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A change singularity: increasing knowledge volatility

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Adapting to increasing knowledge volatility

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April 7, 2022

Possible headline: *The increasingly rapid technological change combined with the socialising of tech, Knowledge Volatility – the rate at which knowledge goes out of date – is increasing to a tipping point.*

I'm no Sherlock, but you reading this suggests to me that your organisation is digital. Whether your products are digital or your services are digital or delivered digitally, your organisation has a CIO, IT Director, Head of IT, CTO, CDO – it may even be you!

As a digital organisation, you're in the digital supply chain and so are exposed to the forces of change that arise there.

You'll know better than me what this means for your organisation, but I guess one outcome is that you're running to stand still. And, depending on your organisation, your board may or may not understand the forces of digital change meaning their support is less than full.

You more than cope with all of this. You drive your organisation forward into an aggressive digital future, give it what it needs.

Up until now, organisational leadership has really been the management of complexity: building complex operations for a complex organisation to succeed in a complex business context.

Now, it's no secret (and you don't need my research to tell you) that the key to managing complexity is up-front planning. Because of this, planners were what an organisation needed at all levels to compete successfully as markets became more complex, and so it was planners – and people who could develop, implement and follow to a plan – that were recruited.

(Don't get me wrong, I love planners... planners are great – some of my best friends are planners...)

For-complexity-organisations have immovably strong foundations with the sturdiest 30 metre high walls, masses of chunky crenelations on top, and the tallest flag poles supporting proud flags. It has a monarch at the top of an incredibly baroque, interminably slow decision structure.

All is strength, very little is flex – those flags may flap in the winds of change a little?

But there's a tsunami of change coming caused by increasingly rates knowledge volatility, and not all organisations will survive. If I'm right, depending on sector, I think we've got around 2 to 5 years to reengineer organisations – and society – to cope.

Knowledge volatility: fashionably late, causing a stir.

But isn't knowledge volatility just change? And things have changed before, you'll say, and we coped then. Why not now?

Simply, it's not like before: we're moving outside of smooth, *laminar-like* change that is predictable and can be planned for by an organisation that can only change slowly and into turbulent change which isn't

addressable by organisations built only for complexity. We're heading toward a change singularity and the only thing that will save organisations is your and your team's adaptability. Adaptability will be key.

Why now?

Moore's law can be scary as it means that the compute power of any box doubles every couple of years[1].

Moore's law is also comforting: we know we can cope with that rate of change.

What isn't limited by Moore's law is the deep knowledge that is needed to understand the interactions that change when your compute box is socialised, to customers, to organisations and, yes, to our lives, our democracy and our society. Knowledge volatility is the explosive combination of technical changes within their social context.

Already we see some damaging effects: because of knowledge volatility, universities don't know what skills to teach – things go out of date too quickly. Education is becoming chaotic, with changes in knowledge needs coming faster and faster. And while change may still be manageable in the organisation – just – knowledge volatility is already beginning to outpace the request/analyse/decide communications that are needed to make a centralised system work in any organisation, public or private, or even government.

Implications

For the individual:

To keep up with the pace you need to train at the leading edge. But the increasing rate of change means more, much more. You'll begin to have to adapt in real-time to the changes you face. At least at the beginning, tomorrow, you'll need new skills that you don't have today; then things will speed up.

Knowledge volatility thus places great value on your ability to adapt. When the skills needed to be productive change every day, who can determine precisely which skills you will need for tomorrow but you? You're the only one in your context doing what you do. Who is better than you of knowing what you need next. When you're hungry for fast food, you don't want others telling you what to eat; when you're hungry for fast skills, you don't want others to tell you what to study. You've got access to Udemy, FutureLearn, and all the other online platforms and they're way ahead of your HR dept.

But there's more; you're actually going to have to be your own chef to be able to get the digital skills diet you need. And that takes the sort of skills that stay with you through life, the ability to choose the best ingredients, to know how to season them and to cook them the way they need. Improving your digital skills diet is a lot like that. You've got to be able to reflect on today's skills, think critically about tomorrow's skills gap and find ways to bridge it.

And for the organisation

With knowledge volatility reaching levels that are simply not manageable through any centralised model, we are at a tipping point in organisational structure. Complexity isn't going away, but the new need is

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[1]Perhaps a self-fulfilling prophecy? R. R. Schaller. *Moore's law: past, present and future.* IEEE spectrum, 34(6):52–59, 1997.

for individual adaptability. Whether you buy it or build it, the move will be from centralisation of HR to decentralisation and personalisation of development. That means giving employees time to grow as a benefit to your organisation. It means discretionary budgets for individual-determined speed training. It means a greater level of trust in your team to determine the team's direction.

And for policy

A workforce need for adaptability has educational policy implications: learn-once education – schools, college, universities – must provide the skills that underpin it: reflection, critical thinking and problem solving. Sure, delivery will still be on the back of today's technical skills, but if they aren't broadly applicable then they're not the right type. In addition, they should be applied over and over again, deepening over the years. Universities like mine, the Open University, have pioneered modules that do this, but they're in the curriculum only through the efforts of individuals, not policy.

And could there be incentives – tax breaks? – for organisations *adapting* to knowledge volatility (*see what I did there?*) through decentralisation of skill development?

A 3-point plan

Published in 2001, the agile manifesto first recognised that the digital needs of customers meant a radical changes for software development processes throughout the organisation. Their analysis was prescient, but limited to the customer space. Now, as we see the rapidity of change increase to levels never before seen, we are entering a new phase in which adaptability of the individual is the only way to counter turbulent change caused by knowledge volatility.

And we should start rebuilding our organisations for knowledge volatility. here's a three point plan:

Point 1: Start by identifying the most adaptable members of your team and give them what they need to perform and teach other.

Point 2: Hire for adaptability.

And finally, point 3, convince your board that your organisation's digital future can be managed, but only if they follow an agenda that promotes adaptability, removes the need for slow comms and decentralises education and training to the coal face.