

# [Good example of essay on the system archetypes: tragedy of the commons](https://assignbuster.com/good-example-of-essay-on-the-system-archetypes-tragedy-of-the-commons/)

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## Abstract

System archetypes can be described as the behavioral patterns of the system. There is always a similar structure for systems expressed by circles of causality. To enable efficiency in changing the system, one should be able to identify the systems archetype and finds its leverage. A system can be drawn as a diagram set up with circles of casualty. These circles include actions, feedbacks and delays. In a system, every action has a reaction that is referred to as feedbacks; reinforcing feedback and balancing feedback. These feedbacks do not always happen immediately since the process might have delays. Reinforcing feedback is also referred to as amplifying feedback, and it accelerates the given trend of the process. For example, if the trend is descending, the reinforcing (negative) feedback will decline the process. Balancing feedback is also referred to as the stabilizing feedback and works only when goal-state exits. Its main aim is to reduce the difference between the current state and the desired state. When there are delays in the system, people tend to take actions that might be incorrect. This might cause over or under estimation of the required action, resulting in oscillation, breakdown or even instability.
Tragedy of the commons is a term used to describe the failure of economists to manage common resources or goods, in the interest of a larger community. When the system is being used by a lot of people, they will take advantage of the shared resource. The system looks to be unlimited in the beginning and thus, people use it without considering that other people might need to use it in the future. They tend to intensify their use as the quality resource of that particular declines leading to a breakdown. When these systems are not guarded against overuse, or when no intervention us taken, the system will breakdown or becomes completely useless. These archetypes include eroding goals, accidental adversaries, and tragedy of the common, fixes that fail, shifting the burden, escalation, growth and underinvestment, success to successful and balancing process with delay.

## Tragedy of the common

This is where many people use or benefit from a common source, and do not pay attention to how their actions affect the common resource. The resource eventual replenishes leading to its closure.

## Feedback loop

Implications
Often, people do not realize the harm in their actions and the harm involved, especially they do not own the resource or system. When it comes to a common resource, which doesn’t belong to anyone in particular, people will not take time to think about their actions. As much as only one individual ignores the implications of his or her actions, decline of the resource cannot be prevented or stopped. This will need the effort of all the users. They need to be cooperative, disciplined and committed to enable them come up with a sharing program.

## Generic leverage points

Eroding goals
This archetype involves shifting goals. Short-term goals represent sacrificing of the long-term goals. This helps in reducing the gap to the visions of the organization. The solution to this is delaying which pressures the management to let the goals erode. The dangers of this archetype are that environmental targets can be left unattended. To help prevent these issues, an organization should have a good monitoring model that has early actions and performance gaps (Somer, 2012).
Feedback loop

## Escalation

In this archetype, an organization defines its results in relation to those of its competitors, which leads to a rat race. This depicts an unhealthy form of competition between the organizations (Senge, 1990). This practice can be bad for business especially in pricing and advertisement structures. Each organization is usually caught up in its own balancing loop trying to improve and beat the competitors. This can be ended through non-aggressive acts. If an organization wants to introduce a new product and escalation happens, they will lose. This can be ended by having a partnership or cooperation with the competitors.
Feedback loop

## Fixes that fail

This happens when an organization has to make quick decisions and solution, which are rapidly implemented to address the issue at hand. This quick fix brings about consequences that were not planned. These consequences are usually not evident in the beginning, but they end up failing and become part of the symptoms.

## Accidental adversaries

This happens mostly in partnerships where an unintended circle of mutually beneficial activities start. One of the parties will apply the model to improve on his performance, which affects the other partner. Through this, a set of synergies is set in motion and can lead to destruction of all partnership benefits if not stopped in time. These escalations can be avoided especially if the mutual understanding between the parties and the vision that the share are strong. To avoid this in organizations, the management should ensure the strong power base of the firm is not exploited.
Feedback loop

## Shifting the burden

According to Senge, this involves applying of a short-term solution when a symptom occurs, instead of applying a fundamental solution. The problem with this archetype is that, the solution just solves the symptoms and not a real problem; the problem usually comes back. The second problem with this is that when the solution is applied repeatedly, the chances of applying fundamental solutions are very low (Sommer, 2012). For example, when a business is not performing well profit wise, it might cut down its costs instead of considering other factors like the business strategy. Even if the cost cutting measures work and the organization starts gaining back its profits, after some time, the same problems will occur again, especially if the problem was the business strategies or ideologies. To solve this, an organization can consult experts for further advice on how to handle the issue; this is referred to as shifting the burden to the intervener (Senge, 1990).
Feedback loop

## Growth and underinvestment

Limit to growth covers the current production capacities of the organization, which can be reduced through sufficient investments in new and better production capacities. If a decision is made, to not invest, the performance of the firm goes down, leading to reduced demand. This forces the firm not to invest in that line. This happens mostly in small but growing companies.
Feedback loop

## Success to successful

This happens where two resources or people are given the same opportunities and the one that is successful, is assigned more resources. Due to lack of resources and much support, the second options declines in performance, thus proving the decision made to support the first option was right. If the competition between the two resources or people is unhealthy, then the whole system is affected and might not achieve its goals.
Feedback loop

## Balancing process with delay

This is simplest of the systems archetypes and is represented by one balancing loop with a delay (Senge1990). This makes organizations overshoot the correct actions during the period that expected impact has not materialized. This happens mostly in production and inventory cycles which don’t have proper responses to the market reactions. This can be solved through improvement of the system’s responses or waiting for the correct actions to take effect.
Feedback loop

## The archetype family tree

Interpreting the connection
- Growth- this is known as the reinforcing loop and is the virtuous cycle. It represents an accelerating negative or positive spiraling process as lack of interest during lay-offs.
- Nothing grows forever- this represents the limits to success. This triggers the organization limit as the reinforcing creates growth.
- Tragedy of the commons. This represents the limit to growth of a common resource which no individual or a group of people has no responsibility over.
- Growth and underinvestment- here, the growth is happening, but the limit is determined by the capacity to respond.
- Success to successful- when two resources are assigned the same resources, but one of them is given more attention, it becomes successful than the other one.
- Accidental adversaries- where two or more firms form a partnership for mutual benefits, but one unilateral by one of the firms damages the others and the partnership crumbles.
- Balancing loop- happens when a self-correcting process enables a firm to keep its performance stable or near the target, which allows room for any adjustments.
- Fixes that fail- where a quick and correct move creates more problems.
- Shifting the burden- where unintended results of the original strategy keep an organization from implementing the fundamental solutions.
- Drifting goals- where corrective actions are difficult to implement leading to reduced performance. This is finally accepted within the organization.
- Escalation- this is where an organization strives to succeed by gagging itself with its competitors. They all try to compete.

## Application to real life

One of the places that the system archetype can be applied is in the manufacturing industry. If a manufacturing firm is having trouble reaching its targets due to many difficulties, the management might be forced to make adjustments to change the production requirements. If the shifting of the burden archetype is used, the solutions will work for just a while but not solve the whole problem. If this keeps happening, and the production team has no experience on how to respond to the problem when it occurs, they will soon be disinterested and leave. To solve this, the management should focus on the fundamental solutions and use the symptomatic solution to solve the issue for a short period, as they come up with the fundamental solution. They should also consult the archetype to be aware of any side effects of any proposed solution. The management should take the following actions to enable them handle the situation;
- Identifying the original problem symptom
- Take note of all the quick solutions they implement
- Note the side effects of the symptomatic solutions on the rest of the system.
- Come up with fundamental solutions
- Identify the quick solutions that may be hindering the implementations of the fundamental solutions.
- Identify any interconnections to fundamental loops
- Identifying high-leverage actions from both the symptomatic solution and fundamental solutions.

## References

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