Are Platform Organizations a Wicked Problem?

A window on wickedness

Imagine you have to boil an egg. That's a pretty easy one to deal with, right? How about if you had to lift up a 250kg weight? Plan how to safely migrate to the cloud? Write a neural network backpropagation algorithm in Python? Fix climate change? Come up with a strategy to guide the UK through Brexit?

These things are all difficult, but difficult in different ways. Sometimes things are difficult because they simply require a lot of effort. Sometimes because they require scarce skills and capabilities that are expensive to acquire, in terms of time or money. Sometimes because no-one's done them before. Sometimes because they require creativity. Sometimes because they have many moving parts. Sometimes because they have multiple knock-on effects. And sometimes because they have significant consequences for many players (people and/or companies), and hence are quite political.

Social scientists have been aware for many years that there are different kinds of 'difficult'. They distinguish between the 'complicated' and the 'complex'. Cars are complicated, not complex: while they have lots of moving parts, their behaviour is understood. The economy also has lots of moving parts, but its behaviour is not fully understood, often because of the effects of politics.

Some problems are as wicked as they come

After working with CEOs, CIOs and others on tough problems for a while, we both discovered the most compelling way of looking at complex and chaotic challenges: *wicked problems*. This term and its associated ideas came about in the late 1960s, and was summarized by Horst Rittel and Melvin M. Webber in a 1973 paper[1]. They neatly summarized ten characteristics of a wicked problem, and though the language they used is a bit weird, the ideas behind them are great:

#	Original Language	Meaning
C1	*There is no definitive formulation of a wicked problem.*	It's not even clear and fully agreed what the problem is.
C2	*Wicked problems have no stopping rule.*	The opposite of a game of chess: there is no well-defined end.
C3	*Solutions to wicked problems are not true-or-false, but good-or-bad.*	There is no provable 'answer' to be found. Stakeholders may not even agree how to measure what is better/worse.
C4	*There is no immediate and no ultimate test of a solution to a wicked problem.*	There is no safe, easy, small-scale way to test our plans. We need to try things out in the real world, with attendant consequences.
C5	*Every solution to a wicked problem is a 'one-shot operation'; because there is no opportunity to learn by trial-and-error, every attempt counts significantly.*	Every time you touch the problem, you change the context, so you can't just keep repeating the same thing.
C6	*Wicked problems do not have an enumerable (or an exhaustively describable) set of potential solutions, nor is there a well-described set of permissible operations that may be incorporated into the plan.*	Again, the opposite of a game of chess: it is not clear how many or what things you can do. Hence creativity is required, and you can never be sure you didn't miss something (better).
C7	*Every wicked problem is essentially unique.*	You can't rely on best practice too much, since every version of the problem is different.

C8	*Every wicked problem can be considered to be a symptom of another problem.*	Problems aren't neatly separated from everything else going on. They both affect and are affected by what happens outside.
C9	*The existence of a discrepancy representing a wicked problem can be explained in numerous ways. The choice of explanation determines the nature of the problem's resolution.*	Causality isn't clear. Is my problem that I don't have enough programmers working on it or too many? Or is the problem about the users?
C10	*The planner has no right to be wrong.*	The opposite of a good brainstorming session: you can't just offer up a suggestion without risk of negative consequences.

Robert Horn developed a similar idea called *social messes*[2]. There is even an extension called *super-wicked problems*, which adds conditions such as 'time is running out', 'there is no central authority' and 'those seeking to solve the problem are also those (seen to be) causing it'.

Those of you who have been in the public or not-for-profit sectors for more than a few years probably felt your ears burning as you read the above. The most difficult business and social problems aren't really logical challenges (like sudoku or chess puzzles); they are more like wicked problems.

Platform organizations are wicked little things

For the last few years, we have both been researching, publishing and working with clients on platform organization issues. Over the last few months, we have been focused on the *Mastering Platform Organizations* report, to be published later in 2018. For this report, we have been talking to lots of public, private and not-for-profit organizations at various stages of the 'brownfield' platform organization journey, i.e. significant-sized organizations that have been around for a while (not startups).

As we continue to conduct this research it is becoming clearer and clearer that a move towards platform business models to organize and create value in an ecosystem is almost always a very positive thing, but the transition often produces many of the conditions of a (super-) wicked problem described above. We sensed this particularly in the public/not-for-profit sectors, but it applies in the private sector too. To elaborate:

- *Issue 1: Lack of clarity*. In our experience, despite – or perhaps because of – the tremendous amount of hype around platforms, there is tremendous confusion in all sectors about what a platform organization is and isn't, and specifically the difference between a digital platform and a platform organization. Hence the somewhat provocative title of our recent document *WT* is a Platform?* In that paper we describe a platform organization as an entity that facilitates the value exchange between two or more inter-dependent groups. (Think Uber – drivers and passengers.) In our upcoming report we will add to this definition for greater clarity, using the language of design patterns. This issue satisfies condition C1 of a wicked problem (no definitive formulation).

- *Issue 2: New, as yet unknown, rules*. Many of the strategic and economic models of the past (such as Porter's Five Forces) are much less helpful in a platform organization context. A platform organization does not consist simply of buyers and suppliers, and the traditional language of competition is not sufficient to capture the dynamics where winning depends on the subtleties and complexities of network effects across both digital and physical realms – not to mention the new industry and cross-industry structures these platform organizations are creating. This issue also touches on C1, in that there isn't yet a well-understood, agreed single set of language to talk about and model platform organizations; and it also meets C6 square in the face, in that there isn't yet a well-agreed set of stratagems or options to choose from.

- *Issue 3: Measurement challenges*. It is hard to measure the value or success of a platform organization for three main reasons. First, the value exchanged across a platform is shared between participants, rather than directly attributable to the platform owner; and that sharing is somewhat dynamic. Second, platform organizations and their ecosystems continually evolve, with players coming and going, and changing their offers. Third, some of the platform organization's value is option value, i.e. the potential to do things with and on that platform going forward. Most measurement systems in companies and other organizations don't handle options well, and option valuation is genuinely hard. In simple language, it's really hard to be sure you are making the best, most value-adding decisions about a platform organization and your role in it. Put all that together, and we find ourselves meeting conditions C2 (no stopping rule), C3 (no true-or-false answer) and to some extent C4 (hard to test).

- *Issue 4: Testing challenge.* More specifically, testing a platform organization is a multi-party issue. This means that there is challenging negotiation to be done, plenty of risk, and potential to either win over or alienate other participants in the ecosystem. Fail fast and fail forward are more complex in a platform organization and its ecosystem than in a traditional pipeline business and its suppliers. This sits squarely in the domain of C4 (no small, safe, easy way to test) and connects to condition C10 (you have no right to be wrong), and to some extent C9 (complex causality).

- *Issue 5: The n-body problem.* More generally than the testing issue, pretty much by definition, you can't just cook up and build a platform organization without engaging, negotiating and coming to a consensus with others in the ecosystem. And it's essential that you constantly continue that conversation, negotiation and consensus-building as the ecosystem evolves and new players come and go. Think, for example, of those like GE (Predix), PTC (Thingworx) and Hitachi (Lumada), which all hope to be the platform business underpinning much of the internet of things across multiple geographies, verticals, B2B and B2C industries. The ecosystem must be connected, incentivized, and agree on the rules and tools of the game. The value and sustainability of a platform organization comes from the network effects – of multiple consumers and providers participating. As well as C4 (already discussed), this also touches on C5 – in that every time you test a platform organization, you must involve (and hence affect) others in the ecosystem, and this can lead to consequences, positive or negative. Finally, this also relates to C9 (unclear/complex causality). In a traditional business, if you make cars and your customers don't like them; or you design a driving licence system, and your citizens don't like it; it is pretty clear what's going to go down. But if you deploy a platform organization, and multiple, different value exchanges do or don't happen between different combinations of producers and consumers, and some of this doesn't go well – it is harder to understand why, and what to do about it.

- *Issue 6: Influence, not control.* Because the platform organization does not directly control the means of production in an ecosystem, if it tries to crack the whip, there is no guarantee that the other players will respond/conform, and they may even run off to another ecosystem. This is perhaps the wickedest aspect of a platform organization and firmly meets the super-wicked condition of 'no central authority'.

- *Issue 7: Platform organizations are typically hyper-connected.* A platform organization serves an ecosystem of producers and consumers with some of their needs. Consumers and producers may and probably will participate in other ecosystems in the same or overlapping domains (for example, I might have a connected car, connected home and connected work environment that share some common data, and I control them all through my mobile phone). Consumers and producers have many other needs not related to the ecosystem. Platform organizations often cut across and connect to many traditional vertical domains (e.g. automotive, home appliance, healthcare, payment systems) and increasingly to horizontal domains (e.g. logistics, IT and data services, citizen services). Data integration and interoperability difficulties are two symptoms of this. This issue connects strongly to condition C8 – every wicked problem can be seen as a symptom of another wicked problem.

- *Issue 8: Ecosystems are highly contextual.* Also redolent of the definition of wicked problems, most platform organizations, their ecosystems and the dynamics of their markets are unique and nuanced. We can't simply copy how an online dating platform works and apply it to a B2B manufacturing exchange. For example, one of Alibaba's original selling points was helping western companies find mid-sized Chinese manufacturers, using escrow to manage trust and risk issues. Best practice in designing and participating in new platform organizations and ecosystems must be significantly adapted to the context, often at a detailed level. This hits condition C7 – that each platform organization tends to be unique in terms of the domain it is serving, industry, geography, regulatory and other considerations.

We have discussed all the conditions of wicked problems and how they are relevant in the context of a platform organization. We didn't touch on a couple of the super-wicked conditions – they depend on context. For example, if a central authority that is overly bureaucratic and controlling tries to become a platform orchestrator, that raises the issue of 'those trying to solve the problem are also those seen as causing the problem', and depending on context, perhaps the issue of 'time running out'.

No rest for the wicked

You have now read about the idea of wicked problems, found it fascinating (well, at least interesting), and accepted that many aspects of it apply to platform organizations and their ecosystems. The question is: *So what?*

Well, to make the problem of building platform organizations less wicked we have to do some things very differently:

- Put more time and resources into collaboration and communication than development. With non-wicked projects, we can put most of our energy into development, with a small amount of energy and creativity applied to stakeholder communication. With wicked problems (such as building/participating in a platform organization), we should think of the process more as a multi-party conversation and put much of our effort and creativity into communicating and negotiating. Governance should also be collaborative.

- Don't build for stability; build for constant evolution. Like many other new things, with business platforms we must start small, evolve, fail fast, fail forward, etc. But in traditional organizations evolution slows when scaling starts, whereas in platform organizations they run in parallel. New behaviours are emerging constantly. Platform organizations are built for constant evolution.

- Design the organization from the outside in, not the inside out. Build it and they won't come! Starting with a product or service and then finding a segment of the market to iterate a Minimum Viable Product won't work. Start in the ecosystem – what business issues can you solve for ecosystem participants in the long tails and niches of markets? What frictions can you remove? Then define how you can influence and orchestrate producers and consumers. Then, when the ecosystem dynamics are clear, you can design, launch and evolve a Minimum Viable Platform Organization.

Something wicked this way comes

Clearly, the Ubers, Etsys, Airbnbs and Alibabas of this world have solved the wicked problems they faced in building platform organizations. Amazon, that shapeshifting giant, is so good at it that more and more incumbents are now facing their own wicked problems. It is much harder for 'brownfield' organizations to build platform organizations and orchestrate ecosystems. But a beautiful irony is emerging. The latest generation of platform organizations are starting to solve society's wicked problems – like providing quality care in the community, and growing culture and arts in the community in times of austerity.

There will be more about mastering platform organizations in a brownfield context in our upcoming report. Until then …

1. Horst Rittel and Melvin Webber, _Dilemmas in a General Theory of Planning_, Policy Sciences 4, 1973
2. Robert Horn, _Knowledge Mapping for Complex Social Messes_, Stanford University, 2001

About Leading Edge Forum

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