Using System Archetypes to Support Learning and Strategic Reflection on Persistent Organizational Problems in Non-Governmental Organizations

Gillian S. Martin Mehers, PhD[1]
Erasmus University, School of Social and Behavioral Sciences, Rotterdam, The Netherlands
Founder and CEO, Bright Green Learning (Atadore SARL), Crans (VD), Switzerland

Abstract

This article investigates the use of system archetypes by non-governmental organizations (NGOs) as a means to support reflection on persistent, or "second order" organizational problems. This type of reflection is a feature of higher-order organizational learning. The study in this article builds upon data collected for the empirical research conducted for another study. Theoretical work on system archetypes is applied in order to extract additional insights. Using an established method, a number of persistent organizational problems were identified in the NGO case study data. The narratives for five generic archetypes were customized for the NGOs participating, the most common being "Fixes that Fail", which appeared in three of the four NGOs. Two scenarios for testing the applicability of system archetypes in NGOs have been proposed. Few studies investigate the application of system archetypes to higher-order learning in NGOs. This article demonstrates how system archetypes may be identified and customized for practical use, and proposes means for deployment within NGOs to help foster reflective practices as a component of higher-order organizational learning. Overall, this article aims to provide a practical approach to support reflection on intractable organizational problems that may be used by NGO staff, organizational development consultants, and external facilitators of strategic discussions.

Keywords – system archetypes, organizational learning, second-order learning, non-governmental organizations (NGOs), higher-order organizational learning, double-loop learning

1 Introduction

Non-governmental organizations (NGOs) have social missions to intervene in complex, dynamic environments, to promote change that is more equitable and sustainable. While they draw upon specific technical skills and knowledge related to operations in their task environment, they also need to be proficient in management, organization development, and learning in order to be able to adapt their organizations to a rapidly changing external context (Korten, 1987). Organizational learning has been promoted as a beneficial practice that can strengthen performance in NGOs (Edwards, 1997). For many NGOs, however, implementing organizational learning as an intentional practice is a considerable challenge (Whatley, 2014). Many scholars have documented the barriers to organizational learning in NGOs, including leaders unwilling to acknowledge and thus learn from mistakes (Hailey & James, 2002), time constraints and other perceived resource issues that render learning a "luxury" (Edwards, 1997), and organizational cultures that value action over reflection (Britton, 1998). Reflection is a key component of learning, but reflection takes time, tools, and the willingness to ask thoughtful and often provocative questions (Daudelin, 1996).

Organizational learning is disaggregated into lower- and higher-orders by some theorists (Argyris & Schön, 1996; Fiol & Lyles, 1985; Bateson, 1972; Senge, 2006). While lower-order learning serves to

[1] Email address: Gillian@brightgreenlearning.com

identify opportunities for incremental improvement, higher-order learning is associated with transformational change and addressing complex problems not amenable to simple fixes. Associated with higher-order organizational learning is an openness to deepen the inquiry to the values, assumptions, and mental models that hold existing practices in place. Argyris and Schon (1996) juxtapose the orders of learning under the labels of *single-* and *double-loop learning*. They describe *single-loop* learning (lower-order) as learning which identifies changes in action that are within the organization's current assumptions of actions that can be taken; while *double-loop* learning (higher-order) involves changes in actions that challenge the assumptions of what actions may be taken, and the values that may hold these assumptions in place.

Reflection as a feature of higher-order organizational learning inquiry processes is further elaborated as: focused on spotting patterns and labeling them (Bateson, 1972); focusing less on what happened, or "events" thinking, and more on patterns and trends (Senge, 2006); and as an exploration of "second-order errors", which involves investigating reasons and motives behind objective facts with the aim to understanding the existing practices that might have created the problems and allowed them to persist (Argyris & Schön, 1996). While pattern and trend spotting are often built into NGO processes, such as strategic planning, reflection on second-order errors can be considered abstract by NGO staff and a challenge to undertake. A first step may be to develop a shared understanding of the problem. This may involve a pause for collective reflection and surfacing assumptions about what causal interactions may be driving the patterns observed and keeping the current system in place.

Because organizational problems are often complex, it can be difficult to understand the dynamics of the social systems involved (Forrester, 1971). Forrester describes the challenge of developing a shared understanding of complex dynamic problems:

> When only a single topic is being discussed, each participant in a conversation employs a different mental model to interpret the subject. Fundamental assumptions differ but are never brought into the open. Goals are different and are left unstated. It is little wonder that compromise takes so long. And it is not surprising that consensus leads to laws and programs that fail in their objectives or produce new difficulties greater than those that have been relieved. (Forrester, 1971, p. 3)

Forrester (1971) further points out the importance of exposing the assumptions that people hold about the system in order to discuss and debate them. However, it can be challenging for NGO staff to "see the system" that they are working in, to articulate their assumptions, and to identify undesired behaviors underlying persistent problems. This requires the collective discourse to move from an exchange of event observations to a focus on the longer-term patterns and causes that underly the events observed (Senge, 2006). The efforts needed to precipitate this change in perspective is not inconsequential. Senge (2006) asserts that, "We are conditioned to see life as a series of events, and for every event, we think there is one obvious cause" (p. 21). It is harder to co-create solutions if participants hold different understandings of the problem and its causes.

1.1 Using System Archetypes to Explore Persistent Organizational Problems

System archetypes are considered effective tools to describe common patterns of behavior in organizations (Braun, 2002). Meadows (2008) pointed out that all systems have surprising properties, such as nonlinearities and delays, and that generally these cannot or should not be changed. Instead, she advocated being less surprised by this complexity and messiness. However, she distinguished these dynamics from those described by system archetypes, which she referred to as "traps" that are prevalent and should be recognized and changed:

> ...some systems are more than surprising. They are perverse. These are the systems that are structured in ways that produce truly problmatic behaviour; they cause us great trouble. There are many forms of systems trouble, some of them unique, but many strikingly common. We call the system structures that produce such common patterns of problematic behaviour *archetypes [emphasis in original]*. Some of the behviours these archetypes manifest are addiction, drift to

low performance, and escalation (Meadows, 2008, p. 111).

Within a "palette" of systems thinking tools, archetypes belong to a group that Kim (1992) described as "dynamic thinking tools" – tools that help understand dynamics at play within a system (p. 4). This set also includes behavior over time (BOT) graphs, and causal loop diagrams (CLDs). Generic system archetypes are commonly expressed with a narrative description of the behavior, a simple CLD, and a "solution" which discusses how to change the behavior of the archetype (Kim, 1992). Wolstenholme (2004) advocated for the use of system archetypes because full stock-flow diagrams and comprehensive causal maps that feature among the other systems thinking tools are often considered too detailed and can distract from the systemic thinking they were created to promote. Bano et al. (2022) compared system archetypes to quantitative models and found them a simpler way to get a holistic perspective on problems and solution identification. Senge (2006) described the power of system archetypes as revealing, "... an incredibly elegant simplicity underlying the complexity of management issues" (p. 93), that may help expose opportunities for leverage to change unwanted dynamics and provide a way to engage others in this pursuit.

The promise of system archetypes to help simplify dynamic processes by categorizing them into a set of generic models that can be applied to a wide range of situations is attractive, yet they are not widely known by practitioners. A study conducted by Bureš and Racz (2016) found that only a small percentage of senior managers in their study knew about system archetypes. For most of them it was a new concept, and not one that they used in practice, although in the study nearly all managers had experienced particular archetypes in their daily work.

Diverse users employ system archetypes. Scholars use them as a lens to better understand and explain complex dynamics in society as well as in organizations (Brzezina et al., 2017; Bano et al., 2022). Management consultants and practitioner scholars may use them to inform their own thinking to help them shape ideas about the organizational issues that they have been engaged to help remedy (Mandl, 2019). Or they may be used by some organizations themselves as templates to diagnose persistent problems and provide insights into remedies (Kim, 1992; Kim & Anderson, 1998; Senge, 2006). In addition to diagnosis - to assist in explaining current behavior - system archetypes can be used as a "check" on policy before intervening in a system to avoid the traps described, or as a useful aid in the design phase of an initiative (Kim & Lannon, 1997). Most examples come from business contexts, with few exemplars demonstrating system archetypes used within NGOs although the dynamics explored also pertain to these organizations.

While there is some terminological disagreement, most authors agree on a set of core archetypes, popularized by Kim (1992), that include: Drifting Goals, Escalation, Fixes that Fail, Growth and Underinvestment, Limits to Success, Shifting the Burden, Success to the Successful, and Tragedy of the Commons. Two additional archetypes – Accidental Adversaries and the Attractiveness Principle – were later added to this list (Braun, 2002). Some researchers have identified new or amalgamated archetypes based on specific cases, such as Banson et al. (2016) and Banson et al. (2018); however, the eight core archetypes tend to be the most commonly employed.

While recurring systemic structures were observed by systems dynamics scholars in the 1960s and 1970s, it would take decades for system archetypes to be described and catalogued (Kim & Anderson, 1998). Since popularization in the 1990s, most notably by Peter Senge (2006) in his book *The Fifth Discipline: The Art and Practice of the Learning Organization*, originally published in 1990, system archetypes have proven to be a theoretically interesting way for advocates and academics to frame specific problems, identify potential remedies, and promote a change in mindsets. They have been less widely researched for use practically within organizational settings, particularly in NGOs, as a tool to underpin discussions and to identify potential strategic responses to persistent problems. This may be due to a number of factors: The lack of awareness of these systems thinking tools, the skill needed to customize the systems stories to organizational realities, the difference in perspective on whether or not persistent problems exist or need to be addressed, and the willingness of busy NGO staff to delve into complex problems that may seem insurmountable, among others.

There may be contexts in NGOs where system archetypes may be of particular relevance, such as strategic planning processes. While these processes have varying degrees of formality in implementation in NGOs (Crittenden & Crittenden, 1997), Bryson (2018) advocates strategic planning that follows a disciplined and methodical approach. His Strategic Change Model, designed for non-profit organizations, includes structured spaces for collective reflection, and focuses on solving complex problems, thus may provide a conducive environment to introduce system archetypes (Bryson, 2018).

This study investigates a practitioner-focused use of system archetypes as a tool for NGOs to employ in strategic processes. In this article, the researcher describes how system archetypes were identified and customized for use by four NGOs to promote reflection on a set of persistent problems, thus supporting higher-order organizational learning goals. The article concludes by exploring potential pathways for implementation by a skilled facilitator and system archetypes practitioner.

2 Methodological Approach

System archetypes are most commonly used diagnostically to help recognize patterns of behavior that are present in organizations, alternatively they can be used for testing proposed actions to understand if they will produce the archetypal behavior (Braun, 2002). This study used system archetypes diagnostically. Within diagnostic uses, Kim & Anderson (1998) identified three different approaches to using these systems thinking tools, as synthesized by Brzezina et al. (2018, p. 5):

1. Start with a suspected archetype and adapt it according to the specific story;
2. Start with a story without any archetype in mind and use a combination of tools such as behavior over time graphs and causal loop diagrams to decide whether a particular archetype may be at work in this story;
3. Use the whole catalogue of archetypes as lenses for looking at different aspects of a story.

In this study, the first and third approaches were used, looking at dynamics within the "stories" of four NGOs through a system archetypes lens. It is notable that in the book, *Thinking in Systems: A Primer* (Meadows, 2008), Meadows does not employ CLDs to describe the dynamics of particular system archetypes, instead offering only narrative descriptions. Meadows' aspiration is to provide a "basic ability to understand and deal with complex systems" (Meadows, 2008, p. X), with a view to capacity building and utility. As this study aspires to investigate the use of system archetypes for non-specialists in NGOs, it also employs exclusively narrative descriptions of the archetypes.

The study process was conducted in two parts (Figure 1). Part one involved developing the "story" for each NGO, and part two comprised reflecting on the stories through the lens of system archetypes, including the elaboration of the archetypes that might help explain the problems identified in the stories.

Figure 1

Overview of the Methodological Approach
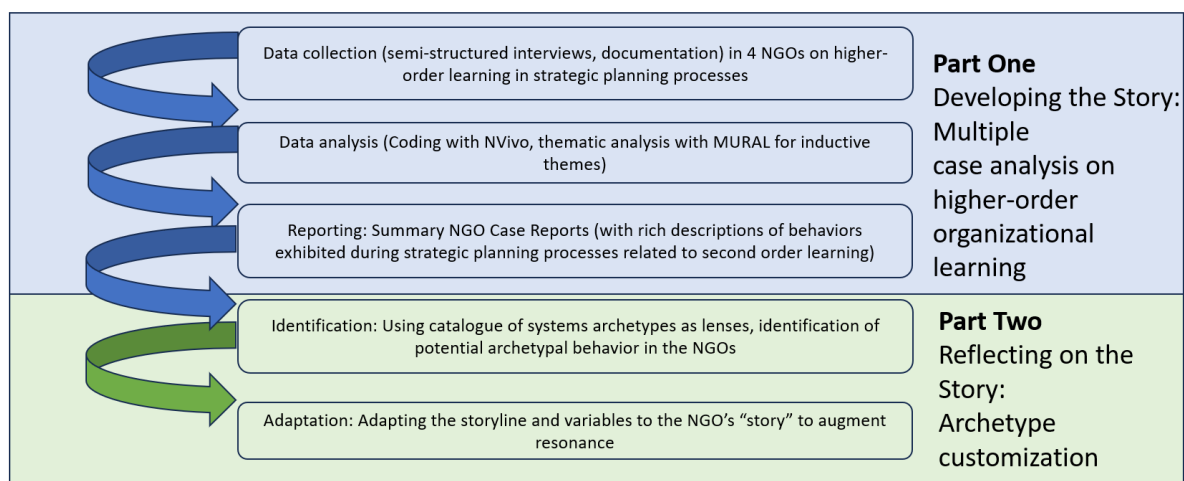
2.1   Part One: Developing the Story

The "story" was derived from a multiple case study on higher-order organizational learning in the

strategic planning processes of four international sustainability NGOs (*author name removed, in process*). The study involved the investigation of features of higher-order organizational learning in the NGOs' strategic planning processes.

Data collection for the multiple-case study, conducted in 2023, included documentation acquisition and semi-structured interviews of participants in the strategic planning processes, following a data collection protocol informed by Yin (2018). Informants represented key stakeholders in the processes, and 4-5 participated from each NGO. Data analysis of transcripts and documents was initiated with coding using NVivo (QSR NVivo Release 1.7(1533)), followed by inductive thematic analysis using MURAL (Terry & Hayfield, 2021) and NVivo. Individual Summary Case Reports were generated for each NGO, as each case in the multiple case study was analyzed individually prior to conducting the multiple case analysis (Stake, 2006). This process provided the dataset used by the researcher to select candidate archetypes.

2.2 Part Two: Reflecting on the Story Through the Lens of System Archetypes

During the preparation of Summary Case Reports, as a first step, the researcher reviewed the catalogue of eight core generic system archetypes documented by Kim (1992) and used them as lenses to identify potential archetypal behavior in the NGOs, based on the experiences reported by the informants. When a potential fit was identified, it was coded in NVivo. This step captured an initial set of potentially applicable archetypes. Others were identified after the Summary Case Reports were completed and results reviewed by the researcher. Within each case, 2-4 candidate archetypes were identified with potential to help understand some of the behaviors reported by informants and found in documentation.

As a second step, the researcher adapted the narrative of generic archetypes (storyline and variable names) to accord with the identified story. This was informed by descriptions of the generic archetypes provided by Braun (2002), Kim (1992), Meadows (2008), and Kim and Anderson (1998). These authors developed descriptions of the generic archetypes, each of which has its own storyline, pattern of behavior over time, and systemic structure (expressed as a causal loop diagram), and insights as to remedies that can help to manage or modify the behavior that the archetype describes. The researcher's adaptation process was also informed by examples of applications of specific archetypes (Wolstenholme, 2004; Gillies & Maliapen, 2008; Banson et al., 2016). The resultant product was a fact sheet for each of the identified archetypes that included: The archetype title, the generic causal loop diagram with description from Kim (1992), suggestions for adapting the causal loop diagram variable names, storyline, and potential remedies. Also included was evidence that supported the selection of the archetype in the form of quotes from the informant interviews. A set of fact sheets for the individual archetypes was prepared for each NGO.

The goal of the adaptation step was to make the archetypes more resonant and useful when presented to the NGO's staff, for member checking and participant validation (Carlson, 2010). This third stage was not included in the current study, but has been developed in the discussion section of this article as a potential means to deepen the empirical component of this research.

2.2.1   Positionality of the Researcher

The positionality of the researcher was a source of reflection. The researcher has worked with NGOs as a professional facilitator, and in organizational learning, strategic planning, and other strategic processes, often employing systems thinking tools and approaches. For example, the researcher introduced systems thinking concepts through games in three of the four NGOs participating in this study in other contexts, but had not worked extensively with the NGOs using systems thinking tools. The researcher in all four cases was known to the NGO from previous consulting or advisory work; however, in none of the cases did the researcher work with the NGO in any capacity on the strategic planning exercises under investigation for Part I of this study. However, the background knowledge of the researcher with regard to the four NGOs likely served to fill in some narrative of the storyline. As such the data collection and analysis process was important to develop the evidence base for the identification of the archetypes. This assured that the foundation for the choice of archetypes originated with the NGO and not the

researcher.

3 Findings

3.1 System Archetype Identification

Data collection, analysis, and the NGO Summary Case Reports generated in Part I, provided evidence suggesting five archetypes of potential relevance to the NGOs (Table I). The most frequently identified was "Fixes that Fail" (3 NGOs). Four other archetypes were found in one of the NGOs including "Drifting Goals", "Shifting the Burden", "Success to the Successful", and "Limits to Success". In general, "Fixes that Fail", "Shifting the Burden", and "Limits to Success" are considered to be the most easy to recognize from among the core generic archetypes (Kim & Anderson, 1998), so it is not surprising that they are included among those identified.

Table 1

System Archetypes Suggested from Evidence Collected from the Strategic Planning Processes of NGOs

Case	System archetypes identified
NGO A	• Fixes that Fail • Shifting the Burden
NGO B	• Fixes that Fail • Success to the Successful
NGO C	• Limits to Success
NGO D	• Drifting Goals • Fixes that Fail

The data set was then used to create a series of vignettes. These are organized by archetype and include an introductory summary of the generic archetype prior to the anonymized vignettes.

Fixes that Fail

In the generic archetype "Fixes that Fail" (Kim, 1992), an immediate problem is considered dramatic enough that a quick solution is needed. While the quick and easy solution relieves the symptoms of the problem, it triggers unintended consequences that do not provide a sustainable solution or can even exacerbate the original problem. The fix ultimately fails, but the urgent need to solve the problem encourages another fast fix. In the NGO stories related to this archetype, the quick "fixes" include making stakeholder-pleasing project exceptions, inviting opportunistic representation into decision making, and selecting projects based on funding opportunity and not mission delivery.

In NGO A, the humanitarian assistance NGO took on any project because it was requested by a country member in need. The NGO also compromised to keep need-based projects that were exceptions, and no longer fit into the global strategy. With the right intentions behind these decisions (inclusion, needs-based work), the NGO could say "yes" to serve members and make exceptions to the requests for peripheral projects in country programs. Making exceptions was easier and faster than working on the harder fundamental issues of getting collective agreement on prioritization and enforcing agreements. Once exceptions were made, it was hard to deny further requests for exceptions as that felt inequitable. Potential unintended consequences included the inability to enforce the agreed mission, opening the potential for scope creep. In addition, without a clear identity, the organization would not have a central organizational narrative and ability to distinguish itself in the field. Instead, it would appear to be dabbling in many fields with other competitors. In addition, allowing exceptions on a case-by-case basis may reinforce asymmetrical power dynamics between the international secretariat (who get to say yes or no to requests for exceptions) and the country programs, triggering other unwanted dynamics explained in other archetypes such as "Success to the Successful".

In NGO B, the NGO membership wanted to be engaged in an important strategic planning process,

but a large and diverse membership that is geographically spread is considered by the small NGO Secretariat as a challenge to engage. Some interviews are conducted which bring the voices of active members into the discourse, and some member representatives are included in the meetings that are held to develop the strategy. At the annual gathering of members, however, the strategy is mainly completed, so the exercise is more of a rubber-stamping validation exercise that serves mainly awareness-raising purposes. The strategy itself is calling out for more country-level work and more member engagement; however, the outreach to members in the strategy development process is relatively small and inconsequential. The lack of change to the strategy suggested by members, due to limited scope to make suggestions, is considered validation and the strategy goes forward. As a result, there is less buy-in to the strategy and less purposeful alignment of members to the NGO's strategy. Unintended consequences are that it is not easy to aggregate results of members' work for the NGO to report on at the request of donors who want to see more impact initiatives. In addition, responsiveness of members to Secretariat communication (e.g., reading and responding to emails, reading and contributing to newsletters, communicating with the Secretariat, etc.) declines as the perception of the NGO Secretariat as a separate entity to the members is subtly reinforced. The "fix" here is to use perceptions of efficiency and expediency to invite a small group of insiders to work together to produce the fundamental components of the strategy for the entire organization. Without meaningful engagement of stakeholders, the level of buy-in and alignment to the global strategy will suffer. This makes it harder in the future to engage membership to develop a global strategy around shared goals, the outcomes of which can be aggregated to demonstrate shared impact to the world, and donors.

In NGO D, the team took on any project because it was interesting and brought in funds that could help the NGO continue to exist. The funds could keep the NGO solvent in the short term, but the diverse individual projects didn't aggregate into a strong theory of change or experience base that would make it easier in the future to raise funds based on clear competency of the whole organization. The organization became moderately known in many different arena's but not well known in one. The fix was to take opportunistically any project, based on economic need. This diversity prevented the development of a strong single narrative for the organization that would be attractive to larger partners and donors. Taking the small disparate projects was alleviating a symptom (the need for funds) but did not address the underlying issue that the organization did not have a strong cohesive theory of change or track record.

Drifting Goals

In the generic archetype "Drifting Goals" (Kim, 1992), the lack of attainment of an organizational goal can provoke two responses – corrective action to meet the existing goal or the lowering of the goal itself to make it more attainable. If the goal continues to be unmet, it may be repeatedly lowered, causing performance to gradually drift downwards to match the goal's descent. In the NGO story, the lowered goals were related to achieving organizational mission.

In NGO D, the mission was too high-level and unclear, and there was no collective understanding on how to operationalise it. Over time, staff stopped focusing on achieving that mission, although the organization maintained that articulation of the goal in their promotional materials. Instead, staff set their own goals that were more satisfying and achievable for them, and that seemed to be beneficial in some way for the organization: Trying new things, exploring new areas, understanding innovation, and in particular, attracting funds to the organization. With funding an ongoing pre-occupation, the latter appeared to be a satisfactory goal, so even senior management began to ask less questions about how the outcomes of the projects would help the organization achieve its mission. Novelty, exploration, and fundraising became new, more achievable, yet lower-level goals. However, these reduced performance towards the mission that the organization said it would achieve. Instead of clarifying the goal, and agreeing on a strategy to achieve it, staff lowered the goals gradually. Overtime the performance level drifted and there was scope creep.

Shifting the Burden

The generic archetype "Shifting the Burden" (Kim, 1992), is also called "Shifting the Burden to the Intervenor" (Meadows, 2008) and is the archetype associated with dynamics of addiction or adaptation (Meadows, 2008; Senge, 2006). The archetype explores the dynamics when a symptom of a deeper problem is treated by a solution that aims to solve the symptom instead of trying to understand and apply a more fundamental solution to the problem. The solution eases the problem symptom, removing the pressure of trying to solve the deeper problem. Eventually the symptom returns, and another set of easy

solutions is applied, when repeating this forms a vicious cycle that can also produce unintended consequences that further divert focus away from the fundamental problem that needs to be solved.

In NGO A, The NGO selected a facilitator, with whom they had worked repeatedly in the past, for their strategy process. The facilitator had a strong personality and was comfortable challenging the group. Decision-makers in the NGO liked the facilitator's style because it found that in collective discussions, where they wanted people to engage, some staff stayed quiet and did not want to enter into debate. The reasons for their lack of engagement may have been due to personal style, or a lack of trust in what might have been a psychologically unsafe environment, with fear that their opinions would be judged harshly and reflect poorly on them. The NGO may be shifting the burden for engagement onto the facilitator who can use tools and a more confrontational approach to elicit inputs for the process, instead of probing the reason for the lack of engagement in strategy process. The bigger problem may be the lack of dialogue skills and practice in the NGO, and absence of a safe environment for engagement. The facilitator can address this when present, but this behavior will likely persist when the facilitator is not there, and may create a dependence on the facilitator for collaborative work, preventing the NGO from investing in developing their own facilitation and learning skills.

Success to the Successful

In the generic archetype "Success to the Successful" (Kim, 1992), two or more entities are drawing from a pool of shared resources to achieve their individual goals. As they get more successful, they increase their capacity and thus their ability to garner more resources vis-à-vis the others. This further entrenches their success and power, and in turn limits the ability of other actors to benefit equally. In the NGO story related to this archetype, the resources included decision-making power and attention of staff and leadership.

In NGO B, the donors and partners who set up the NGO, founded it to help them further their institutional international development goals which involved supporting the related work of members around the world. The donors set up a secretariat and appointed a director to run the NGO. However, the donors also set up a governance mechanism, in which they actively participated, that ensured their influence over the work of the NGO in perpetuity. This governance mechanism had ultimate decision-making power over the work of the NGO, its themes, direction, and budget. Increasingly, the donors exerted a right to priority access to the time of the Director and staff of the NGO, reducing the time available for staff to get to know members, understand their preoccupations, and service member requests. As donor priorities changed over time, the governance model ensured that the donors continued to have priority and decision-making power over the NGO, and indirectly over the resources (e.g., Secretariat staff time and funds) allocated to the NGO members. Over time a gap emerged and widened between the strategy of the NGO as defined by its governance body and the strategic interests of its members. The members may have had different priorities than the donors but were increasingly disadvantaged from exerting them due to the structure of the organizational system and its governance. What the mission, vision and priorities of the NGO would look like if members produced them is impossible to know, as the winners in this scenario will continue to win, while those who have less decision-making power and voice will not.

Limits to Success

In the generic archetype, "Limits to Success" (Kim, 1992), an organization's actions lead to success which encourages them to continue these activities. However, success eventually triggers limiting factors that cause organizational performance to suffer. Because the organization experienced success initially from these activities and does not recognize the limiting factors that have emerged as being associated with these actions, it tends to redouble the efforts that originally led to success. In this NGO story, the limits are staff size and capacity.

In NGO C, the NGO is successful in their task environment, and this produces funding for its efforts. The NGO prided itself on having a secretariat that is small, agile, and experienced. Therefore, the NGO focused on performing quality work in their task environment and not on activities that did not seem to directly promote technical outcomes, such as strategic communication, and monitoring and evaluation.

Over time, the NGO grew its technical capabilities, and was rewarded with funding and partners for their success. Then things started to change in their environment. There were more actors in the field, and they started to exhaust the capacity of traditional funding partners to support their technical work.

There was also a change in demand. The NGO was also asked by their governance body (who are also donors to the NGO) to show the impact of their efforts. The requests for stories required capturing results, monitoring, and communicating the stories strategically. However, the NGO didn't have the capacity - professional communications staff, systems for monitoring, or time to do this. So, they could justify not investing in that. As a result, the donors were not sure if their funds were having an impact, and the NGO was not able to attract new donors because they were not known outside their niche. In spite of continued technical efforts, they now have a persistent funding challenge. By focusing their efforts on technical delivery, they have ignored critical support functions over time.

In conclusion, these findings suggest that NGOs likely have some shared organizational problems, and as such reading about these in other contexts may also serve as informative. However, there is also uniqueness based on their structures and organizational culture.

4 Discussion

It is perhaps not surprising that these particular archetypes were found in the four NGO cases, as issues such as mission alignment, challenges of resource mobilization, and governance are among the themes for which strategic planning is designed (Bryson, 2018). These individual archetypes may also be seen as part of a larger story for NGOs in general, and it is not uncommon for archetypes to be used together to describe different facets of the same larger problem (Kim, 1992). One such problem may be the shifting funding landscape of NGOs over the past decades, and the challenges that NGOs face in maintaining strategies of resource dependency on donors. This dynamic is described by Ebrahim et al. (2014) and associated with mission drift and accountability in NGOs. Persistent funding issues prompt some traditional nonprofits to pursue paths of change transforming them into hybrid organizations where their social missions are pursued, entirely or in part, through market mechanisms (Ebrahim, et al., 2014). For several of the case NGOs in this study, funding concerns have been contributors to the problems described in "Fixes that Fail" (where capacity and funds prevent a more thorough consultation), "Success to the Successful" (where donors' pre-eminence puts them in key governance positions, and the search for exemplar cases drives unwanted competition), "Drifting Goals" (where projects that bring in funds but are only peripherally linked to mission delivery are accepted), and "Limits to Success" (where frugality with small resources precludes capacity investments). While these may seem to be intractable problems, it may be possible to support their deeper inquiry using a tool such as system archetypes to help create a shared sense of the problem, among all stakeholders, to collectively address it.

There is the issue of why NGOs may not be employing these management tools in their strategic planning processes already. Twigg and Steiner (2002) identify the challenge that busy NGO staff face finding the time and resources to learn new approaches and introduce them into their practice. In addition, not all NGOs undertake strategic planning in a formal manner. Crittenden & Crittenden's (1997) study demonstrated that only those NGOs with the most sophisticated strategic planning processes employed management tools and consultants to support this work. In addition, Lindenberg (2001) discusses the distrust that some NGOs have with management tools that have been developed for use in business contexts, underlining the need to adapt them, in particular from the language and framing perspective, for example from profit and growth motive to those of social mission advancement. Finally, Bureš and Racz (2016) found that most managers in their study, while having experienced the archetypes in their work, did not know about system archetypes. These may be among the reasons that NGO managers do not employ system archetypes. However, they also provide some potential ideas on how they might be made more attractive for use in NGOs, including adapting them to their contexts, using them with external support, and building them into scheduled strategic processes where staff time is already allocated.

If an opportunity for using system archetypes is presented, what might be the next steps? How can they be most effectively used to support change in organizations and their staff? Howard Gardner (2006) discussed two varieties of mind changing and shifting viewpoints –abrupt or sudden change, and emergent or gradual change. These two approaches may be applied with individuals in organizations. If system archetypes can help shift mental models towards shared understanding of an organizational problem and potential remedies, then there could conceivably be different approaches to their introduction. One that aims at providing insights that can precipitate more abrupt changes, and one approach that integrates new ideas over a longer term focused on fostering emergent or gradual change in perceptions. In articulating the two approaches, Gardener (2006) considers that even dramatic changes may mask processes that

have been percolating for some time. Donella Meadows (1997) observes in her paper, *Leverage Points: Places to Intervene in a System,* that paradigm shifts are hard to achieve but present high leverage. She observes that abrupt shifts are possible in individuals, "...there's nothing necessarily physical or expensive or even slow in the process of paradigm change. In a single individual it can happen in a millisecond. All it takes is a click in the mind, a falling of scales from eyes, new way of seeing" (p.18). In a collective space, Meadows advocates working with active change agents and with those who are open-minded. Gardner (2006) also discusses the role of an agent of change to help bring about a mental shift.

Working effectively with system archetypes would appear to have a steep learning curve to feel confidence in their identification, adaptation, and use. While the time and capacity of NGO staff to learn novel approaches and practices is not necessarily available, or made available (Twigg & Steiner, 2002), Meadows' words still encourage the design of an approach that may prompt the "falling of scales from the eyes", in addition to one that introduces the concepts gradually. Both of these approaches could be explored for their potential in supporting NGOs to use system archetypes to deepen reflective practice around second-order errors and adding a Part III to this study. While both approaches may involve a longer data collection stage, the moment of interaction with NGO managers may be through a powerful presentation, for example in a workshop or webinar (scenario 1), or in their integration as a theme in a longer, iterative strategic planning process (scenario 2).

Insights from either approach could be assessed using the framework from Kirkpatrick & Kirkpatrick's (2016) four levels of training evaluation, immediately after the intervention for scenario 1, or throughout the process for scenario 2. The four levels could include:

- Level 1: Reaction – resonance of the system archetypes with those participating;
- Level 2: Learning – provision of new insights;
- Level 3: Behavior – further reflection or follow-up;
- Level 4: Results – opportunities and challenges in producing results.

Both approaches rely upon effective change agents.

4.1 The Role of External Change Agents in Introducing System Archetypes

Because system archetypes may not be widely known to managers (Bureš & Racz, 2016), skilled support may be needed to produce the customized archetypes, present them to staff, and answer questions. The learning journey for NGO staff, be it short or long, would be improved with deliberate design that structured the process to help the NGO assimilate the archetypes conceptually and then support their independent work with them. Both content expertise and familiarity with system archetypes is needed, as well as skilled facilitation expertise to work with them during a short intervention or in a longer process. The facilitator of the strategic planning process overall that is familiar with system archetypes would become more aware of organizational dynamics throughout their work with the NGO and could support the organization in building skills and then introducing them meaningfully in the strategy development process. Among the different roles that facilitators may play, this situation may necessitate those of developmental facilitator and consultant facilitator (Schwarz, 2017), where the facilitator brings expertise and also takes on learning and capacity building goals.

Discussion of these topics may be sensitive. To deal with such topics, skilled facilitators can help create an environment with psychological safety for the team, defined by Edmondson, (1999) as having ... "a sense of confidence that the team will not embarrass, reject or punish someone for speaking up" (p. 354), making it possible to discuss persistent problems. The International Association of Facilitators (IAF) identifies the need for facilitators to "Honor and recognize diversity, ensuring inclusiveness" which includes the ability to, "Create a climate of trust and safety," one component of the IAF "Core Competencies Framework" (International Association of Facilitators, 2021, p. 2).

The more sophisticated strategic planning processes in NGOs are likely to use tools for strategic planning and engage external consultants to help them (Crittenden & Crittenden, 1997). Facilitation is included in the kinds of resources that may be needed for strategic planning in NGOs to be effective (Bryson et al., 2018). Skilled facilitators use various tools and approaches, and may work as external consultants in processes where they need both a systemic perspective as well as strong facilitation

competency (Beer et al., 2005). Because of a pre-planning preparatory step for facilitators to understand the context (McFadzean & Nelson, 2018), and the multi-step nature of strategic planning processes themselves (Bryson, 2018), facilitators should be able to both collect the relevant input and adapt the archetypes to the NGO context, within the existing scope of their work, and through this customization make the tool more acceptable to an NGO audience (Lindenberg, 2001). For a facilitator working with an NGO on their strategic planning process, many of which are multi-event and take place over a period of time, they would have opportunities to build skills of participants in using system archetypes, as well as introduce them at an appropriate stage in the process to prompt deeper reflection and to ascertain if it helped the group see the problem more clearly, gain new insights, and potentially trigger a "tipping point" in the minds of people towards change (Gardner, 2006).

5 Practical Implications, Limitations and Areas for Future Research

5.1 Practical Implications for NGOs

Practical implications exist for both practitioner scholars and NGOs. Because the customized stories build on generic archetypes, and are adapted to NGO contexts, these archetypes might provide insights to other NGOs. The story nature of the management tool might provide an entry point to generate interest to understand how to employ system archetypes further. Adapted stories such as these may also be used as a part of a capacity building initiative in NGOs, using them as examples within a learning activity, or developing customized stories for the NGO to create an applied learning opportunity. The training could be used to both build understanding of the tool, as well as a forum to address internal issues, when real examples and cases are used. Training on archetypes was advocated to foster more constructive use of system archetypes in the study by Bureš & Racz (2016).

Using system archetypes in the way proposed by the study would help NGOs identify skilled facilitators to support them in their strategic planning processes who have knowledge and experience using system archetypes and systems thinking tools as a part of their facilitation practice. These facilitators would have qualities of developmental facilitators (Schwarz, 2018) that include helping the group to solve problems through their new strategy, as well as to help the NGO "...develop its mutual learning mindset and skills set so, in the future, it can identify and address other situations on its own" (p. 24). In this case, the skill set would include the use of system archetypes, as well as the conditions to employ them effectively. Schwarz (2018) notes that facilitators, "...need considerably more skill to provide the developmental form" (p. 24).

The NGO and facilitator could together build data collection and customization of system archetypes stories into the consultation stage of a strategic planning process. Bryson's (2018) Strategic Change Cycle includes a step that involves the identification of strategic issues. Internal environmental assessments are advocated by Bryson (2018), that involve the assessment of "...resources (inputs), present strategy (process), and performance (outputs)" (p. 171). These are often conducted by external actors, and could be undertaken by a developmental facilitator. This review may involve key informant interviews, surveys, documentation review or other data collection, and as such could follow the methodology suggested in this study. With an external actor that is confident using a system archetypes lens, questions could include those that would lend themselves to identifying archetypical behavior and to producing system archetypes as an input to this step of the strategy planning process. Understanding the context for facilitation, including the problem definition, knowledge of the group and business environment, is part of the preparation for an external facilitator to work with an organization in a problem-solving capacity (McFadzean & Nelson, 2018). As a result, using system archetypes as a lens to understand context could be built into the existing process without considerable additional time or cost to the NGO.

5.2 Limitations and Areas for Future Research

The system archetypes identified formed the basis for story development; however, in this study they were not rigorously tested in the NGOs. Two scenarios for testing in the future were proposed, a sudden or gradual change and working with the archetypes, and may provide insights into a next empirical

stage. This stage could include an assessment of impact of the system archetypes on the mental models and actions of NGO staff and management. In the next stage, empirical work could also try to answer the question if archetypes can help NGOs address persistent organizational problems by developing a clearer problem understanding, and helping to communicate these problems within the team. The study didn't venture into the remedies that the generic system archetypes afford; however, this could be integrated into a next stage which involves direct contact with the NGOs involved.

The archetypes identified were derived from data collected on historic strategic planning processes of four NGOs. Because of natural staff turnover, these may not appear to be persistent problems in the NGOs, as they may have been identified through other means in the intervening period and remedied, or other problems may have emerged for staff as more important. These initial stories could provide the basis of further data collection to update them prior to testing,

The current study focused on the identification and customization of the generic system archetypes stories to problems identified in NGO strategic planning processes, because it was a platform with dedicated time and mandate to investigate the NGOs' internal and external environment. However, they may be useful in other contexts, or by motivated NGOs with a strong learning orientation.

6 Conclusions

This study showed that one can derive and customize system archetypes from information collected from participants of NGO strategic planning processes, through a structured data collection protocol that uses higher-order learning as a framework. The archetypes identified in this study point to potential persistent problems of mission alignment, decision making processes, and governance, among other issues identified in the NGO cases of this study. Testing options may include sharing the customized system archetypes with NGO staff to precipitate sudden change, or the more gradual approach of embedding system archetypes among the management tools used to conduct strategic planning processes. This could include an intentional capacity building component. For both pathways, given that system archetypes are a relatively unknown tool, an NGO would likely need skilled support. This could take the form of a developmental facilitator, a role for a practitioner with both experience using archetypes in learning contexts as well as strong facilitation skills. This role may support the effective use of system archetypes to promote reflection on second-order errors as a feature of higher-order organizational learning, one of a suite of features of strategic processes that can help these processes lead to transformational organizational change in NGOs.

The application of system archetypes as tools for reflection may improve staff members' understanding of the key underlying causes of the NGO's performance issues and enable more constructive strategic conversations going forward. These can become one tool in the strategic toolbox of NGOs who are working towards transformational change and can provide an opening for a discussion on persistent problems which may otherwise be repeatedly treated symptomatically, while the underlying structure creating the problem goes unnoticed and untreated. In a rapidly changing and resource constrained environment, NGOs need to be able to identify problems in their organizations and address them as efficiently and effectively as possible.

References

Argyris, C., & Schön, D. A. (1996). *Organizational learning II: Theory, method and practice*. Addison-Wesley.

Bano, R., Khiadani, M., & Yong, S. N. (2022). System archetypes underlying formal-informal urban water supply dynamics. *Water Resources Management*, *36*(13), 4995-5010. https://doi.org/10.1007/s11269-022-03288-w

Bateson, G. (1972). *Steps to an ecology of mind*. Chandler.

Banson, K. E., Nguyen, N. C., Bosch, O. J. H. (2016). Using system archetypes to identify drivers and barriers for sustainable agriculture in Africa: A case study in Ghana. *Systems Research and Behavioral Science, 33*(1), 79–99. https://doi-org.eur.idm.oclc.org/10.1002/sres.2300

Banson, K.E., Nguyen, N.C., Sun, D., Asare, D.K., Kodia, S.S., Afful, I., & Leigh, J. (2018). Strategic management for system archetypes in the piggery industry of Ghana – A systems thinking perspective. *Systems, 6* (4), 1-25. https://doi.org/10.3390/systems6040035

Beer, M., Voelpel, S. C., Leibold, M., & Tekie, E. B. (2005) Strategic management as organizational learning: Developing fit and alignment through a disciplined process. *Long Range Planning, 38*(5), 445-465. https://doi.org/10.1016/j.lrp.2005.04.008

Braun, B.W. (2002). *The System Archetypes*. Available online: http://www.albany.edu/faculty/gpr/PAD724/724WebArticles/sys_archetypes.pdf

Britton, B. (1998). The learning NGO. Occasional Paper Series No: 17. Oxford: International NGO Training and Research Centre (INTRAC).

Bryson, J. M. (2018). *Strategic planning for public and nonprofit organizations* (5th ed.). John Wiley & Sons, Inc.

Bryson, J. M., Edwards, L. H., & Van Slyke, D. M. (2018). Getting strategic about strategic planning research. *Public Management Review, 20*(3), 317-339. https://doi.org/10.1080/14719037.2017.1285111

Brzezina N., Biely, K., Helfgott, A., Kopainsky, B., Vervoort, J., Mathijs, M. (2017).Development of organic farming in Europe at a crossroads: Looking for the way forward through system archetypes lenses. *Sustainability*, 9(821), 1-23. https://doi.org/10.3390/su9050821

Bureš, V., & Racz, F. (2016). Application of system archetypes in practice: An underutilized pathway to better managerial performance. *Journal of Business Economics and Management*, 17(6), 1081-1096. https://doi.org/10.3846/16111699.2016.1203355

Carlson, J.A. (2010). Avoiding traps in member checking. *The Qualitative Report, 15*(5), 1102-1113.

Crittenden, W. F., & Crittenden, V. L. (1997). Strategic planning in third-sector organizations. Journal of Managerial Issues, 9(1), 86-103.

Daudelin, M. W. (1996). Learning from experience through reflection. *Organizational Dynamics, 24*(3), 36-48. https://doi.org/10.1016/S0090-2616(96)90004-2

Ebrahim, A., Battilana, J., & Mair, J. (2014). The governance of social enterprises: Mission drift and accountability challenges in hybrid organizations. *Research in Organizational Behavior*, *34*, 81-100. http://dx.doi.org/10.1016/j.riob.2014.09.001

Edmondson, A.C. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly, 44*, 350-383.

Edwards, M. (1997). Organizational learning in non-governmental organizations: What have we learned? *Public Administration and Development*, 17(2), 235-250.

Fiol, C. M., & Lyles, M. A. (1985). Organizational learning. *Academy of Management Review*, 10(4), 803-813.

Forrester, J. W. (1971). Counterintuitive Behavior of Social Systems. *Technological forecasting and social change,* 3, 1-22.

Gardner, H. (2006). *Changing minds: The art and science of changing our own and other people's minds*. Harvard Business School.

Gillies, A., & Maliapen, M. (2008). Using healthcare system archetypes to help hospitals become learning organisations. *Journal of Modelling in Management*, 3(1), 82-99. https://doi.org/10.1108/17465660810860390

Hailey, J., & James, R. (2002). Learning leaders: The key to learning organizations. *Development in Practice*, 12(3/4), 398–408.

International Association of Facilitators (2021). IAF Core Competencies. IAF Core Competencies (iaf-world.org) (Accessed 11 Feb 2024)

Kim, D. H. (1992). System archetypes I: Diagnosing systemic issues and designing high-leverage interventions. *The Toolbox Reprint Series*. Pegasus.

Kim, D. H. & Anderson, V. (1998). *Systems archetype basics: From story to structure*. Pegasus.

Kirkpatrick, J. D., & Kirkpatrick, W. D. (2016). *Four levels of training evaluation*. ATD Press.

Korten, D., (1987) Third-generation NGO strategies: A Key to people-centered development (pp. 145-159), *World Development*, Vol 15. Supplement.

Lindenberg, M. (2001). Are we at the cutting edge or the blunt edge? *Nonprofit Management & Leadership*, 11(3), 247-270.

Mandl, C. (2019) *Managing complexity in social systems: Leverage points for policy and strategy*. Springer.

Author name withheld, (in process). New insights into the strategic planning processes of international

    sustainability non-governmental organizations through higher-order organizational learning: An empirical study – Part II. [Article submitted for review].

Meadows, D. (1997). Leverage points: Places to intervene in a system. Retrieved from https://donellameadows.org/archives/leverage-points-places-to-intervene-in-a-system/

Meadows, D. (2008). *Thinking in systems*. Chelsea Green.

Schwarz, R. (2017). *The skilled facilitator*. John Wiley & Sons.

Senge, P. M. (1990). *The fifth discipline: The art and practice of the learning organization*. Currency Doubleday.

Stake, R. E. (2006). *Multiple case study analysis*. The Guilford Press.

Terry, G. & Hayfield, N. (2021). *Essentials of thematic analysis*. American Psychological Association.

Twigg, J. & Steiner, D. (2002). Mainstreaming disaster mitigation: Challenges to organisational learning in NGOs. *Development in Practice*, 12(3/4), 473-479.

Whatley, B. (2013). Improved learning for greater effectiveness in development NGOs. *Development in Practice*, 23(8), 963-976. https://doi-org.eur.idm.oclc.org/10.1080/09614524.2013.840563

Wolstenholme, E. (2004). Using generic system archetypes to support thinking and modelling. *Syst Dynamics Rev* 20(4):341–356. https://doi.org/10.1002/sdr.302

Yin, R. K. (2018). *Case study research and applications: design and methods* (6th ed). Sage.