TAL

The chaos in talent management

Abstract

This article discusses ideas emerging from the science and mathematics of Complexity Theory, and their implications for talent management in organisations today.

A system is simply a group of interacting or interdependent elements that form a complex whole that unfolds over time. A reductionist approach to understanding a system would analyse parts of the system in isolation. This approach of breaking the system down into parts that can be more easily understood is viewed by complex systems enthusiasts as incomplete. The key difference being that complex system thinking puts the focus on the relationships between the parts. Most organisations are regarded as being a particular type of complex system known as a complex adaptive system. A complex adaptive system is one in which many of the individual parts are complex systems in their own right. A complex adaptive system can be defined in respect to its parts, the behaviour of its parts and the emergent behaviour of the whole. Parts that make up a complex adaptive human system come from the environment, the groups [can be an organisation] and the individuals.

From a talent management perspective, complex systems' thinking involves an approach of discovering and understanding patterns. It is the pattern of relationships between system elements that generates the observable patterns of the system. In organisations therefore, human behaviour is as an emergent property resulting from the relationships and interactions between people in the extended enterprise, the people in groups, and the people in teams and individuals.

Talent management professionals adapting their approaches to incorporate complex system thinking, have to solve the challenge of how to use feedback loops. Whenever actions and interventions are instigated, information enters the system and outputs create feedback loops. It is crucial that these feedback loops and their effects are understood at the system level, not just at the individual level.

Accurate timely prediction of all possible scenarios an organisation might face in the future is impossible. However, human behaviour both at individual and group level is often predictable in a fuzzy way a lot of the time. The further into the future we try to predict the fuzzier the potential outcomes become. Talent management from a complex adaptive system perspective does not draw a dichotomy between an individual and team, working with an individual is working with the team. Working with teams also means working with the individuals and the emergent behaviours that result from their complex interactions within the group.

Talent management may become involved with helping individuals, teams and the organisations maintain themselves at the border between chaos and sameness, a place complexity theory calls the edge of chaos. It is at this edge, that innovation and change happens as a result of the organisations ability to adapt to unpredictable circumstances. Chaos theory predicts that organisations unable to cope with unpredictability cannot adapt. This results in them tipping over the edge of chaos into failure.

Defining talent management

Consider a definition of Talent Management from two different perspectives. A traditional linear definition being;

> "An organisations journey to identify and manipulate the human patterns of behaviours and attitudes that are involved with sustaining competitive success".

The word "manipulation" in this context should not infer any deliberate negative connotations.

When it is considered from a complex system perspective the following definition works well:

> "The systematic intent to place every individual in the company in a position where their skills are being extensively and optimally utilised at any given time".

The differences may seem subtle at first but they actually represent a very different mindset. The first definition, suggests that sustaining competitive success is possible by exercising a large element of control over whatever you do with people. The second definition by contrast ignores the idea that you can control things over time, and instead focuses on the ability to adapt and position the skills of every individual in the enterprise optimally at any given point in time. Both definitions have their own merits.

Emergent Behaviour

Organisations are formed around structures of different, intensively interacting units. Employees, clients, suppliers and competitors make up the people in these units. If we took a group of 5 year olds today and put them through rigorous testing, it would still be impossible to tell how they would eventually gather together with the other people to form future organisations. It is an emergent property that will self organise out of their interactions over time with all the people who make will make up the future enterprise. New structures are established and old ones disappear, they self organise as the dynamics of the system play out over time.

Complexity Theory – Whats That About?

General, as opposed to purely academic interest in complexity theory has enjoyed growing momentum since the late 1980's although its practical applications in the business world are way behind the emergence of the theories. A key assumption resulting from the mathematical computations underpinning the theories is that the future is largely unpredictable, unknowable and long term planning therefore is a waste of time. What this really boils down to is enthusiastic complexity theorists using the authority of science to suggest that there is no alternative to the "market" and that markets are inherently unpredictable.

Systems' thinking begins when you step back from the level of the particular and view what is created when the parts interact. Although this sounds easy, indeed even sensible, in scientific terms this represents a new way of analysing the world. Whole systems interact according to their own rules and goals, adapting to each other with the subsequent interactions bringing about the order of the whole system.

Complex Adaptive Systems gets the name because the parts that make them are whole systems in their own right. A defining aspect of any complex system is that it forms entities that are greater than the sum of its parts.

Some important jargon - From a Complex Systems perspective an organisation, or parts of an organisation, operates in 1 out of 3 possible states at any given point in time. The three states are stable, unstable and the boundary between the stable and unstable states, called a phase transition or "the edge of chaos".

Under certain conditions organisations perform in regular, predictable ways; this is the "stable state".

Under other conditions they exhibit behaviour in which regularity and predictability is lost, this is the "unstable state"

The edge of chaos happens when in certain circumstances small, virtually undetectable differences in initial conditions lead to gradually diverging system reactions until eventually behaviour evolves and becomes quite different.

Chaos Everywhere

In other words no matter how complex any system is, they rely upon an underlying order, and that very simple or small events can cause very complex behaviours or events. This latter idea is known as sensitive dependence on initial conditions. This is the butterfly flapping its wings in Brazil setting of a Tornado in Texas much quoted chaos theory aspect of complex systems thinking. The butterfly effect, first described by Lorenz in December 1972 demonstrates, at least in theoretical terms, the potential for a small system such as a butterfly to be responsible for creating a very large and distant system event. If you believe the maths the presence of chaos means that long term predictions are pointless. Chaos theory for talent managers is interesting in that it relates to behaviours over time with a focus on real time events. Put another way, analysing "patterns of behaviour" becomes as important.

Chaos theory claims that for real change to happen systems must be at edge of chaos at least some of the time. This state is associated with an organisations ability to innovate and is seen as a healthy attribute. The prevalence of stable, unstable or edge of chaos behaviour depends on many variables such as: the laws governing behaviour and the relative strengths of positive and negative feedback mechanisms.

Life Before Complex Systems Theory

Before Complex System Theory, unpredictability of systems was attributed to randomness – a concept that collects up unexplained variation and applies probability formulae. What happens is understood as the result of random choice among possible outcomes, in proportion to their probabilities.

Much of our modern management practice is involved with breaking everything down into the parts that make it up. This has been the gospel according to business process engineers, and many quality and performance management system designs. The belief being that by understanding the parts, we understand how the whole system works. Science refers to this as “Reductionism” and this method supports the concept that achieving a stable predictable functioning is the desired state of any system.

In the real world most systems are complex and adaptive including the organisations we work in. Some very big brains and a lot of computers have done the maths and shown that rather than seeking a steady state functioning, sustainable instability is the norm for complex adaptive systems. Also known as “dynamic equilibrium” this is one of the key concepts reshaping thinking about organisational design and development. All complex adaptive systems share some features and common behaviours such as: they are dynamic; massively entangled; scale dependant; emergent and transformative. See our glossary of terms for descriptions of these.

In the real world of work involving social processes and organisations needing managed, probability elements proliferate. Thus utilising a complex systems approach should not invalidate the important contributions that management information systems tools and processes make to the business bottom line.

Feedback Loops

In the complex systems world of Talent Management, feedback loops are king. There are essentially only 2 types, “positive” and “negative. If that sounds easy think again – computer programmes are written with just 0 and 1, understanding behavioural feedback loops requires similar mental training.

Positive feedback loops act as reinforcing processes aiding growth and development of behaviours or traits. They amplify and accelerate an output often causing the event to become exaggerated over time. An example of a complex adaptive system being affected by positive feedback loops would be the growth of portable personal computers, the uptake of broadband and the emergence of e-learning. More of 1, the more likely growth in the others will occur.

Negative feedback loops dampen or inhibit an output influencing the event to diminish over time. In negative feedback loops an output change opposes the original cause such as in a crime and punishment system. In other words the negative feedback loop of punishment is meant to deter the original criminal behaviour. The fact that many criminals reoffend after spending time in jail, demonstrates very clearly that a linear approach to crime and punishment limits the ability to effect real change. Evidently other feedback loops are impacting on the criminal population that need to be understood and managed if the end game is to prevent and reduce the incidence of reoffence.

If a complex system approach is to be used effectively to illicit or change specific behaviours at individual, team or organisational level, there has to be a detailed understanding how positive and negative feedback loops change as they interact with different parts of a system. Consider the example of a traditional cause and effect management approach to poor sales figures. Analysing the team’s sales figures the Sales Manager points the finger of blame at one or two individuals held culpable for the poor results. They believe that sacking individuals with poor sales results is the expected managerial behavioural norm. This hire and fire mentality actually costs the organisation pain on the business bottom line.

But the manager is seen as doing his job well because he actively manages poor performance. So the cycle of hire and fire continues. What if a deeper analysis of the situation revealed that in a 12 month period this manager had spent over £60,000 on recruitment agency fees to recruit 5 new sales representatives? Of this 5 he has fired 2 and 2 others have left of their own violation. This leaves only 1 person from the original 5 recruits and they are currently on weekly performance reviews because of poor sales figures. Is the problem really solved by this manager sacking the employees with the poor sales figures? With linear cause and effect thinking there is rarely a system wide analysis of the feedback loops that led to the poor sales results. Such an analysis would identify necessary changes to system inputs that would support the emergence of more appropriate management behaviours leading to improved sales.

A second example for consideration is a succession plan where focus is on a chosen few. How will employees who discover that their names are not on the list feel? Will some of them experience a sense of punishment or blame for not making the important future promotion list? This negative feedback loop may lead to output change such as lower motivation or they might decide to leave the company to seek better promotion prospects elsewhere. The original succession plan input was utilising a positive feedback loop to support the company's success through identifying and developing the top talent. For the chosen few on the list, this may work but for others the feedback loop becomes negative in that it opposes the original output intention. Feedback loops cause both change and stability within the system and interactions between parts can change the intended status of any feedback loop. Clearly this part of the complex systems jigsaw is not so easy as linear cause and effect thinking demonstrated by the Sales Manager in the first example.

In the succession plan example a complex adaptive system approach would involve multiple options tried simultaneously. So other interventions would be put in place at the same time of the succession plan to ensure positive feedback loops throughout the whole system. This involves an open, parallel operating mode as opposed to the closed linear succession plan in which decisions move up and down predicted fixed command chains.

Complex adaptive system thinking does not mean that having a succession plan is wrong, rather it suggests that:

- Planning [succession or otherwise]needs to constantly adapt and evolve in a time based way as sustainable predictability is not possible:
- It is not possible to predict what talent should be developed for the future using models of talent that worked in the past;
- Emergent behaviours resulting from the introduction of the succession plan need to be understood at the system level and feedback loops managed so results feed back into the system again;
- Talent management professionals need to view their work as a system of networks composed of many interacting feedback loops with potential to both oppose and support actions.

Understanding everything about an individual Queen Bee will not tell us how every bee hive works. Dissecting a frog will not tell us if it was likely to become a Prince when kissed by the right girl, we need a living frog for that. Knowing how parts interact, not just how they work, is a critical part of understanding how a whole system works, this is the basis of utilising an approach to talent management which emphasises engagement, team working and communication. This will require acknowledgement of 3 different levels of human interactions, the environment, the business world and the psychology of self.

Number Of Key Differences	Traditional Linear Thinking	Complex Adaptive Systems Thinking
1	Linear approaches give accurate predictions which universally provide the remedy for success	Linear predictive approaches are not a panacea for success. They are only simplified viewpoints applicable to only a few systems at given points in time.
2	Patterns from past talent models are a good basis to manage future talent needs.	It is not past talent that dictates success but talent in the here and now. There is a need to move the control of the past into the present.
3	Talent initiatives are instigated using standard control mechanisms and performance criteria that only utilise a linear cause and effect approach.	Traditional ideas of cause and effect are adjusted and the effect feeds back on the cause. Both positive and negative feedback loops impact the system outcomes.
4	Direction is determined by design and the power of a few leaders who are experts and authorities	Direction is determined by emergence and the participation of many people. Leaders are supporters and facilitators.
5	Strategic thinking is the domain of a few leaders normally working in isolation or in small packs.	Strategic thinking arises as a result of learning carried out in groups and facilitated groups are more productive.
6	Relationships are directional	Relationships are empowering
7	Efficiency and reliability are measures of value	Flexibility and responsiveness to the environment/market are measures of value.
8	Decisions are based on facts and figures	Decisions are based on tensions and patterns
9	Causality is linear; every effect can be traced to a specific cause	Causality is mutual, every cause is also an effect and vice versa.
10	All systems are exactly the same and the whole is equal to the sum of its parts	All systems are unique. The whole is different from the sum of its parts.
11	Few variables determine outcome	Many variables determine outcome

The table above highlights key difference in applying complex system approaches over traditional reductionist [linear approaches] to talent management.

A Cautionary Note

A cautionary note in respect to key differences highlighted in the table. Empirical evidence demonstrating that organisational designs utilising complex system thinking do what they say on the tin, is extremely difficult to find. Much of the evidence is largely anecdotal in character and transported from examples taken from the nature where the assumption is made that the same patterns can be applied to human systems. This current lack of field based evidence however should not undermine the important implications that complex systems thinking has for talent management professionals. You can't split an atom in the office but that does not mean that it is not a validated scientific concept.

Summary

Complexity Theory concerns itself with how complex systems can produce very simple out comes. Chaos Theory [a specific arm of complexity theory], considers how very simple things can generate complex outcomes that could not be predicted by considering the parts by themselves. These both differ from Linear Systems which respond to any big changes in a big and proportional way and to small changes in a small and proportional way.

A person's history is not a guarantee of their predictable success in the organisation of the future. Yet most talent management programmes take this approach in the expectation that it is possible to predict, manipulate and change individuals in some way to guarantee the talent pool of the future that will ensure organisational success. Complex systems' thinking is challenging this approach although the application of real world models is lagging behind the proliferation of the theoretical concepts.

Conclusions

There is no such thing as nonnegotiable ideas and utilising the best thinking from complex systems research should not involve the assumption that every traditionally generated prediction using linear methods is useless. Talent management is a journey rather than a destination. Complex systems theory has generated insights into this journey which are instructive and thought provoking. Talent Managers of complex organisations in turbulent times should appreciate them as an enhancement of their world-view.

Talent management professional's work with organisations and individuals helping them identify patterns in their complex mix of experience, beliefs, actions and reactions that is their story. The work encompasses clear goals and fuzzy problems. There are numerous options available that claim they are solutions to delivering pieces of an organisations talent management puzzle. Few of these options really link up behaviours, technology and business management [money] in anything other than a linear way. To address this issue, TAL has developed an Organisational Design Framework for Talent Management. This is a tool which helps organisations understand how both linear and complex system approaches can be combined to deliver talent management initiatives with positive feedback loops.