Mapping the Evolution of Sociotechnical Systems

A rant by @catswetel

12 November 2019
Wardley Maps?
Our strategy is agile. We will lead an innovative effort of the market through our use of value and data leaders to build a blockchain. By being both collaborative and customer focused, our digital first approach will drive design thinking throughout the organization. Synergies between our learning organization and digital transformation will enable us to capture the upside by becoming networked in an open world. These transformations combined with culture due to our leaders will create a revolution through big data and social media.

https://strategy-madlibs.herokuapp.com/
“I’m excited to create my first map!”
The map is not the thing.
cat 6:59 AM

I hate doing like "Intro to Wardley Mapping" because who cares?

24 replies  Last reply 3 months ago
Two words for you...
Emulated. Vax.
Pioneers → Settlers → Town Planners

**Deals with ...**
- Rare
- Poorly Understood
- Differential & Novel
- High Future value
- Constantly changing
- Undefined Market

**Happy with ...**
- Failure
- Gambling & Gut Feel
- Experimentation
- Uncertainty
- Ignoring Customers

**Uses ...**
- Agile
- Common components

Most likely to build a partially functioning 3D printer with Lego

**Deals with ...**
- Growing
- Increasing Education
- Feature Differentiation
- High Profitability
- Maturing Products
- Growing Market

**Happy with ...**
- Constant Improvement
- Market Analysis
- Feedback
- Trend Spotting
- Listening to Customers

**Uses ...**
- Ecosystems

Most likely to steal a half baked Lego 3D printer and turns it into something that lots of people want to buy

**Deals with ...**
- Common
- Well Defined
- Essential Cost of Doing Business
- High Volume
- Standardised & Stable
- Mature Market

**Happy with ...**
- Operational Efficiency
- Metric Driven
- Analytics
- Scientific Modelling
- Building what is needed

**Uses ...**
- Six Sigma

Most likely to be running the factory which builds Lego bricks and Lego kits

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Medium.com/wardleymaps

@swardley
VAX SLOW MADE

@CATSWETEL
Genesis  Custom  Product  Commodity

EVOLUTION
Pre-Software Industry Economy

Professionally Built Software Economy

Consumer Built Application Economy

Collaboration Application Model
Developers build domain specific resources
Customers and users build code-free or code-light customized products

@conways_law
Mel Conway 2019
How do you treat a component?
How does the rest of the industry treat the same component?
<table>
<thead>
<tr>
<th>Stage (of Evolution)</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity</td>
<td>Genesis</td>
<td>Custom</td>
<td>Product (+rental)</td>
<td>Commodity (+utility)</td>
</tr>
<tr>
<td>Data</td>
<td>Unmodelled</td>
<td>Divergent</td>
<td>Convergent</td>
<td>Modelled</td>
</tr>
<tr>
<td>Practice</td>
<td>Novel</td>
<td>Emerging</td>
<td>Good</td>
<td>Best</td>
</tr>
<tr>
<td>Knowledge</td>
<td>Concept</td>
<td>Hypothesis</td>
<td>Theory</td>
<td>Universally Accepted</td>
</tr>
</tbody>
</table>

**Characteristics**

<table>
<thead>
<tr>
<th>Ubiquity</th>
<th>Rare</th>
<th>Slowly increasing</th>
<th>Rapidly increasing</th>
<th>Widespread in the applicable market / ecosystem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certainty</td>
<td>Poorly understood / exploring the unknown</td>
<td>Rapid increases in learning / discovery becomes refining</td>
<td>Rapid increases in use / increasing fit for purpose</td>
<td>Commonly understood (in terms of use)</td>
</tr>
</tbody>
</table>

**Publication Types**

| Describe the wonder of the thing / the discovery of some marvel / a new land / an unknown frontier | Focused on build / construct / awareness and learning / many models of explanation / no accepted forms / a wild west. | Maintenance / operations / installation / comparison between competing forms / feature analysis e.g. merits of one model over another | Focused on use / increasingly an accepted, almost invisible component |

**General Properties**

<table>
<thead>
<tr>
<th>Market</th>
<th>Undefined market</th>
<th>Forming market / competing forms and different models of understanding</th>
<th>Growing market / consolidation to a few competing but more accepted forms.</th>
<th>Mature market / stabilised to an accepted form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge management</td>
<td>Uncertain</td>
<td>Learning on use / focused on testing prediction</td>
<td>Learning on operation / using prediction / verification</td>
<td>Known / accepted</td>
</tr>
<tr>
<td>Market (Ecosystem) Perception</td>
<td>Chaotic (non linear) / Domain of the “crazy”</td>
<td>Domain of “experts”</td>
<td>Increasing expectation of use / Domain of “professionals”</td>
<td>Ordered (appearance of being linear) / trivial / formula to be applied</td>
</tr>
<tr>
<td>User perception</td>
<td>Different / confusing / exciting / surprising / dangerous</td>
<td>Leading edge / emerging / uncertainty over results</td>
<td>Increasingly common / disappointed if not used or available / feeling left behind</td>
<td>Standard / expected / feeling of shock if not used</td>
</tr>
<tr>
<td>Perception in Industry</td>
<td>Future source of competitive advantage / unpredictable / unknown</td>
<td>Seen as a competitive advantage / a differential / looking for ROI and case examples</td>
<td>Advantage through implementation / features / this model is better than that</td>
<td>Cost of doing business / accepted / specific defined models</td>
</tr>
<tr>
<td>Focus of value</td>
<td>High future worth but immediate investment</td>
<td>Seeking ways to profit and a ROI / seeking confirmation of value</td>
<td>High profitability per unit / a valuable model / a feeling of understanding / focus on exploitation</td>
<td>High volume / reducing margin / important but invisible / an essential component of something more complex</td>
</tr>
<tr>
<td>Understanding</td>
<td>Poorly understood / unpredictable</td>
<td>Increasing understanding / development of measures</td>
<td>Increasing education / constant refinement of needs / measures</td>
<td>Believed to be well defined / stable / measurable</td>
</tr>
<tr>
<td>Comparison</td>
<td>Constantly changing / a differential / unpredictable</td>
<td>Learning from others / testing the water / some evidential support</td>
<td>Competing models / feature difference / evidential support</td>
<td>Essential / any advantage is operational / accepted norm</td>
</tr>
<tr>
<td>Failure</td>
<td>High / tolerated / assumed to be wrong</td>
<td>Moderate / unsurprising if wrong but disappointed</td>
<td>Not tolerated / assumed to be in the right direction / resistance to changing</td>
<td>Surprised by failure / focus on operational efficiency</td>
</tr>
<tr>
<td>Market action</td>
<td>Gambling / driven by gut</td>
<td>Exploring a “found” value</td>
<td>Market analysis / listening to customers</td>
<td>Metric driven / build what is needed</td>
</tr>
<tr>
<td>Efficiency</td>
<td>Reducing the cost of change (experimentation)</td>
<td>Reducing cost of waste (Learning)</td>
<td>Reducing cost of waste (Learning)</td>
<td>Reducing cost of deviation (Volume)</td>
</tr>
<tr>
<td>Decision Drivers</td>
<td>Heritage / culture</td>
<td>Analysis &amp; synthesis</td>
<td>Analysis &amp; synthesis</td>
<td>Previous experience</td>
</tr>
</tbody>
</table>
EVOLUTION

CONSPICUOUS
Minimum useful map?
“The larger the variety of actions available to a system, the larger variety of the perturbations it is able to compensate.”

Ashby’s Law of Requisite Variety
“[organisms] are finely balanced between metabolism and maintenance costs”

Scale by Geoffrey West
Manifesto for Agile Software

We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value:

Individuals and interactions over processes and tools
Working software over comprehensive documentation
Customer collaboration over contract negotiation
Responding to change over following a plan

That is, while there is nothing so2 doing it and helping others do it. Through this work we have come to value:

Individuals and interactions over processes and tools
Working software over comprehensive documentation
Customer collaboration over contract negotiation
Responding to change over following a plan

The above values have been put into practice through the followings:

2019

APRIL
Apr 9 - 10: Tokyo
Apr 9 - 10: Atlanta
Apr 10 - 11: Jakarta
Apr 10 - 11: São Paulo
Apr 16 - 17: Houston
Apr 23 - 24: Seattle
Apr 24 - 25: Baltimore
Apr 29 - 30: Denver

MAY
May 2 - 3: Austin
May 2 - 3: Des Moines
May 9 - 10: Nashville
May 11 - 12: Beijing
May 14 - 15: Zürich
May 14 - 15: Salt Lake City
May 17 - 18: Kyiv
May 20: Poznań
May 24 - 25: Porto Alegre
May 25 - 26: Bogotá
May 29 - 30: Toronto
May 30: Boise

Tokyo

APR 9 - 10, 2019

Atlanta

APR 9 - 10, 2019

Houston

APR 16 - 17, 2019

Seattle

APR 23 - 24, 2019
“The larger the variety of actions available to a system, the larger variety of the perturbations it is able to compensate.”

Ashby’s Law of Requisite Variety
From transactions to relationships
NEED: Sell Tickets

- Content
- Reports
- Operating System
- Printer
- Compute

GENESIS - CUSTOM - PRODUCT - COMMODITY
6. Map

Copy the value chain over. Use the evolutionary characteristics to decide where to place each component along the horizontal axis (Evolution).

https://miro.com/blog/wardley-maps-whiteboard-canvas/
Copy the value chain over. Use the evolutionary characteristics to decide where to place each component along the horizontal axis (Evolution).
Copy the value chain over. Use the evolutionary characteristics to decide where to place each component along the horizontal axis (Evolution).
Devops is not (just) a mindset.
It has been fashionable as of late...to assume that the actual job, its technology and its mechanical and physical requirements, are relatively unimportant compared to the social and psychological situation of men at work.

Peter Drucker
The map is not the thing.
<table>
<thead>
<tr>
<th>Communication</th>
<th>Development</th>
<th>Operation</th>
<th>Structure</th>
<th>Learning</th>
<th>Leading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Be transparent</td>
<td>Focus on high situational awareness (understand what is being considered)</td>
<td>Use appropriate methods (e.g. agile vs lean vs six sigma)</td>
<td>Manage inertia (e.g. existing practice, political capital, previous investment)</td>
<td>Provide purpose, mastery &amp; autonomy</td>
<td>Be the owner (take responsibility)</td>
</tr>
<tr>
<td>(e.g. customers, shareholders, regulators, staff)</td>
<td>Use a common language (necessary for collaboration)</td>
<td>Focus on the outcome not a contract (e.g. worth based development)</td>
<td>Optimise flow (remove bottlenecks)</td>
<td>Design for constant evolution (e.g. pioneers, settlers and town planners)</td>
<td>Move fast (an imperfect plan executed today is better than a perfect plan executed tomorrow)</td>
</tr>
<tr>
<td>Focus on user needs</td>
<td>Think fast, inexpensive, simple and tiny</td>
<td>Focus on the outcome not a contract</td>
<td>Set exceptional standards (great is just not good enough)</td>
<td>Think small (as in know the details)</td>
<td>Be the owner (take responsibility)</td>
</tr>
<tr>
<td>Be pragmatic (it doesn’t matter if the cat is black or white as long as it catches mice)</td>
<td>Use standards where appropriate</td>
<td>Effectiveness over efficiency</td>
<td>Think small (as in know the details)</td>
<td>Think aptitude and attitude</td>
<td>Strategy is complex (there will be uncertainty)</td>
</tr>
<tr>
<td>Challenge assumptions (speak up and question)</td>
<td>Think small (as in know the details)</td>
<td>Think big (inspire others, provide direction)</td>
<td>Learn by playing the game (a bias towards action)</td>
<td>Be curious and take appropriate risks (a bias towards the new)</td>
<td>Commit to the direction, be adaptive along the path (crossing the river by feeling the stones)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Listen to your ecosystems (acts as future sensing engines)</td>
<td>There is no core (everything is transient)</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td>Be humble (listen, be selfless, have fortitude)</td>
</tr>
</tbody>
</table>
First, respect for history
First, respect for history
Buy, when possible
Visibility is priority
Skills duplication > speed
Standardize, then automate
“The larger the variety of actions available to a system, the larger variety of the perturbations it is able to compensate.”

Ashby’s Law of Requisite Variety
Value disfluency.

Thanks @TashinFogleman AKA “Full Stack Monastic”
Where we’re going we don’t need maps*!

*But we probably need mapping.

@TasshinFogleman AKA “Full Stack Monastic”
What happens to all the “legacy” code?
How do we innovate responsibly?
Participation invitation

I have the resources to participate in this conversation.
THE EPISTEMIC JUSTICE LEAGUE