A Systems Model of Human Organisation

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Introduction

The model described here is based on the principles of general systems theory. It is therefore generic, applying to human organisation at all scales. A full understanding of the model can only be gained if this is borne in mind. Some of the terms used are borrowed from particular aspects of human organisation, such as international affairs. However, here they are used generically. Examples are also given from various branches of human organisation, but again the concept described can be applied generically.

The Structure of Society

Human society is a hierarchy of organisations. In this context, the word "organisations" has a general meaning which includes not only formal organisations, such as those found in business or government, but any group of people who work together for a common purpose. It also includes any individual person. The hierarchy typically comprises the following levels. Level 6 is the highest, and level 1 the lowest.

6. Global System

5. National Groupings

4. Nations

3. Sectors

2. Organisations

1. Individuals

There is, of course, only one global system. However, the other levels each comprise several systems each of which is an organisation. Each organisation, except individual people, comprises several component sub-systems which are also organisations. Thus: the global system comprises several national groupings; each national grouping comprises several nations; each nation has several sectors; and so on. From the perspective of any organisation, the levels above it are its environment. If an organisation is a part of a more extensive organisation at a higher level, then the latter is referred to as a parent or grandparent organisation.

This structure is recursive, i.e., the same principles apply to organisations at every level. This helps to simplify what would otherwise be a very complex social structure.

Progressive Mechanisation & Centralisation

According the biologist, Ludwig von Bertalanffy, it is common for "progressive mechanisation" to occur in biological systems. That is a system whose components initially carry out all the functions of the organism begin to diversify and take on specific roles depending on their location within it. Thus, for example, an embryo initially comprises identical cells but, as it grows, they diversify to form organs, each with a different purpose.

On the other hand, "progressive centralisation" also occurs, i.e., controls such as the nervous system develop to direct the behaviour of those specialised organs, and co-ordinate their activity.

These processes, by specialising and co-ordinating the activities of the components, enable systems to behave in more complex ways than would otherwise be possible. The resulting behaviour is, of course, subject to natural selection and, thus, evolution.

Similar processes take place in social systems. For example, the members of a small tribe will all be capable of carrying out every function of the tribe. However, as it grows into a larger social group, individuals will begin to specialise, and a leader will emerge to organise their activities. Thus, one can expect people who live a relatively isolated and self-reliant rural life to be multi-skilled and individualistic in attitude. Those who live in cities, on the other hand, can be expected to be more specialised and collectivist in attitude.

Requisite Hierarchy

Every human organisation is a self-maintaining system, comprising inputs, processes, and outputs. It also has goals which act as motivators for its behaviour. In an individual human being, our motivators are the satisfaction of our needs, i.e., states that we are motivated to attain. We are also motivated to avoid negative states which I refer to as contra-needs. More generally however, the motivators of an organisation are those things, including its goals, changes to its inputs, etc., which influence its behaviour. In part, this behaviour is the production of outputs, and in part, it is action to sustain the organisation's continued existence. A significant proportion of a self-maintaining organisation's inputs can be spent on the latter.

In accordance with the systems principle of requisite hierarchy, every human organisation has a command component. This component is also an organisation. It has a particular role in coordinating the activities of subordinate components, but, and in addition, obeys all the general principles of organisations. In the case of an individual person, the command component is the brain. In the case of groups of individuals, it is a high-status individual or sub-group. However, command sub-groups are also organisations with a command component, and recursion occurs until command is by a single individual. For example, government is the command component of a nation, and in the UK, the Prime Minister is the command component of government. This also helps to simplify what would otherwise be a very complex social structure.

Self Maintenance

An organisation requires inputs from its environment to carry out its function. Given no changes to the organisation's internal processes, certain rates of inflow are necessary to sustain certain rates of outflow. For example, the harder a person works, the more food he or she must consume. In the case of a nation, energy, often in the form of oil, is necessary for a certain level of economic output.

All organisations aim to function efficiently, i.e., to maintain themselves and produce their outputs with the least inputs possible. A form of risk/benefit/cost analysis takes place. In individuals and smaller organisations this has an informal and emotional basis, but in larger organisations it can be more formal and have a financial basis.

If inputs alter, or need to be altered, then the command component must decide whether to:

a. adapt the organisations internal processes. If so, then, initially at least, increased inputs will be necessary if outputs are not to be reduced.

b. influence the organisation's environment to gain the necessary supply of inputs. This entails use of the organisation's outputs.

c. carry out a combination of the two.

Internal Feedback

Adapting internal processes involves an internal feedback loop in which the command component's role is to:

a. gather information from subordinate components. This information is subject to darkness and miscommunication. Darkness implies that the full picture can never be known. Miscommunication may involve subordinate components providing misinformation or failing to supply relevant facts. Thus, the role of the command component is also to ensure that the supply of information is relevant and policed.

b. issue instructions, laws, rules, regulations, norms, etc. to subordinate components and to police them. As will be explained later, ideally, this should also include rules to prevent negative competition. There can be difficulties when a command component polices itself, and thus, in a democracy for example, law-making and enforcement are separated.

External Feedback

Influencing the organisation's external environment also involves a feedback loop. Outputs from the organisation act as inputs to other organisations in the environment. These may then be processed to yield the original organisation's desired inputs. At its simplest level, an individual may pay for, or in some other way trade for food. At a higher level, a business may lobby government for reduced taxation or regulation. These external feedback loops are what bond levels in the organizational hierarchy together into society.

Each component organisation's demand for inputs is a motivator. If, at the level in which external feedback occurs, other component organisations share the same motivator, they can act in one of three ways:

a. **Negative Unilateralism.** The organisation acts unilaterally and in negative competition with others. The terms unilateral and multilateral are normally associated with international affairs, but here they are used more generically. Negative competition involves preventing competitors from achieving their goals. It includes but is not limited to the provision of misinformation about either organisation's motivation, abilities and intentions. In this scenario, each organisation strives for its inputs from what may be a limited resource, and **no functioning parent organisation emerges**. Because negative competition leads to inefficiencies, the full potential benefits are unlikely to be achieved. Finally, open conflict can arise. It is noteable that this largely reflects the state of global organisation today.

b. **Positive Unilateralism.** The organisation acts unilaterally and in positive competition with others. Positive competition occurs when competitors each strive to be the best, as in the case of a running race. It leads to a recognition of which component is best suited to what function. This, in turn, leads to co-operation. Each component finds the niche to which it is best suited and/or in which it is the most efficient. Thus, **a functioning parent organisation with a command component ultimately evolves.** On average, each component organisation will gain greater benefits than the previous option. However, sub-optimisation applies, and the benefits may not be as great as for those who are overwhelmingly successful in negative competition.

c. **Multilateralism.** The organisation acts in co-operation with others. In this case **a parent organisation with a command component is designed**. The European Union is an example. However, because each component organisation strives for efficiency, there is a risk that they will exploit others, rather than contribute to the common effort. This would reduce the benefits for all.

In practice, the above options exist as points on a scale. There are numerous intermediate points between options a and b, and between options b and c, which depend on the attitudes and decisions of the component organisations.

Because we are a eusocial species, we must balance individual or unilateral action in our short-term interest with communal or multilateral action yielding longer-term benefits. For every organisation, there is an optimum efficiency which can be achieved by using positive unilateralism or multilateralism where appropriate. Nations with conflict between the political left, who favour collectivism, and the right, who favour individualism, should take note.

Optimisation applies to an organisation that acts unilaterally. If an organisation acts multilaterally, then we must rise up through the hierarchy until we reach either the global system or a parent or grandparent acting unilaterally. The requirement for optimization then cascades down through component and sub-component organisations, which may need to operate sub-optimally.

When influencing its external environment, the role of the command component of an organisation is to:

a. gather information from the external environment. In the systems model, this information is an input, which itself must be sought by influencing the external environment.

b. make decisions in the interest of the relevant organisation as a whole. The relevant organisation may be the one commanded, its parent, or its grandparent, whichever operates unilaterally.

c. manage the balance between unilateral and multilateral action to optimise the efficiency of the relevant organisation.

d. issue commands to sub-ordinate components for the necessary outputs.

Redundancy

The components of an organisation have designated functions and act together to achieve its overall purpose. Organisations which have evolved frequently contain redundant components which compete with one another. Although this competition leads to inefficiencies, redundancy does make an organisation more resilient. Furthermore, competition, if positive, can reveal which component is best suited to a role. Because we aim for efficiency, an organisation which has been designed rarely contains redundancies. It is also the case that subsequent design often eliminates them, but there is of course, a downside.

This also applies to the command component. In some cases, there is redundancy of potential command, i.e., alternative command components that can step in when necessary. In other cases, there is none. In a democracy for example, there is considerable redundancy of potential command in the form of political parties and much competition between them. However, this allows the selection of a command style suited to the circumstances, or the replacement of an ineffective one. In an authoritarian state or other organisation, there is often little redundancy of potential command.

Top-down & Bottom-up Representation

The command component of an organisation may comprise individuals selected by:

a. the individual who ultimately leads that organisation; or by

b. the command component of a parent or grandparent organisation.

This is top-down representation. Alternatively, it may comprise individuals selected by those in a subordinate position, i.e., bottom-up representation. There are advantages and

disadvantages in both methods. The former permits greater focus on the objectives of the relevant parent organisation, but this focus can be redirected in the personal interest of the leadership. The latter allows greater flexibility in selecting the appropriate command style for the prevailing circumstances, but can result in a focus on the personal objectives of subordinates. Ideally, therefore, those who populate command components should be selected by negotiation between the two interests.

Decision Making Style

The decision-making style of a command component can vary on a scale from consultative to authoritarian. The consultative approach yields the best decisions, albeit more slowly and with greater effort. However, consultative leaders can become authoritarian for two main reasons.

a. Out of efficiency. It is quicker and easier to issue instructions than to consult and negotiate.

b. To resist replacement. Leaders have their own individual goals, as well as the goals of the organisation in mind. They may rely on status to achieve the former which can conflict with the latter. In resisting replacement, they may provide misinformation to sub-ordinates, select supportive subordinates, and engage in negative competition with potential rivals. In the case of government, a new human right may be a way of preventing top-down misinformation.

Finally, a style of command can become established in the culture of an organisation, whether a business or a nation. Once established, there is a tendency for the organisation to revert to it after a change in command, i.e., command style can be subject to homeostasis.

Use of the Model

This model can be used to understand human interactions in specific circumstances. Owing to complexity, it is not able to predict those interactions, however. It can also be used to identify behavioural changes which might lead to social improvements, such as the prevention of conflict and the alleviation of poverty.