

Taekwon-Do Senior Dan grading essay

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This essay aims to explain how our organisation, International Taekwon-Do (ITKD) operates as a complex system. I will define what complex systems are, and highlight some key features of complex systems with examples from our organisation. Then I will discuss how moving into a chaotic system as a result of the COVID-19 pandemic Alert Level 3 and 4 lockdown periods produced a variety of new behaviours. Finally, I will suggest how systems thinking can benefit our national organisation moving forward.

Definitions

- **System:** phenomena or entities that are organised, interact, inter-relate, or depend on one another and their environment to form a 'whole'. This might be a freshwater ecosystem, a car engine, or a public health system.
- **Systems theory:** the study of inter-related or inter-dependent organisations within nature, science or society. Systems theory explores the dynamics, constraints, conditions, or principles within a given system. These principles are applicable across a wide range of disciplines.

There are **five types** of systems:

1. **Obvious or simple systems:** There is a clear cause and effect relationship, and clear rules or best practice principles in place. Everyone has a shared, logical understanding.
Example: Loaning library books, and penalties if books are not returned on time.
2. **Complicated systems:** A complicated system is static and the sum of its parts. There might also be a cause and effect relationship, but expertise is required to determine the problem. There can be multiple right answers or suitable solutions, so good practice is often seen rather than best practice.
Example: An airplane or car engine.
3. **Complex systems:** Complex systems are more than the sum of its parts. This system is in a constant state of change, and it is impossible to predict behaviour or outcomes. Instead, behaviours emerge, and we only understand why something happens if we look back on it.
A safe-fail environment is important here (where it's okay to be wrong). It lets us experiment and discover important or new information, and leads to the creation of new emergent solutions.
Example: Organisations or agencies that are public-facing, such as health, justice, or education.
4. **Chaotic systems:** A chaotic system is unstable. The relationships between cause and effect are impossible to determine because they shift constantly and no manageable patterns exist. Chaotic problems require a rapid response. In a crisis, immediate action is required to prevent further harm and to return the situation to a stable environment. This quick solution does not correct the underlying cause, but containment is more important at this stage. This system is where we see new or novel behaviour and solutions.
Example: The 2008 Global Financial Crisis, or the 2019 Christchurch Mosque shootings.
5. **Disorder:** This refers to when it is unclear which of the other four systems apply.

Why do we use systems thinking?

Systems theory principles have become more widely used in public sector agencies, businesses, and organisations. We are beginning to understand that we need to acknowledge the complexity of the system that we are working within. This helps successful decision-making, and creates sustainable shifts in practice and behaviour.

Historically, we've looked at past success and research to replicate or inform our future decisions. This approach can over-simplify the relationship between cause and effect, or confuse a cause and effect relationship with correlation (where there is a relationship between two things, but one does not cause the other). This might result in us not achieving what we wanted to, or having unintended consequences from our decisions.

There are benefits to looking at past research and success. However, we should ensure we are aware of the important contextual factors that contribute, and understand what goes on in our system so we know why things work.

How does ITKD fit into a complex system?

Sport New Zealand has recognised International Taekwon-Do as the largest organised martial arts group in New Zealand. There are around 100 clubs across five regions, and over 3500 active members. Geographically, our clubs are widespread; some are in more remote areas of New Zealand while others are urban clubs in major cities. The size of our clubs ranges from handfuls of students, to our larger clubs that have as many as 200 students.

Our organisation operates as a complex system. First, I will briefly cover our organisational structure. Then I will introduce features of complex systems and how they apply here.

There are three layers within our national organisation:

- The larger national body: is responsible for establishing the content and curriculum, monitoring and examining qualifications, and other administration tasks (database management, communications, and web content). It also coordinates and carries out development courses, national conferences, and tournaments.
- The regional level: provides an opportunity for collaboration. Members are able to visit each other's clubs. Regions can host local tournaments for students to compete against one another, and hold courses to give opportunity for students to gain new knowledge and build connections across other clubs.
- The club level: primarily where students learn and build relationships with others. Instructors and senior students are important for teaching information and skills. They are also the drivers for the culture and behaviour of the club. The curriculum is set but instructors have the autonomy to teach in creative and innovative ways, and share these practices with others.

In a complex system, the overall behaviour of the system is the result of a huge number of decisions made every moment by many individual agents. Our behaviour is unpredictable and reliant on so many other factors, that it can be impossible to predict decision outcomes or replicate pockets of good practice more widely.

Features of complex systems and how they apply to International Taekwon-Do:

- **Autonomous and interdependent:** Our clubs have the autonomy to operate however the instructor prefers. This ranges from the types of training spaces, types of students (i.e. adults, children), or whether they choose to remunerate their instructors.

There are interdependencies with one another. This is through collaborating with other local clubs to host tournaments, sharing resources or equipment, or coming together to host conferences and events.

- **Self-organisation:** This is where parts of the system organise and re-organise themselves. How clubs will organise themselves depends on what constrains the system, its boundaries, and also their interactions with each other. Clubs are constrained by the ability to find suitable training venues, instructors, and having enough students to ensure the club can remain viable. This could result in clubs merging, splitting, moving venues, changes in instructors, or how the club is operated.

Other aspects of self-organisation include our system of rank, or hierarchy, derived from the General's military background and Southeast Asian cultural influences. This influences how we interact with one another, even including how we form up within the dojang.

- **Feedback loops:** Feedback loops are a key feature of complex systems. They are loops where an input or stimulus generates a response, and that either reinforces or 'dampens' (reduces) the input/stimulus. An example of this might be an instructor who rewards a student with a certificate, and this positively reinforces the student's behaviour so they continue behaving well.

These feedback loops occur throughout our system and are where we see emergent behaviours. It can be at the 'ground level' within our regions where innovative practices pop up, and at a national level where we want to ensure we have ways to tap into those practices, make sure we know what is happening, and record or measure them.

- **Non-linearity:** Non-linearity in this context is where something, e.g. decisions, policies, events or behaviour, results in a number of different responses from others in the system. It is almost impossible to predict all responses to a particular input because humans are unpredictable and have their own unique circumstances that are not always readily known or understood.

It is difficult to scale up things that are working well in one area due to these emergent behaviours and unpredictability. It is also difficult to step back and see non-linear patterns, and if what we measure is sufficient for noticing these patterns.

- **Adaptive:** Our organisation is adaptive in a number of ways, e.g. adapting the curriculum for our students' needs, or changing our clubs in response to our communities.

COVID-19 and the New Zealand response

COVID-19 is novel coronavirus disease caused by the infection SARS-CoV-2. This global pandemic has caused unprecedented, large scale disruption, and for many, for the first time in our lives. This pandemic shifted us from a complex system, into a chaotic system. New Zealand's priority was to act immediately to restore some stability based on the best available information at the time.

Our approach to handling the COVID-19 pandemic has been an elimination strategy. This involved a four-week national lockdown at Alert Level 4, followed by several weeks at Alert

Level's 2 and 3. COVID-19 restrictions and guidelines had a number of impacts for our organisation, at individual, club, regional, and national levels. Some examples of restrictions that affected our organisation included social gathering guidelines, physical distancing, and general sanitation, e.g. procuring hand sanitiser for club use.

Our organisation had also shifted into a chaotic system, as opposed to a more stable complex system. As mentioned earlier, it is important during these periods to act quickly and decisively to restore stability to the system. We saw this through Facebook and website announcements from our CEO with guidance from Sport New Zealand.

When we look at the layers of our organisation, we start to see emergent behaviours as a result of the COVID-19 restrictions. Some of the benefits and disadvantages of these emergent behaviours are given at club, regional, and national level. Note that this is not an exhaustive list, observations are mainly from a club and region perspective.

Club level

Moving toward digital learning: A number of clubs moved to online methods of teaching, e.g. Zoom classes. Our club used the video conferencing tool Zoom, which provided the ability to host large numbers of students as well as smaller breakout rooms for smaller group work. There were options to host webinars (with one instructor leading), or meetings (where all students were shown onscreen).

- Benefits:
 - The ability to flexibly teach around student and instructor timetables. More classes were able to be offered due to the ease of organisation.
 - It provided a way for the club to come together as a community and provide social support for one another when physical gatherings were restricted.
 - Instructors were encouraged to consider and tailor lessons to student needs' and the environment they were training in. They became creative in teaching and practicing techniques.
 - In some cases, schools or property owners felt apprehensive about the wider use of their halls because of the possibility of transmission. Digital learning provided an alternative during these uncertain times.
- Disadvantages:
 - These programmes require a monthly subscription to use their services. Free licences are available, but this can be limited in their use.
 - It was more difficult to provide feedback. We were limited by what we could see and how we could give feedback. For example, physically assisting students with new or difficult techniques.
 - Students were constrained by their access to internet connectivity or digital devices. Some students were unable to find suitable training space.

In-club social distancing: A key part of our curriculum is the ability to demonstrate practical aspects of Taekwon-Do with a partner(s), i.e. self-defence, sparring, or step sparring. Students practiced and demonstrated these aspects by themselves.

- Benefits:
 - Instructors needed to adapt their teaching, including more theory-based learning, scenarios, and students practicing on their own instead.

- A greater emphasis on breaking down these disciplines into their component parts ensured students needed to step through progressions and consider their technique.
- Disadvantages:
 - It can be more difficult to put all the components together and apply as a single technique. It was also difficult to ensure our techniques were efficient and effective when we are adhering to physical distancing guidelines. This was especially relevant for students learning new content. It can be difficult to visualise how techniques work if they have not used them before. This was somewhat mitigated through providing videos of others performing these techniques.

Communication: Email and Facebook became primary sources of communication, however we found that this did not work for all our students.

- Benefits:
 - Messages are able to be widely disseminated very quickly. For the most part, many of us have ready access to the internet and are able to receive these messages quickly.
 - Wider forums, such as Facebook, provided avenues for groups to remain in contact and share teaching resources, ask questions or get in touch with one another.
- Disadvantages:
 - When there was more than one instructor teaching, it was difficult to contact everyone because we have no single place to reach all students.
 - In some cases, students and their families chose not to reach out or were difficult to contact.

Club viability: Some clubs within the organisation may operate more of a business-model approach, where shifts in Alert Levels had a much larger impact in club viability. This may be due to losses in revenue, and other fixed costs such as buildings and employees.

Regional level

Looking wider at the impacts on events outside of our club, gradings and tournaments were postponed or cancelled due to social gathering restrictions.

Online Zoom tournament: I hosted an online Zoom tournament for the Wellington region. Uptake was not as high as we had anticipated, but we learnt a lot through this process that will be valuable for any similar events in the future. The style of this tournament was real-time round robin, and feedback was provided to competitors by one judge at the end of each bout.

- Benefits:
 - It was financially very easy to run. For example, there were no costs associated with venues.
 - The ability to scale this type of tournament for any number of competitors. It remains financially viable for small numbers of competitors, but can accommodate much larger numbers. However, more consideration needs to be taken with the technology used and the logistics of the tournament when there are larger numbers of competitors.
 - As a smaller tournament, participants took on the feedback they received and used it to improve upon subsequent patterns. They found this feedback valuable.

- Disadvantages:
 - The largest factor that discouraged people from participating was cited as not having adequate internet connection and space available. Students believed that this would adversely affect their performance. They opted not to sign up as a result but were supportive of the initiative.
 - Judges were limited by competitors' placement of their camera. When the competitors travelled forward in their stances, more of their body becomes out of frame. This made some parts of the pattern more difficult to judge.
 - Software and technology can go a long way to improving a user-friendly experience. Several options were considered, but Zoom was used due to familiarity with the product and we already had access to its use. Ideally, we would have the ability to view competitors side-by-side and we host a large number of spectators, but this capability in Zoom is limited.

National level

At a national level, several larger events had to be postponed or cancelled, e.g. the National tournament. Other factors came into consideration at this level, such as the ability to travel and larger social gatherings. Communication has been vital at this level, for providing guidance and leadership for clubs, resource materials, and a forum for other instructors and students to contact each other.

How does systems thinking benefit us moving forward?

We will continue to see people innovate and adapt within Taekwon-Do as we move forward with 'the new normal'. There is always a possibility that we move back into a chaotic system if there are further outbreaks and community transmission in New Zealand. We need to take this time to reflect on lessons learned to ensure we are prepared for any potential future disruption.

One example of how we could apply some of these principles to our organisation is to survey how clubs responded during the lockdown period. This would result in many different responses depending on the club's context. Then we have a number of options to support what we determine as 'good' practice, provide additional support where it is needed, and address what we see as 'bad' practice.

A practical option for surveying our clubs and regions could be at regional or national events, visiting other clubs during the week, or other alternative options. This is where thinking about incentives or disincentives that drive behaviour is important when making these decisions. For example, visiting other clubs might be difficult because we are time-poor and/or training days do not match up. This means providing someone to teach on your club night or combining club trainings may be a good option. In the case where we are restricted travelling inter-regionally, digital options might be more suitable.

Systems thinking is a difficult concept to wrap our heads around. Essentially, there are endless possibilities in a complex space, and no single 'right' answer. Further, "no one person or organisation is likely to have sufficient information or resources to understand a complex system" (Eppel et al., 2011). But it helps us to give more nuanced consideration to the impacts on students and clubs when thinking about long-term strategies, policies and decision-making for our organisation. We are the largest organised martial arts group in New Zealand, and we are likely to continue growing. There are benefits for us to reflect on our organisation as a system, and how we can improve, grow, and continue teaching and learning.

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