Power and influence: developing a political archetype at an Australasian systems workshop

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Abstract

Systems archetypes are effective in communicating complex behaviour with relatively simple structures across a wide range of topics. The 'power dynamics' between divergent points of view is critically important in decision-making when it comes to formulation and implementation of policies. This topic was explored at a four-day Australasian systems workshop run in New Zealand. A synthesis approach was combined with using rigorous analytical procedures from system dynamics. Building on Rahn's 'Fear and Greed' political archetype, a conceptual 'Power and Influence' political archetype was developed, structurally similar to Wolstenholme's 'underachievement' archetype based on Senge's systems archetypes. This political archetype was used to analyse a crowdfunding story in New Zealand. Insights include how the 'Power and Influence' political archetype can be used to help understand switching behaviour related to power dynamics over time.

Introduction

Intrigued by title of the 2016 International Conference of the System Dynamics Society "Black Swans and Black Lies: System Dynamics in the Context of Randomness and Political Power-play"[1], seven members of the Australasian chapter of the System Dynamics Society came together to consider this topic in a synthesis workshop (9-12 February 2016 at Massey University, Palmerston North, New Zealand). Most of the participants had not previously collaborated. The purpose of the four-day workshop was to apply our pluralistic expertise in systems thinking and system dynamics toward a common goal:

"To develop a publishable contribution to the System Dynamics (SD) community, relating to 'power dynamics'."

'Synthesis' proved to be a complex concept. Features of the approach include: an emphasis on deduction, orientation to the future, scenarios that involve disruptive shifts, and a reluctance to get drawn into analytical inductive model construction. Synthesis events are increasingly used internationally and characterised by their ability to generate new knowledge and insights in a timely manner (Sidlauskas *et al*., 2009; Baker, 2015; National Center for Ecological Analysis and Synthesis, 2015). Some workshop participants preferred to work towards a conceptual synthesis in the form of a generic model using the initial stages of conventional System Dynamics (SD) methodology.

Power dynamics are critically important in decision-making, particularly when it comes to formulating and implementing policies supported by SD projects. SD practitioners both influence and are influenced by power dynamics. Various forms of participatory model building (e.g. Vennix, 1996; van den Belt, 2004; Hovmand, 2014) address power issues as part of the model building process with participants. However, to our knowledge, there has been little work undertaken by the SD community on issues of influence and power dynamics.

Power dynamics are a common denominator in policy- and decision-making situations. This is referred to as 'politics'; the art and science of governing citizens. Politics, whether organised by political parties or behind the scenes of mediated modelling projects, is implicit in SD models and this needs to be explicitly recognised and acknowledged (van den Belt *et al*., 2013a).

This paper provides: (1) a short description of a process that aimed to combine synthesis and analysis and produce timely, collaborative research; and (2) a further archetype to better understand 'power dynamics' and how a 'community for purpose' generates and responds to power behind an idea. We describe groups advocating for transition of power as 'Communities for Purpose', and explore the dynamics of how they build support for their causes. A case story related to crowdfunding in New Zealand is provided to illustrate use of the archetype.

Method

The methods used for this research can be separated into three phases: pre-workshop activities; workshop; and post-workshop activities.

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[1] We deciphered this theme as 'Black Swans' refers to Taleb's book "The Black Swan: The Impact of the Highly Improbable". This book contemplates the tendency people have to treat the past as definitive or representative of the future. Taleb argues that the future is more likely to be the outcome of 'black swan' events that are rare and therefore have low predictability; have an extreme impact; and while possible to explain with retrospective predictability are not predicted in advance. The need therefore is not to try and predict such occurrences but instead have the robustness to withstand the negative impacts and exploit the positive impacts. 'Black lies' are told when the teller gets a positive benefit while the other party lose in some way.

Pre-workshop activities

The workshop was organised by emailing a call for participation to Australasian System Dynamics Society chapter members with details of the workshop and the format it would follow. The workshop topic was broadly predetermined, based on the 2016 International SD conference theme. Prior to the workshop, participants introduced themselves and contributed relevant papers pertaining to power, archetypes and small models to a repository set up for this purpose. This provided the opportunity to introduce new and interesting perspectives and extract and discuss core elements from the preliminary papers and other references prior to the workshop.[2]

The workshop

The first stage of the workshop involved the group exploring and discussing small power models and archetypes. In principle, the group embraced an egalitarian approach; those at the workshop are the right people to be there; participants are intrinsically motivated and interested; and, they have experience with modelling strategies and values. The ideas brought to the workshop become part of the 'commons'. Through the discussion, the cyclic nature of political issues, as well as the role that individuals and organisations play influencing decision-makers on issues, was ascertained as an area for further exploration.

A literature review was undertaken to locate previous research in this area during the four days allotted for the workshop. This search identified surprisingly little work by the SD community on power dynamics. Weaver and Richardson (2001, 2006) modelled how policy thresholds can cycle and converge in response to pressures from competing constituencies. Rahn (2005) contributed additions to construct what he described as a 'political' archetype. Harich (2010) considered how change resistance prevents or delays the political response.

While 'competition' is a prevalent topic (Senge, 1990; Sterman, 2000; Maani and Cavana, 2007; Morecroft, 2007; Warren, 2002, 2008), the starting point for model development is often accepted policies, the interests of management, or a common ground of the interests of the most influential stakeholders. Wolstenholme (2003, 2004) focuses on issues defined within an organisation or a single structure of management. Rahn (2005), and Weaver and Richardson (2001, 2006) start from an agreed policy dimension. Here, the contest relates to the 'power threshold' not the 'level (dimension) of power'.

In light of this, we decided to focus on political archetypes in more depth. Archetypes are classed as a communication device that is useful to share dynamic insights at both the front and back ends of the modelling process (Wolstenholme, 2003). The workshop participants elected to work with the archetype structure to provide a tool for conversations about how the 'power of communities for purpose' concentrates and/or disperses around an issue of interest.

At the workshop a balance between methodological rigor and the less explicit 'synthesis process' settled as follows:

1. The need of some participants for methodological rigor led to the choice to incrementally build on Rahn and his sources, rather than co-creating an innovative

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[2] Examples used include: Hill *et al*. (2015) paper which emphasised the power of persuasion with implications for regulation (coercion); van den Belt (2013a) paper which moved towards a political archetype; Costanza (2000) on the life cycle of ideas; and the contribution from Pablo Picasso made via a participant. The quote: "It took me four years to paint like Raphael, but a lifetime to paint like a child" (http://www.artyfactory.com/art_appreciation/animals_in_art/pablo_picasso.htm) provided an insight into the challenges of providing a simple yet powerful representation of reality.

new structure. The few alternative starting points tested in this direction were discarded.

2. Providing a common language. The terminology of choice had to be generic to capture diverse situations as the participants at the workshop came from across different sectors.

3. Not using 'costs' and 'benefits' to describe power as this was considered to be too closely associated with a monetary or economic analysis. Instead, we used the more politically related expressions of 'gains' and losses'.

4. Multiple definitions possible for the power variable that we refer to as 'Power of Community for Purpose' or CfP. Power can be measured in units of people, institutional power, political power, academic power, monetary power or other appropriate 'power' measures.

5. Development of a conceptual 'Power and Influence' political archetype.

6. Testing multiple contexts. The constructed political archetype was qualitatively tested for 'stories' so it could be recognised in different settings.

Post-workshop activities

Following the workshop participants continued to engage in further work for 5-6 months related to applying the archetype to stories formulated at the workshop and refining the stories. The focus here was providing a consistent framework for the discussion of these and any potential new stories resulting from an analysis of the political archetypes and application to appropriate behaviour over time charts for each story. The post-workshop activities duly catered to the original goal of submitting a paper for the International System Dynamics Conference.

Additional post-workshop activities also involved the development of a small SD concept model for testing the proposed dynamic behaviour of the stories illustrating the 'Power and Influence' political archetype (discussed in a forthcoming paper).

The 'Power and Influence' political archetype

The objective that emerged at the workshop was to develop an archetype that could be used to understand the dynamics of a political power change. We built on existing SD work (Senge 1990; Weaver and Richardson, 2001; Wolstenholme, 2003 & 2004; Rahn, 2005; Weaver and Richardson, 2006) and used the simple generic two-loop systems archetype (with balancing (B) and reinforcing (R) feedback loops) linking actions and reactions to explain power issues. This political archetype was then applied to analyse a number of situations (stories). Stories were used to illustrate dynamics as they are easier to comprehend, can be more potent, and most importantly fun to work with (Taleb, 2007).

The 'Power and Influence' model (as shown in Figure 1) that was developed to explain how communities (referred to as 'Community for Purpose') build and lose power when pursuing a particular objective. It exhibits switching behaviour as the power balance changes as in Wolstenholme's 'Underachievement archetype'. We named this political archetype 'Power and Influence' to demarcate the difference with Rahn's (2005) 'Fear and Greed' political archetype, which has structure which follows Wolstenholme's (2003) "Relative control archetype".

Figure 1. A 'Power and Influence' Political Archetype: Generic Form
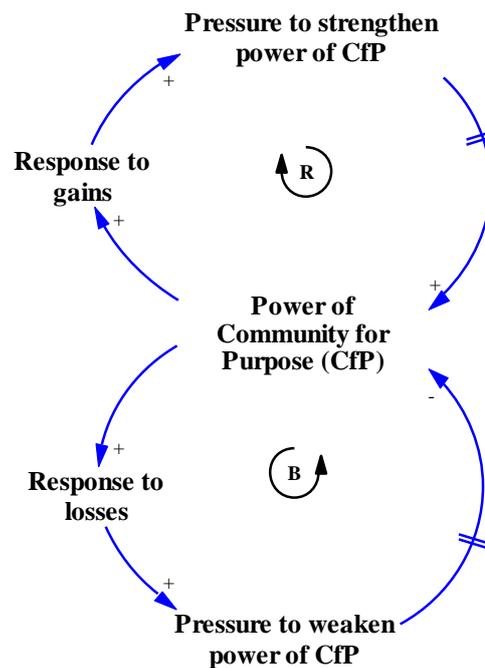
We have defined concepts and variables related to the 'Power and Influence' archetype as follows:

Power: The capacity or ability to direct or influence the behaviour of others or the course of events[3]

Influence: The amount of pressure on the outcome that can be exerted to support a cause. Influence is both cause and effect (Senge, 1990);

Power of Community for Purpose (CfP): The stock of political power in the system held by the CfP, that is increased by 'pressure to strengthen' or decreased by 'pressure to weaken';

Gains: Influences that add to 'pressure to strengthen CfP' and attract 'new power' for the CfP;

Losses: Influences that add to 'pressure to weaken CfP' and diminish the 'existing power' of the CfP.

In our 'Power and Influence' archetype (Figure 1), the upper reinforcing loop is focused on building support for the interest group wanting more power or the 'CfP' based on the responses to the gains perceived to be attractive to the CfP. A power increase results from response to the gains perceived to be attractive to the CfP. Power in the upper loop is gained by transference of support from the wider community or government. In the lower loop power is lost when support is drained from the CfP. For example an interest group or the government may feel disempowered as the power of the CfP grows and increased resistance builds. The lower balancing loop focuses on reducing the power of the CfP through the reaction (response) as perceived losses gain importance.

Initially, we had thought that this power archetype covered all four combinations of balancing (B) and reinforcing (R) loops (BB, RR, RB and BR). We had mistakenly thought that the polarity of the links between power of CfP and 'Responses to gains' (& 'Response to

Losses') could be either 'S' or 'O' (i.e either a 'change in the same direction' or a 'change in the opposite direction'), since 'responses to losses' (dependent variable) could be an increasing or decreasing function of the 'Power of CfP' (independent variable). However, we subsequently realised that these changes 'added to' the gains or losses, despite the fact that they could be 'increasing or 'decreasing' additions. Hence we fell into the trap well outlined by Richardson (1997), Vennix (1996) and others. We subsequently changed the notation to '+' and '-' ('add to' or 'subtract from') on the conceptual diagram (CLD) to clarify the actual direction of the links.

The 'Power and Influence' political archetype was applied to analyse a number of situations at different scales and across various domains. The New Zealand based case stories used (see Table 1) reflect events current at the time of the workshop.

Table 1. Stories used to test the 'Power and Influence' Archetype for a 'Community for Purpose (CfP)'

	Domain		
Scale	Social/cultural	Environmental/Ecological	Economic/Financial
Virtual	Extending the conservation estate using crowdfunding*		
Local	Sustaining practices that promote equity		
Regional		Managing production and environmental degradation	
National	Regulating to improve the health of New Zealanders		
Geo-political bloc	Trans Pacific Partnership (TPP) as contested by opposing parties		
Global	Climate Change		

Note: asterisk denote story that is described further in this section.

During the workshop the context of the story was first given and then the behaviour over time explained. It was then discussed how power and influence can converge and dissipate around a particular purpose, and thereby define a CfP. The following 'Givealittle' campaign discussion details one of these stories.

Case story: The Givealittle Campaign – Together we can buy the Awaroa Inlet and gift it to New Zealand

This story retrospectively looks at the build-up of support that occurred for a private initiative to purchase seven hectares of beach and bush at the Awaroa Inlet in the South Island of New Zealand. An iconic strip of beach and land, alongside Abel Tasman National Park (as shown in Figure 2), was on the market for offers from $2 million. The New Zealand government refused to purchase the beach on behalf of tax-payers as they did not consider the biodiversity sufficiently unique. After a Christmas day discussion, two New Zealanders who disagreed with the government decided to see if they could raise enough money using a crowdfunding platform (Givealittle) to buy the beach and gift it to New Zealand. The Givealittle campaign started on the 22 January 2016 and finished three weeks later on February 15th. A total of $2,278,171 was pledged (98% collected) by 39,249 donors as graphed in Figure 4 (https://givealittle.co.nz/project/abeltasmanbeach2016/updates). When over $2.2 million was raised by the public, a last-minute contribution of $350,000 was made by the government which was sufficient for the tender to be successful.

Figure 2. Awaroa Inlet, Abel Tasman National Park, South Island, New Zealand

The Givealittle campaign provides an example of the power and influence of 'crowdfunding' and how it allows people to take initiative and control in a democracy. The campaign was successful despite being by far the biggest fundraising campaign ever for the Givealittle platform. Over the eight years Givealittle has operated the average amount raised for a cause has been around $3000 (Manawatu Standard, Feb 7, 2016). The Givealittle campaign achieved extensive national and international media attention and after an initial slow start gained support from all age groups (schools to retirement homes) and locations across New Zealand.

Figure 3. Power and Influence archetype - The 'Givealittle campaign (GC)'
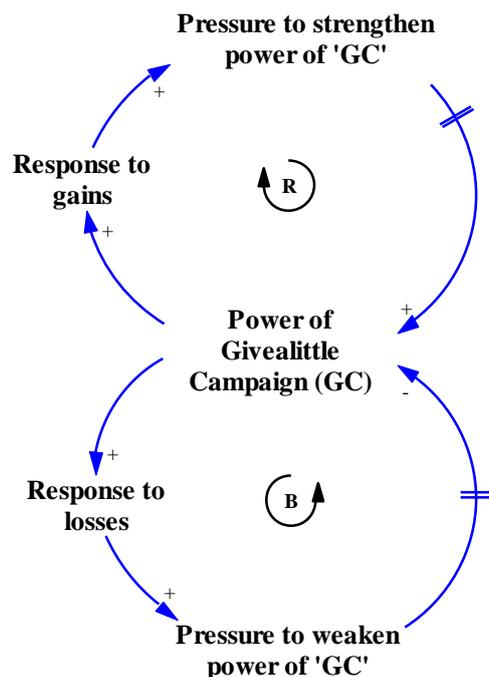
The 'Power and Influence' political archetype conceptualisation of the Givealittle campaign (GC) is illustrated in Figure 3. This example uses a data set ($ pledged), to illustrate the political power play in operation. The 'Power and Influence' archetype can be used to describe the to-and fro tussle between groups on an issue – here, the government and the 'people'. In a democracy the government holds the power reigns but in this instance opposition to a government decision led to a crowdfunding campaign which galvanised public support and resulted in a government back-down.

The 'Behaviour over time' (BOT) reference mode for this story is shown in Figure 4. The stock in this story is 'Power of Givealittle Campaign' which accumulates 'political support' indicated by the amount pledged (measured as '$ pledged') by individuals/organisations/businesses to purchase the beach property. Three phases that are shown in Figure 4 will be briefly discussed in relation to the feedback loops in Figure 3 and the underlying political forces that governed the dynamic behaviour of the main variables of interest. This interpretation is based on the public statements of the organisers and the donors, and the '$'s pledged' amount given to the Givealittle campaign.

Figure 4. Givealittle campaign (GC) behaviour over time (BOT) chart

Source: https://givealittle.co.nz/project/abeltasmanbeach2016
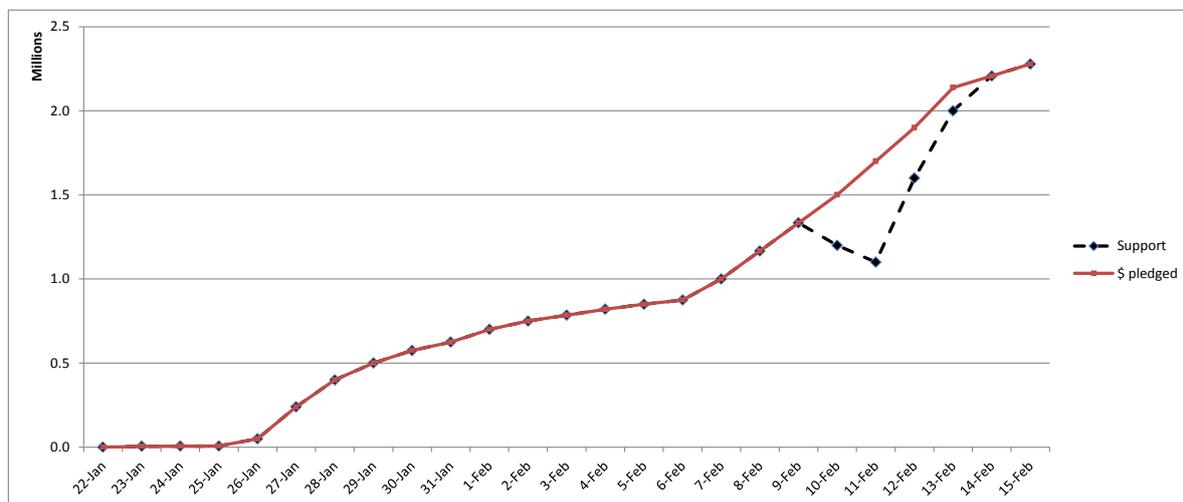
Period from 22 January – 9 February: As the power of the GC increased (helped by media exposure), the 'response to gains' from the public was increased support and more donations ($ pledged) received, after an initial slow start to the campaign (i.e. from 22 – 26 January). This increased 'pressure to strengthen the power of the GC' which translated to increased GC ($ pledged) (reinforcing loop R).

There was overt resistance from the government who were opposed to the purchase of the land, arguing that the price was too high compared with other land with greater conservation value. In addition there was scepticism from members of the public that crowdfunding was a viable option to raise enough money to purchase the beach as well as concern that the public nature of the campaign would push the purchase price above its real value. This increased the 'response to losses' and increased 'pressure to weaken power of GC'. This produced a balancing effect (Balancing loop B).

Period from 9 – 12 February: A shock event occurred between (9-12 Feb) which reduced the rate of gain. As the power of the GC (measured in $ pledged) increased, a wealthy individual offered a sufficient sum to clinch the deal in return for periods of private use of the beach for his family (NBR, Feb 9, 2016). This co-opting of the process had a strong backlash with people threatening to withdraw their pledge if this offer was accepted. While the actual amount of pledges didn't drop in this period, political support for the campaign did drop for a brief period. After consideration the campaign organisers rejected the offer from the wealthy individual as it was contrary to the public ownership ethic of the original proposal (NZ Herald, Feb 10, 2016). This restored public support for the campaign.

Period from 12 – 15 February: Hence the reinforcing (R) loop regains control and a relative advantage is gained from the co-opting attempt. 'Support' increased rapidly once the potential participants were assured that the process would not be co-opted and the objective was attainable (as shown in the BOT graph) and the intended policy outcome ($ pledged) of the crowdfunding campaign was achieved. As the power of the GC increased the response to gains was increased pressure on the government to support the GC. This had the effect of increasing pressure to strengthen the power of the GC. The government made a commitment to provide funding to get the proposal over the line (rather than alienating 40,000 plus potential voters).

Discussion

The discussion first considers the original synthesis aim and the resulting analytical processes undertaken and then the 'power and influence' political archetype developed.

Using a combined synthesis and analytical process for timely, collaborative research

Using a synthesis process with this paper had both advantages and disadvantages. Here, synthesis' refers to the art and skill of bringing people together for short periods (e.g. in our case four days) tackle a problem by exploring and investigating different perspectives. The aim of synthesis workshops is to provide a conduit for speedy delivery of new science/technology, and find solutions by utilising existing data, models and concepts (Sidlauskas *et al*., 2009; Baker, 2015; National Center for Ecological Analysis and Synthesis, 2015). We explored a synthesis approach as a new way of working with people in our region/chapter.

Specific characteristics of a synthesis approach include abilities to: 1) accelerate and magnify the impact from analysis and create and disseminate new knowledge in a timely manner; 2) draw participants from diverse national and international organisations to address challenges; and 3) utilise existing data and data infrastructure to answer strategic questions.

With respect to the workshop held, first, it responded to an important challenge to the SD community which seemed to have been left to lie for a decade. The structure of the 'political archetype' was decided on at the workshop and incremental improvements were in the following five months. The process was productive in the sense that we produced timely outputs.

Second, the workshop capitalised on diverse knowledge to make a focussed break through. Participants from NZ (6) and Australia (1) worked in the following sectors: dairying, health care, engineering, education, social work, environmental science, ecological economics and management. The group consisted of a mix of academics and professionals. A wide range of experience with synthesis versus an analytical mode of working was present.

Third, the workshop generated new knowledge from existing knowledge (i.e. the literature) and followed rigorous analytical procedures from qualitative system dynamics to generate a new insight (i.e. the 'Power and Influence' political archetype) in a timely manner. It initiated a line of enquiry which included exploring the potential for extending Rahn's modelling strategy and comparing SD representations with other modelling strategies used to create political archetypes e.g. Heckathorn (1996, 1998). A small SD concept model was subsequently developed to test the stories based on the political archetype developed at the workshop.

However, the process was not without problems. Logistical problems led to the withdrawal of four participants due to the time commitment or requirements for visas, leaving a smaller group of seven. The workshop process is iterative in nature, and thus requires participants to be flexible and adapt to changes. Varied levels of understanding and experience with synthesis approaches (as opposed to analytical approaches) among participants resulted in an emphasis on making an incremental contribution to a theme that had been previously explored in a limited way in the system dynamics literature. Frustration was expressed at times as we had a few inconclusive forays before settling on the more analytical paper direction. However, each 'dead end' seemed to also lead to the next breakthrough. The synthesis process is intense and requires enough time to include social activities and for people to have 'time out'. At the workshop, this was addressed by alternating 'joint sessions' with breaking up in sub-groups to work on specific parts of the project for a given periods of time and then convening to bring the pieces back together.

The interaction of approaches that emphasise either synthesis or analysis identify a need for methodologies that are inclusive ways of working together in both assessing a strategic challenge *and* producing a useful contribution. While the four-day workshop led to the foundations for this paper, substantial work was undertaken over the next 5-6 months by workshop participants to test out the archetype with different stories and developing a SD conceptual model.

A 'Power and Influence' archetype that can be used to explore the 'power of community for purpose'

The new political archetype developed is referred to as 'Power and Influence' and positions in Wolstenholme's 'underachievement' quadrant. This archetype provides an alternative to Rahn's 'Fear and Greed' political archetype which positions in Wolstenholme's 'relative control' quadrant. The focus of the archetype was also changed from 'threshold values' (Rahn, 2005; Weaver and Richardson, 2001 & 2006) to 'power of community for purpose'. The 'switching' itself is not an unexpected event. In hindsight it is not a surprise that the switching occurs but it is usually difficult to anticipate how/when the switch will occur. This idea links very well as a framework for scenario planning and building robust policy that takes into account Black Swans (e.g., what would the situation look like if this event occurs).

The crowdfunding story emphasised that each story also has potentially non-dominant feedback loops and/or exogenous shocks (threats or opportunities) in the background. These are often the blind spots, or unintended consequences. The purpose of working with simple conceptual models, such as the archetypes, is to highlight factors that are often overlooked.

The crowdfunding story also demonstrates how this political 'power and influence' archetype can help in practical problem solving and increase understanding of political drivers and how 'movements' are maintained. We propose that it should be possible to assess any evolving 'story' through this political archetype and support a dialogue by making more explicit the balancing and reinforcing feedback loops, as can be seen in the unfolding 'crowdfunding story'. The next time a crowdfunding approach is used, the archetype can be

used to demonstrate the potential power drivers at different stages and identify the likely behaviour when the power balance shifts. The political archetype adds to forward looking, positive use of systems archetypes (Richardson, 1991; Lane and Stuart, 1996; van den Belt *et al*., 2013b).

Conclusions

In this paper we combined synthesis and analysis of theory and experience to arrive at a proposal for a political archetype model to explain how the power and influence of communities grow and dissipate around a particular purpose.

We built on the literature and participants' existing knowledge and applied both synthesis and analytical procedures to generate new knowledge.

A conceptual political archetype was constructed and applied to a 'crowdfunding' story in New Zealand. A small system dynamics concept model was developed to test this story dynamically over time for a forthcoming paper.

Our 'Power and Influence' political archetype addresses the challenge from Rahn (2005, 10) who concluded: "It is open to further study to determine if other useful 'political' archetypes can be developed to enrich the current library subsumed in Wolstenholme's classification".

Future work could involve applying this 'power and influence' archetype to other situations and policies involving power dynamics, and constructing additional system dynamics concept models to investigate these issues further.

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