), the main locus of interdependency occurs between sequential activities along increasingly customized change episodes that address diverse stakeholder groups. Here, different change episodes could be managed through heterogeneous sub-groups (Schilling and Steensma, 2001; Pathak et al., 2014), each presenting a different mix of technical and relational capabilities to address the specificities of a targeted stakeholder group. Then, because of low stakeholder disposition, points in time and space might still be evident where stakeholder contact is not needed. Doing so allows the INGO to largely separate stakeholder-facing organizations, with customized activities, from “back-office” organizations that deliver standardized activities (e.g., Larsson and Bowen, 1989). This differentiation tactic might prove effective because organizations with more rigid funding might support “back-office” activities, while organizations with access to relatively unconstrained funding work with targeted stakeholders, and respond to their uncertain demands and actions. In terms of coordination, peer-to-peer information technology could suffice to adjust the performance of back-office organizations to any unexpected variation experienced by stakeholder-facing organizations. A few stakeholder-facing organizations can also act as weak system integrators (Brusoni, 2005), defined as organizations with limited authority that participate in multiple sub-groups and help to coordinate any unforeseen interdependence between them. In fact, the lower the degree of uncertainty, the greater the amount of work that, ideally, can be planned ahead of time and executed effectively.

In quadrant (III) strong interdependencies exist between change episodes related to the high stakeholder disposition to participate. First of all, here again homogenous sub-groups may serve multiple episodes in a pre-determined sequence. Temporal coordination between these sub-groups happens predominantly through planning, but the use of weak system integrators also can
address foreseeable sequential interdependencies. Stakeholder diversity is low and can be managed through tightly specified scripts that provide targeted stakeholders with clear guidance about when and how to contribute to the intervention. Finally, the case of B2B suggests that INGOs facing high stakeholder disposition should resist excessive centralization and formalization: while such configuration may allow the focal organization to retain control and accountability over the pervasive presence of external stakeholder groups (Alter et al., 1990), it also encumbers quick responses necessary to attain effectiveness (Choi and Hong, 2002).

In quadrant (IV), supply chain activities are subject to sequential and reciprocal interdependencies, as per Figure 2, and the set of change episodes will need to adjust over time without alienating key donors. First, to address the needs of diverse stakeholder groups, different change episodes might be managed through heterogeneous sub-groups (Schilling and Steensma, 2001; Pathak et al., 2014). Second, loosely specified scripts could be adopted to constrain the diversity of demands and actions of a targeted stakeholder group by clarifying how each should prepare for the service encounter and by emphasizing their facilitating role in joint activities (Frei, 2006; Damali et al., 2016). Also, having a clear normative principle for these scripts could guide the problem-solving process of supply chain partners, thus enabling effective improvisation in face of stakeholder-induced uncertainty (Secchi et al., 2017). Third, rolling-wave planning, upward incentives, and overlapping linkages with multiple forms of ties, including communication and joint work (Provan and Sebastian, 1998), might be needed to mitigate rigidity by guaranteeing effective coordination within each sub-group. Moreover, supply chain partners belonging to different sub-groups can coordinate interdependent activities using strong system integrators, defined as organizations that possess charismatic authority, and who participate in both sub-groups to enable distributed coordination (Brusoni, 2005). Strong system
integrators display effective bridging capabilities, namely ambidexterity in dealing with, and strengthening ties among, diverse partnering organizations (Rodriguez et al., 2016; Saunders et al., 2017). As the WFC case illustrates, the absence of strong coordination mechanisms can limit the ability the whole supply chain to timely respond to causal patterns that were not anticipated in the original plan.

Further research could investigate how INGOs and their supply chain partners go about identifying sequential and reciprocal interdependencies between their activities. Moreover, empirical testing of the configurations proposed in Figure 4 is needed to assess validity and generalizability, which in turn is likely to have potentially interesting implications for supply chain management theory and practice. For example, finding that most INGO chains are misaligned but that the proposed configurations are linked to effectiveness, might suggest either a lack of knowledge on the part of focal INGOs or the presence of strict accountability requirements that limit INGOs’ managerial discretion (Andrews, 2014).

5. SUPPLY CHAIN DYNAMISM

While Figures 3 and 4 provide an important starting point for additional theoretical and empirical work, each presents a static view of INGO supply chains. Yet, at least two key considerations suggest that a supply chain configuration might develop organically over the early months of an intervention, rather than result from purposeful design by a focal INGO.

First, interventions often are not confined within an organization’s boundaries, and a single INGO cannot authoritatively impose structure, consistent with complex adaptive systems (Choi et al., 2001). An INGO supply chain is likely to exhibit the characteristics of a politicized social movement (Schoonhoven and Rondinelli, 2001) where supply chain partners keep negotiating until a relatively stable configurational equilibrium is reached. Second, partisan interests and
organizational tendencies toward a short-term orientation and self-interest (Ostrom, 2014) could hamper the development of ideal configurations, and the optimal functioning of the supply chain. Partners might consciously negotiate against configurations that penalize their individual, short-term returns. For example, some non-profit organizations and for-profit firms working together may express preferences for forms of coordination that do not limit their individual freedom of action. Still, others may perceive that an emerging configuration would not be locally efficient, consuming too much of their limited resources or eroding their own centrality in the intervention. For example, during WFC, key non-profit organizations in South Africa actively opposed the establishment of strong system integrators, expressing their preferences for a more egalitarian, dispersed coordination (e.g., Nketani, 2016). One may reasonably argue that they were afraid that unknown organizations would dominate, and that the intervention would require too much from them, would compete for internal resources, and could reduce the legitimacy of other aspects of their work.

Fortunately, related literatures point to several options that collectively can assist INGO supply chains characterized by rigid resource bases to work toward longer term outcomes and (partially) set aside partisan self-interests. First, INGOs may purposefully select and involve organizations that have architectural knowledge (i.e., an understanding about how different resources can be integrated into a coherent whole, as described by Brusoni et al., 2001). For instance, University College London, Oxford University, Syracuse University and Bath University have collaborated to develop approaches that help INGOs to frame interventions in such a way to maximize effectiveness at both organizational and supply chain levels of analysis (e.g. Aniekwe et al., 2012). Second, INGOs may co-opt organizations with sufficient legitimacy, authority and power to direct other organizations in the supply chain to prioritize long-term
benefits, possibly by signing memoranda of understanding. Legitimacy builds upon the success of prior interventions, whereas authority can come from relational embeddedness that results from maintaining high-quality, reciprocal ties over time (Uzzi et al., 1997), or from brokerage positions that bring together organizations that are different and unfamiliar one another (Burt, 2005; Saunders et al., 2017) but might compete for similar resources (Cooley and Ron, 2002).

Finally, the INGO may find ways to foster joint sense-making processes based on questioning, curiosity and reflection that may help diverse supply chain partners to align their rigid cognitive frames and find ways to work together effectively (Sharma and Bansal, 2017).

Further research is needed to empirically explore patterns for how INGO supply chains that face the challenge of rigid resource bases develop over time, and then adapt from one intervention to another. Are there evolutionary paths that tend to systematically occur with INGO supply chains? Such discoveries would significantly contribute to the field of supply chain management, which has just started investigating the dynamic development and adaptation of complex supply chains (Pathak et al., 2014; Kauffman et al., 2017).

Finally, what an INGO does to develop its supply chain may offer guidance to for-profit firms who must address a growing diversity of customers, community groups, and other stakeholders. Focal for-profit firms also need to alter hearts, minds and practices of their supply chain partners in order to attain important firm-level goals, whether narrowly defined around economic objectives, or broadly defined toward sustainability goals. INGOs understand that they have little contractual power over the supply chain partners, and as such, they try to generate effective outcomes by creating a critical mass of enthusiastic organizations. Similarly, exploring options to enable for-profit firms to develop change episodes with joint activities that link developed-country customers with developing-country communities might prove useful for expanding
market share, and for coordinating a combination of for-profit firms and non-profit organizations. IKEA provides an example: the firm’s non-profit foundation has been working with 15 NGOs and governmental organizations across 30 Asian countries to combat child labor and enhance the rights and life opportunities of disadvantaged children (e.g. Strand, 2009). These efforts might be strongly linked to the parent firm’s supply chain.

6. CONCLUSION

International Non-Governmental Organizations have a vital role in delivering transformational change in societies, industries, and firms’ supply chains. These non-profit organizations stress the importance of interventions that prompt people-centered development, and that reshape collective thinking about both human progress and environmental conservation. Of particular relevance for supply chain management scholars are change episodes and the associated supply chain. A change episode captures the distinctive sequence of activities that target the knowledge, practices and relationships of a specific stakeholder group. Supporting each change episode is a supply chain that includes the group of non-profit organizations and for-profit firms assembled by an INGO – each with its own activities. Collectively, a set of change episodes must be delivered to foster transformational change in a large-scale social or industrial system during an intervention.

As an archetype, INGO supply chains have both similarities and key differences with their for-profit counterparts. But at least two key differences prompt deeper consideration. First, the primary objective driving the supply chains of many INGOs is transformational change at a system level. Second, supply chains are often characterized by heavy reliance on organizations with rigid resource bases; this second feature may alter the commitment of supply chain partners, as well as speed and quality of their response to stakeholder-induced uncertainty.
Combining anecdotal examples with related literatures from supply chain management, service operations and general management yielded preliminary insights in several important aspects. Stakeholder-induced uncertainty must be actively considered in both the design of change episodes and the configuration of the supply chain. Particularly, differentiation tactics and coordination mechanisms create options for combining non-profit organizations and for-profit firms in a supply chain that functions effectively despite uncertainty (and rigid resource bases).

While further research is urgently needed in many areas, empirical refinement and testing of the conceptual models proposed here would help to gauge the degree of generalizability beyond our anecdotal examples, which in turn is expected to have important implications for supply chain management theory and practice. For example, our model does little to consider potential contingencies beyond stakeholder-induced uncertainty. Moreover, our analysis oversimplifies the complexities arising from issues related to rigid resource bases.

Looking forward, future research could address questions such: what novel scorecards and performance measurement systems could be adopted by INGOs to monitor their supply chains? How do traditional supplier selection and contracting practices change when INGOs act as buyers, and firms as suppliers, of services and supporting activities in interventions? How do INGOs work to develop and motivate diverse supply chain partners? How do managerial solutions adopted by INGOs can inform the practice of traditional firms’ supply chains, especially in cases where focal firms have little power over the stakeholders they need to influence or the partners then need to work with? Thus, many avenues of research in supply chains have been only lightly explored—and when done so, primarily by borrowing from a for-profit perspective. Only by accommodating and leveraging multiple stakeholder perspectives can
effective supply chains be developed to provide interventions that deliver transformational change.
References


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Waddock, S. Meszoely GM., Waddell, S., Dentoni, D. 2015 The complexity of wicked problems in large scale change Journal of Organizational Change Management 28 (6), 993-1012
Figure 1 – Selected illustrations of change episodes in two interventions: ‘Behind the Brand’ and ‘Women.Food.Climate.’

1a - *Behind the Brand:*

- **Consumers in western countries**: Social media used to educate consumers on how the food and beverage industry worked.

- **Global corporations**: Bilateral negotiations around current performance and potential improvements.

- **Responsible Investors**: Educated about the risky supply chain practices of global food corporations.

1b - *Women.Food.Climate:*

- **Small-scale farmers in Africa**: Training in agricultural techniques.

- **Local African governments**: Lobbied and petitioned on agricultural policies.

Legend:
- Change episode.
- Activity delivered by the INGO supply chain.
- Joint activity where a stakeholder group is co-opted by the INGO supply chain.
Figure 2 – Partial illustration of the supply chain for Oxfam’s Women.Food.Climate.

Legend:
- Organizational Boundary.
- Activity.
- Information exchange necessary to design and execute activities with sequential interdependencies.
- Information exchange necessary to design, execute and adjust activities with reciprocal interdependencies.

World Food Day – October 2015
COP 21 in Paris – December 2015
Figure 3 – Aligning configuration with uncertainty to foster intervention effectiveness.

STAKEHOLDER-INDUCED UNCERTAINTY
- Stakeholder diversity.
- Stakeholder disposition.

SUPPLY CHAIN CONFIGURATION
- Supply chain differentiation.
- Supply chain coordination.

Degree of alignment

INTERVENTION EFFECTIVENESS
Successful delivery of transformational change.
Figure 4 – Supply chain configurations addressing increasingly higher degrees of stakeholder-induced uncertainty.

**Stakeholder diversity**

<table>
<thead>
<tr>
<th>Low Stakeholder disposition</th>
<th>Low stakeholder diversity</th>
<th>High stakeholder diversity</th>
</tr>
</thead>
<tbody>
<tr>
<td>(I)</td>
<td>Differentiation:</td>
<td>Coordination:</td>
</tr>
<tr>
<td></td>
<td>• Homogeneous sub-groups, each serving multiple episodes.</td>
<td>• Pre-adjusted interfaces with targeted stakeholders.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Programming coordinates multiple sub-groups.</td>
</tr>
<tr>
<td>(II)</td>
<td>Differentiation:</td>
<td>Coordination:</td>
</tr>
<tr>
<td></td>
<td>• Homogeneous sub-groups, each serving multiple episodes.</td>
<td>• Heterogeneous sub-groups, each serving a specific episode.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Separation between stakeholder facing and “back-office” organizations within sub-groups.</td>
</tr>
<tr>
<td>(III)</td>
<td>Differentiation:</td>
<td>Coordination:</td>
</tr>
<tr>
<td></td>
<td>• Homogeneous sub-groups, each serving multiple episodes.</td>
<td>• Tightly specified scripts to coordinate standard activities by external, targeted stakeholders.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Planning and weak system integrators between sub-groups.</td>
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<tr>
<td>(IV)</td>
<td>Differentiation:</td>
<td>Coordination:</td>
</tr>
<tr>
<td></td>
<td>• Heterogeneous sub-groups, each serving a specific episode.</td>
<td>• Loosely specified scripts to coordinate customized activities by external, targeted stakeholders.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Rolling-wave planning, upward incentives and overlapping linkages within sub-groups.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Strong system integrators between sub-groups.</td>
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</tbody>
</table>

Increasingly higher Stakeholder-induced uncertainty