

Pace Layers Matrix Workbook

Individual work on 8 pillars

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ops

Some assumptions & assertions

- This work comes ultimately from all of the data points from the What is ResearchOps project. All of the data points can be seen within the [WIRO Kumu](#).
- From these, we arrived at a taxonomy to understand the data, and that taxonomy became the 8 Pillars.
- The tasks and things within the 8 pillars, the 'things that need to be in place for research to happen' are either synthesised from the kumu or are a data point found frequently there.
- This means this work has a lot of assumptions embedded within it - possibly some are yours! They are assumptions from the participants from that project and the people who conceived of the 8 Pillars (Emma Boulton - principal author, Tomomi Sasaki, Holly Cole and Brigitte Metzler). Others still come from Brigitte as she has moved around the data points to match them to the things she heard as she did the Research Repositories project, and as she did her weekly office hours with people struggling with scale.
- This workshop was prepared by Brigitte Metzler and Benson Low for the ReOps Community.
- We encourage you to challenge these assumptions and add more tasks and things to the list of the things that need to be in place in order for research to happen and happen at scale.

Notes:

This is a modelling and mapping exercise. "All models are wrong, some are useful"

The real benefit of using a model is to create a framework for your brain to handle complexity. The real reason to do a mapping exercise is to force you to:

- Notice all the parts of the map*
- Discover connections you didn't know existed*
- Uncover pathways that have always been there, if only you'd had the time to step back and take a breath.*

You are leaders in your field. Everything you hope to get from today is already in your head and hands. We aim only to create the space for you to see it.

Grouping the methods

Pace Layers move across five layers. In this workbook, we've grouped evaluative and descriptive research together and generative and generative longitudinal research together. This is for the purposes of further simplifying things, but also because the foci have quite a bit of 'bleed' between these groupings.

You could separate evaluative and descriptive research, and you could separate generative and generative longitudinal. Up to you.



Evaluative and descriptive research

Evaluative research 'Evaluative research evaluates an existing design (in prototype form or in final form).

- <https://www.usertesting.com/blog/generative-vs-evaluation-research>

Descriptive research provides a detailed account of a social setting, a group of people, a community, a situation, or some other phenomenon. -

<http://methods.sagepub.com/reference/encyclopedia-of-measurement-and-statistics/n132.xml>



Causal research

Causal research, also known as explanatory research is conducted in order to identify the extent and nature of cause-and-effect relationships. Causal research can be conducted in order to assess impacts of specific changes on existing norms, various processes etc.

Causal studies focus on an analysis of a situation or a specific problem to explain the patterns of relationships between variables. Experiments are the most popular primary data collection methods in studies with causal research design.

- <https://research-methodology.net/causal-research/>



Generative research

Generative research, also referred to as exploratory or foundational research, tries to identify or define an opportunity to solve a real human issue. -

https://concepts.sagepub.com/vocabularies/social-science/en/page/?uri=https%3A%2F%2Fconcepts.sagepub.com%2Fsocial-science%2Fconcept%2Fexploratory_study

Mapping the methods

These methods are listed in the [Sage Social Sciences Thesaurus](#) and NN Group's '[Which UX Research Methods](#)'.

We've grouped them based on our perception of what is evaluative, descriptive, causal and generative & generative longitudinal.

Evaluative and descriptive research

- Content analysis
- Experience sampling
- Meta-analyses
- Questionnaires
- Surveys
- Systematic reviews
- Systems analysis
- Decision trees
- Card sorts
- Cohort analysis
- Discourse analysis
- Heuristics review
- Focus groups
- Evaluative interviews
- Literature reviews
- Diary studies
- Structured and semi-structured interviews
- Moderated usability testing
- Unmoderated usability testing
- Eye tracking
- Clickstream analysis
- Evaluative, quantitative research
-

Causal research

- Experimental studies
- Actuarial analysis
- Adaptive behaviour testing
- Additive and multiplicative modeling
- Causal analysis
- Double-blinded studies
- Randomised control studies
- Equivalence testing
- Significance testing
- Matched - pair analysis
- Diary studies
- A/B Testing

Generative research

- Ethnography
- Field studies
- Access research
- Action research
- Anthropological models
- Autoethnography
- Collaborative research
- Participatory research
- Cross-sectional research
- Observational methods
- Contextual interviews
- Life course approach
- Network analysis
- Longitudinal research
- Oral history interview
- Personal narratives
- Diary studies
- Pilot studies

**all of the challenges will apply across all of the layers, but how important they are to your ability to get research done will vary depending on the research method*

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Challenges/foci in the work: looking at the 8 Pillars with a Pace Layers lens

Evaluative and descriptive research

- People silos, Education
- Value of research/Buy in
- Research as a team sport
- Cadence, Processes, Methods
- Community of practice
- Professional development
- Space, Time, Resources
- Incentives
- Scheduling, Logistics
- Document templates
- Infosec, Risk assessments
- Procurement, Software, Hardware
- Insights repository

Causal research

- Push back
- Internally focused
- Sharing insights
- Paperwork
- Timesheets
- Data gardening
- Legal aspects of running causal research methods (A/B testing etc)
- Labs
- Networks

Generative research

- Stakeholders, Executives, Colleagues
- Prioritisation
- Integrating insights
- Protocols
- Mature career paths
- Leadership, Org Design
- Budget , R.O.I.
- Business constraints
- Market forces
- Org Maturity
- Knowledge management, Research library
- Consent, Ethics

**all of the challenges will apply across all of the layers, but how important they are to your ability to get research done will vary depending on the research method*

Challenges/foci in the work: explanations.

- **People silos** - if you are running research across several product teams, which is a common way in a large organisation to run evaluative research, you might find that people silos can be a blocker to getting research your research practice to be the best it can be.
- **Education** - with this as a dominant research method, you are more likely to be seeing research being done by non- researchers or more junior researchers. Education will be a focus.
- **Value of research/Buy in:** If you are predominantly doing evaluative research, you may find that a) research becomes something done at the beginning of every agile sprint cycle and can be weaponised or b) you may wish to do deeper research methods, but struggle to get buy in.
- **Research as a team sport** - related to the people silos, if you are predominantly running evaluative research across product teams, you may be focused on research being a team sport, something everyone does.
- **Cadence** - cadence, or the time a research method takes to do influences (regardless of this being suboptimal) the research method choice. Where business expresses a need to fit research into days or weeks, it can be harder to choose anything but tactical research
- **Processes, Methods:** related to education, if you are treating research as a team sport, you will need clearly documented processes and methods
- **Community of practice** - related to people silos, if you have people calling for a community of practice, it is often due to researchers working across different teams, not in a central team.
- **Professional development** - Focusing on this helps across every layer, but especially so where you have people who do research but aren't researchers. They are most likely to be doing evaluative research.
- **Space, Time, Resources** - all that speed requires an agility with managing time, places to do research and the resources (funding, infrastructure, access to tools etc) to be already in place, ready for you to move.
- **Incentives** - this is simple maths. The sheer volume of incentives that need to be handled when doing evaluative research makes this a focus.
- **Scheduling, Logistics** - again, all those people, projects, researchers and people who do research mean everything has to work like clockwork, or you won't
- **Document templates** - speed needs a smooth process from beginning to end. Templates are a big part of that.
- **Infosec, Risk assessments** - If you're doing evaluative research, you tend to need platforms for things like unmoderated usability testing, online card sorts and the like. These all need assessment for compliance with regulations like GDPR and for assessment against internal infosec requirements.
- **Procurement, Software, Hardware** - as stated above, you're going to need the tools for the job. Evaluative practices frequently come with the need to purchase software and hardware to support the research.
- **Insights Repository** - like a library, only it is a register of what was learned and when, so that changes to a UI can be tracked

**all of the challenges will apply across all of the layers, but how important they are to your ability to get research done will vary depending on the research method.*



Challenges/foci in the work: explanations.

- **Push back** - one of the challenges of getting to do causal research is the time and diligence it takes to design the research project well. Causal research is often (not always) research about a thing - a product or platform. It is establishing if we do x, then this will cause y to occur. That proximity to 'research about things' (rather than research about people) can mean stakeholders can compare it to the time and effort taken with evaluative research, and therefore, there's a tension, a turbulence, between what the research delivers and the time taken to deliver it.
- **Internally focused** - Causal research infers causal inferences. are strongest when drawn from a "randomized controlled experiment," where the investigators assign subjects at random to a treatment condition or a control condition. Up to random error, randomization balances the two groups with respect to all factors—except for the particular causal factor under investigation. That 'factor' is usually an existing product or service that is to be changed in some way. This predisposes the research focus to be internal rather than human centred.
- **Sharing insights** - one of the outcomes from the Research Repositories project was learning that the people who are consuming research find it hard to do so. Causal research can be quite technical, and a detailed understanding of the limitations of the research is required to be able to make full and proper use of it. Using it well is very powerful, but researchers doing this mode of research will need to focus more on how their insights are shared than perhaps others (though of course, sharing insights is a primary focus for everyone, the complexity of doing so in this space raises it to being of particular relevance here.
- **Paperwork** - causal research can be challenging ethically, requiring significant documentation. The research process itself requires a rigorous approach to documenting thoroughly in order to be able to assert causal effects.
- **Timesheets** - causal research is often the research method of choice for behavioural economics. Researchers from this field tend to come from a psychology background and therefore can be more highly paid staff. The effectiveness of the outcome is literally it's selling point, which means there will be more focus on cost of this research than in other methods
- **Data gardening** - the specificity of causal research requires a focus on accuracy and care with data frameworks that aren't as present in other forms of research.
- **Legal aspects of running causal research methods (A/B testing etc)** - related to the paperwork aspect above, causal research can be challenging from a legal standpoint, given subjects may not be aware they are subject to a piece of research
- **Labs** - properly set up research spaces are important for reducing effects of the environment on research outcomes.

**all of the challenges will apply across all of the layers, but how important they are to your ability to get research done will vary depending on the research method.*

Challenges/foci in the work: explanations.

- **Stakeholders, Executives, Colleagues** - Generative and generative longitudinal research requires solid communication about the value of the research, expected timelines, the purpose of the research (to generate questions, not answer them) and a continued commitment over a long period from those same stakeholders to stay the course. All research methods require a commitment and understanding of the value, however, the output and return on investment for this kind of research is realised over *years*, meaning this is more of a challenge for this kind of research.
- **Prioritisation** - What does one prioritise when the research may not wrap up for months, or may not wrap up at all? If one does entirely participant led research in order to keep an eye 'on the ground', how does one prioritise being able to contribute to what the business wants or needs to know today, in 6 months or next year? This is a challenge for this kind of research more than most.
- **Integrating insights** - when research is done to generate questions rather than answer them, integrating these insights into other pieces of research can be tricky. At best, one needs to establish a very deep, wide evidence base, which solves the problem. But if generative research is only done as the will exists to do it, then the insights gained may not always be pertinent at that time. Enabling others to meet their research needs within the generative research means doing a lot of contextualising and re-analysing as a group - having the researchers doing the generative work
- **Protocols** - protocols for engaging with participants - either in depth or over a long period need to be in place - think of occupational health and safety for researchers (especially if meeting participants in their home environment), think of safety and security for participants. Other protocols are around consent and giving pathways to opt out of research. Others again may be protocols for co-design or participatory research. The more the research is led by participants, the more organisations need to ensure protocols are in place to make sure everyone is safe and understands their rights and obligations to each other.
- **Mature career paths** - generative research usually attracts more experienced researchers. It requires a deep understanding of conceptual frameworks for the way the research will be understood. Where do researchers go from here? What career paths exist for them? How do junior researchers grow their skills and transition to more senior roles?
- **Leadership, Org Design** - The structure of the research team doing generative research matters to the life of the team. Where the research is slower and deeper, that structure needs stability and an organisation designed around extracting the most value from the research.
- **Budget, R.O.I.** - this is a particular focus for this research method because there is so little delivered over a long period. Proving a R.O.I is crucial, as is budget stability to keep a program going.
- **Business constraints** - the constraints of business will determine whether you have generative research at all.
- **Market forces** - this is where generative research shines. Finding the questions, understanding what will happen in the market is something generative research can deliver where no other method can.
- **Org Maturity** - research methods don't have to be an indicator of research maturity, but it is common for more mature research practices to run research across all the layers. Generative research can be one of the more difficult methods, and therefore it can be a proxy for maturity (heavily caveated!)
- **Knowledge management, Research library** - this belongs in the generative research layer for the simple reason that the research shelf - life of generative research is longer than any other. Things change but people don't much. Therefore any organisation doing any substantial amount of generative research will be wanting to find ways to capture it, search it, use it.
- **Consent, Ethics** - consent and ethics are important across every single layer, but only in generative research will enough contextual and personally identifiable data be collected that it is possible to accidentally re-identify a person simply through triangulation.

**all of the challenges will apply across all of the layers, but how important they are to your ability to get research done will vary depending on the research method.*

Pace Layer Matrix - Reference for activities

Pace Layers Matrix

- This Matrix is for you to use for the activities below. Feel free to add more sticky notes if you feel there are some missing.
- Refer to the [participant workbook](#) for definitions of the research methods and layers, and the component parts of the 8 pillars.

	Research Ops									
Evaluative	<div>People silos</div> <div>Buy In</div>	<div>Research as team sport</div> <div>Cadence</div>	<div>Community of practice</div>	<div>Space & Time</div>	<div>Incentives</div> <div>Scheduling</div> <div>Logistics</div>	<div>Documentation templates</div> <div>Insights repo</div>	<div>Infosec</div>	<div>Procurement</div> <div>Software</div> <div>Hardware</div>		
Descriptive	<div>Value of research</div>	<div>Processes</div> <div>Methods</div>	<div>Professional development</div>	<div>Resources</div>		<div>Data silos</div>	<div>Risk assessment</div> <div>Compliance (GDPR)</div>	<div>Labs</div>		
Causal		<div>Sharing insights</div>	<div>Staffing</div>		<div>Paperwork</div> <div>Time mgmt</div>	<div>Data gardening</div>	<div>Legal</div>	<div>Systems</div> <div>Technology</div>		
Generative	<div>Push back</div> <div>Stakeholders</div>	<div>Prioritisation</div> <div>Integrating insight</div>	<div>Mature career pathways</div>	<div>Budget & ROI</div> <div>Business constraints</div>	<div>Panel mgmt</div>	<div>Knowledge mgmt</div>	<div>Consent</div>	<div>Networks</div>		
Gen. Longitudinal	<div>Internally focus</div> <div>Mgt up & down</div>	<div>Protocols</div>	<div>Leadership</div> <div>Org design</div>	<div>Market forces</div> <div>Org maturity</div>	<div>Participant coordination</div>	<div>Research library</div>	<div>Ethics</div>			
	Environment	Scope	People	Organisational Context	Recruitment and Admin	Data and Knowledge Management	Governance	Tools and Infrastructure		

Drawing the 8 pillars map: Worksheet #1: Your capacity and capability vs your organisation's perceived need

- Using the definitions that have come before as a guide, place each aspect of the 8 pillars along these lines. First think about how things are from your perspective (the horizontal line - with lacking to the left and going well on the right. Then think of how it is for your organisation and what they think they need.
- This might be impacted on by your (or your team's skills, funding, time, or structures in place)
- Your facilitator will prompt you through filling out your past-to-current state of the map
- Don't worry if something is in the bottom or the top - it is not better to be in one part of the graph than another

This is a map of perspectives. This one is from your perspective. It won't be accurate, and your perspective will change.

Activity 1 - Mapping 8 Pillars to current context

- Think of the Y-axis as what you think is important to your organisation, and the X-axis as your (or your team's) current ability to do a task. This might be impacted on by your (or your team's) skills, funding, time, or structures in place.
- Your facilitator will prompt you through filling out your current state.
- Select all applicable sticky notes from the Pace Layer matrix to start of your map, and feel free to add your own as well.

This is a map of perspectives. This one is from your perspective. It won't be accurate, and your perspective will change.



Drawing the 8 pillars map: Worksheet #2: Mapping the methods.

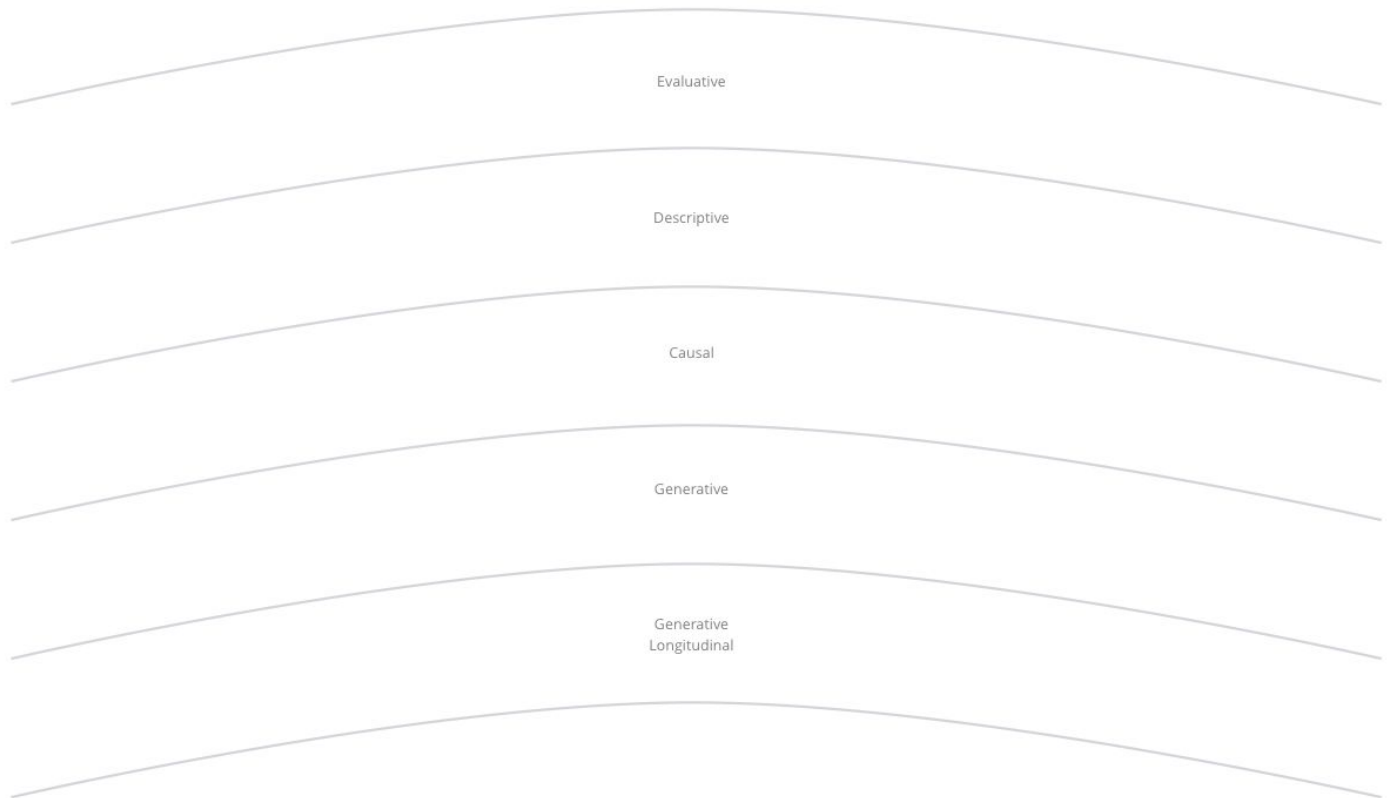
- Think of the last 6 months and the kinds of research projects you know your organisation has done. You can choose to differentiate your team from the rest of the org if you like.
- Which methods did you use? Looking at this, can you see a dominant one emerging? To think of dominance, perhaps don't think about frequency - think about effort and resources. What are you predominantly spending your time and effort on?

In a little bit, we are going to look at what went right for these pieces of research and what went wrong. We're also going to look at what you would have liked to have done in a perfect world so that we can look at the distance between your current state and your future state.

Activity 2 - Mapping recent projects to pace layers

- Think of the last 6 months and the kinds of research projects you know your organisation has done. You can choose to differentiate your team from the rest of the org if you like.
- Which methods did you use? Looking at this, can you see a dominant one emerging? To think of dominance, perhaps don't think about frequency - think about effort and resources. What are you predominantly spending your time and effort on?

In a little bit, we are going to look at what went right for these pieces of research and what went wrong. We're also going to look at what you would have liked to have done in a perfect world so that we can look at the distance between your current state and your future state.

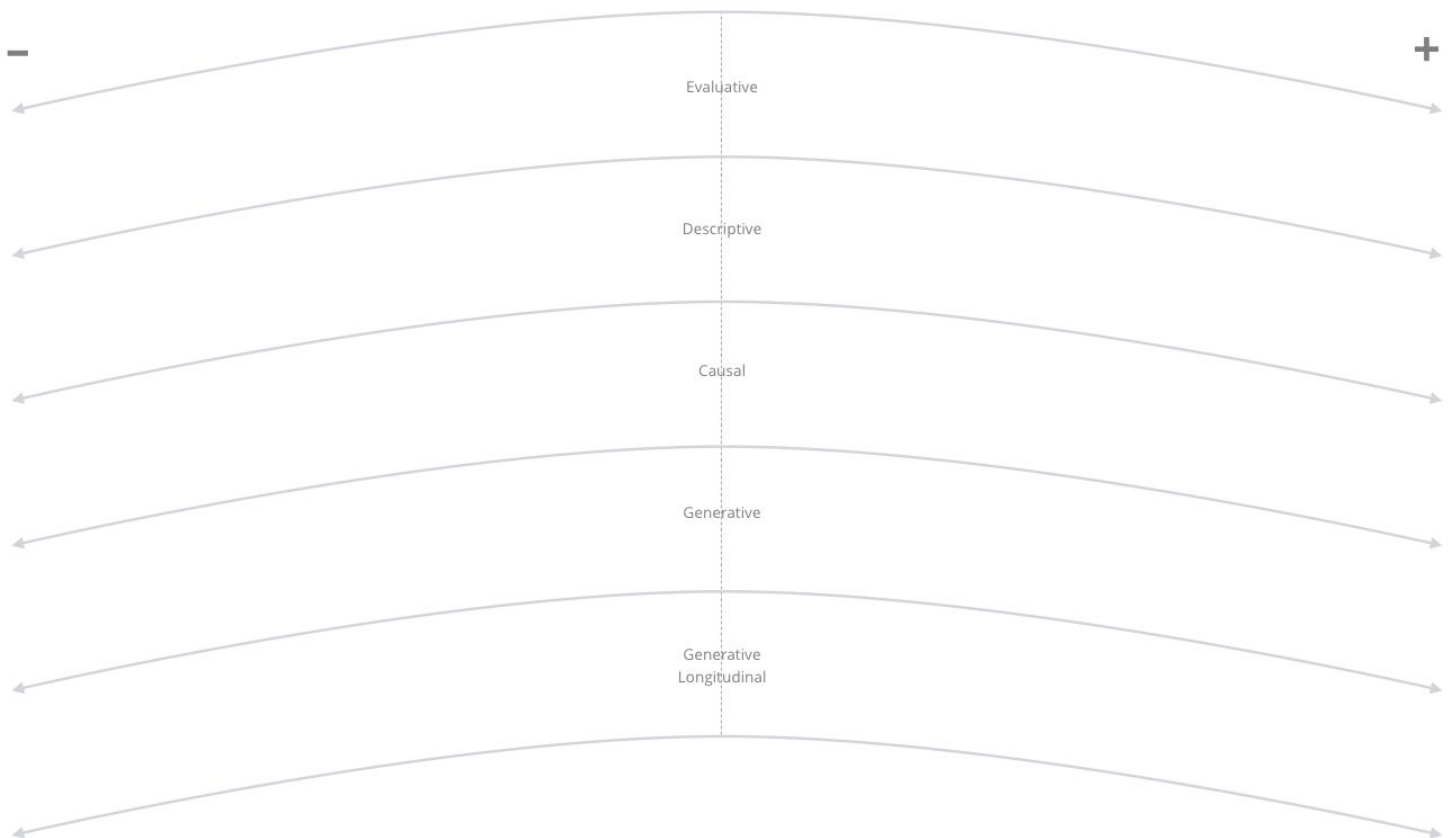


Drawing the 8 pillars map: Worksheet #3: Bringing the pillars and pace layers together: what's working well, what not.

- Now go back to what was in your top right quadrant on the first worksheet. Which layers do they belong to?
- What about the things in the bottom left quadrant? Which layers do they relate to?
- Can you see any patterns in what's working well and where you might be experiencing turbulence?
- Are there any places you could use your strengths to capitalise on constructive turbulence? Are there research methods you are set up for that you're not currently employing?

Activity 3 - Bringing the pillars and pace layers together: what's working well, what's not

- Now go back to what was in your top right quadrant on the first worksheet. Which layers do they belong to?
- What about the things in the top left quadrant? Which layers do they relate to?
- Can you see any patterns in what's working well and where you might be experiencing turbulence?
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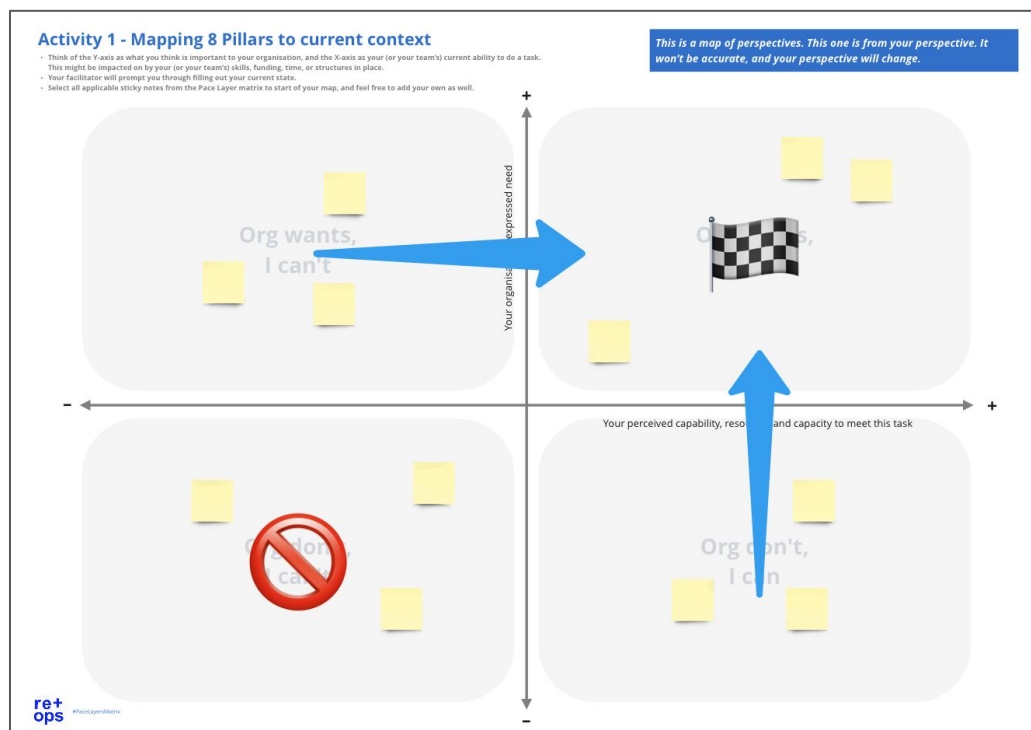


Workshop considerations

Pace Layers Workshop Options

You could plan and conduct each activity as separate workshops, with sequentially completing all activities within weeks of each other.

- **Activity 1 - Mapping 8 Pillars to current context**
 - Depending on group size, facilitating with your research group which can be expanded to 2 hours in the context of mapping individually mapping their current situation for 10 minutes. The following 20 minutes discussion would be on comparing similarities and differences. Focus on “Why”s, and agree on group-level context mapping.
 - Once the group have aligned and/or consolidating a shared mapping, review all the sticky notes in the top-left and bottom-right quadrants, and individually with 3 dot votes each voting to prioritised to move towards top-right quadrant. See example below.
 - Wrap up and prep these especially for **Activity 4**, where your group will work together to strategically plan next steps for scaling research.

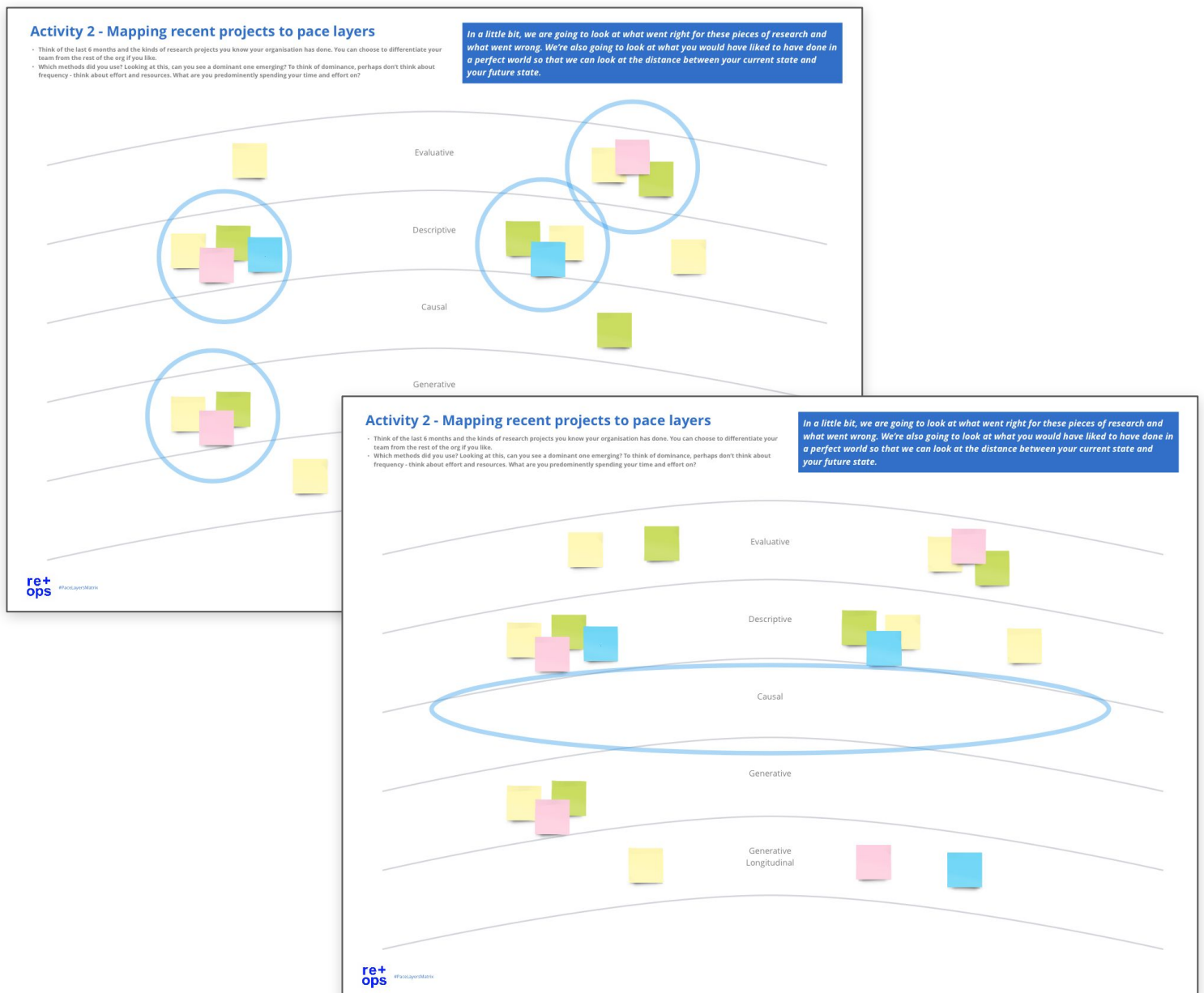


Workshop considerations

Pace Layers Workshop Options

• Activity 2 - Mapping recent projects to pace layers

Key group mindset of this activity is to retrospectively map from individual to group shifting. You should be able to overlay any thematic groups of notes as to identify clusters, just much as gaps.



Workshop considerations

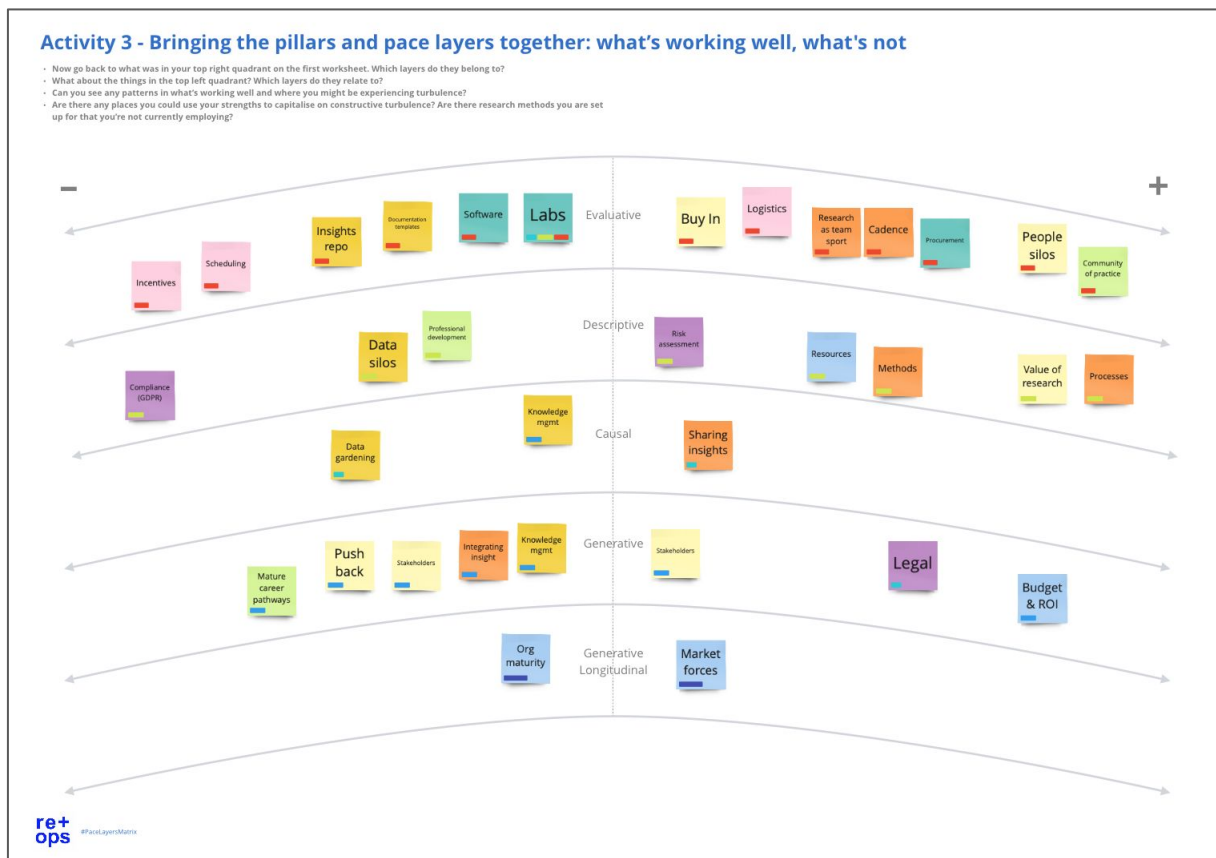
Pace Layers Workshop Options

- Activity 3 - Bringing the pillars and pace layers together: what's working well, what's not**

Similar to activity 2, you can also consider mapping from individual to group shifting approach.

As you overlay different or similar maps, consider and discuss as a group on;

- Variations of perspectives
- Differences in context
- Values and mindsets
- Constraints and enablers
- Opportunities to focus on and challenges to manage.



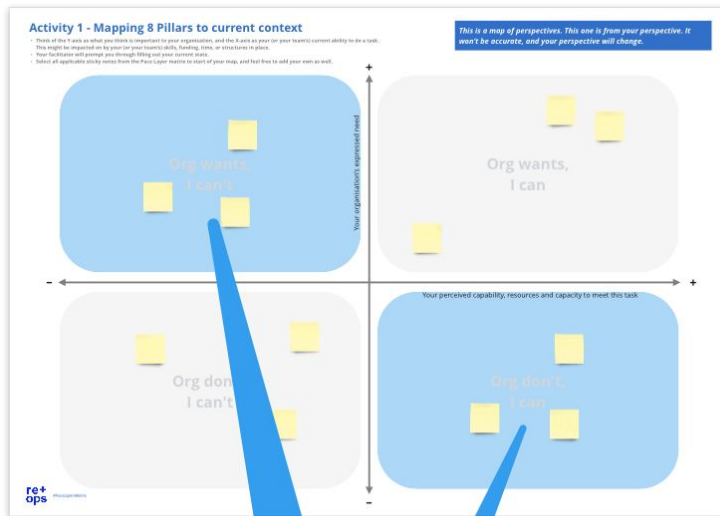
Workshop considerations

Pace Layers Workshop Options

• Activity 4 - Plan for next steps

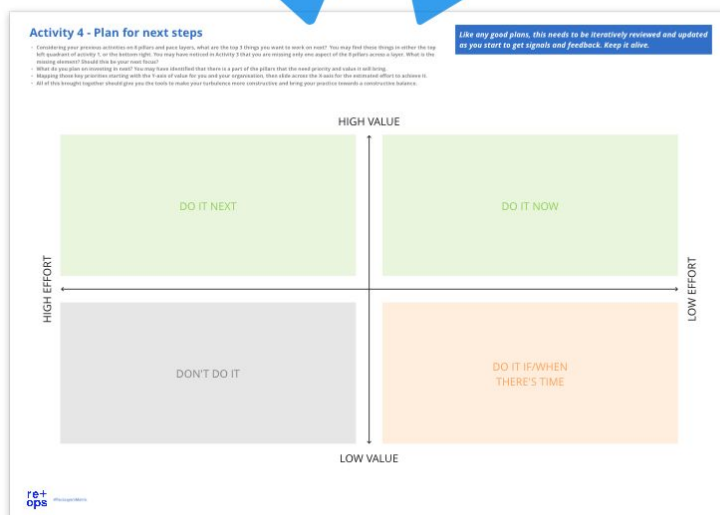
As you move key notes into activity 4 template, consider that “Do it now” is something tactically your group can do with timely impacts. “Do it later” should be more strategic and longer term that may need support from your organisation.

Activity 1 template



Starting with top-left and bottom-right, but don't forget to review to optimise the top-right notes, where you can further mature and scale things that is working as well.

Activity 4 template



As your group map this plan, start to also consider how to sequence this plan into your organisation's strategic approaches such as OKRs, roadmaps and so on.

- How does these fit into sprints, quarters, yearly targets?
- Can you track and measure progress and outcomes?