~~Contracting~~ Agencies

in distributed material production networks

Workshop Social

Agencies in Material Peer Production
Focus on the **Social** dimension

This doc and related files live here.
Main coordination page on Sensorica website.

! Workshop took place on Oct. 4, 2023, 9am to passed 11am EST.

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About this inquiry

Agency in Material Peer Production[1] is the main topic. *Material Peer Production* is organized in ***networks***, which are composed of individuals and traditional organizations. The topology can be **distributed** and/or **decentralized**, usually a mix (more in the first report).

Together, we want to explore ***where in these networks are the possibilities*** *(what needs to happen)* ***for human agency to happen, and how we can align multiple kinds of agency***.

By ***aligning agency*** we mean: tweak a series of parameters so that on average the agents behave in a certain kind of way.

> *An agency problem is a conflict of interest inherent in any relationship where one party is expected to act in another's best interests. An agency problem usually refers to a conflict of interest between agents. Agency problems arise when incentives or motivations present themselves to an agent to not act in the full best interest of the other agents. Here we explore ways to motivate and incentivize agents to act in accordance with the group's best interests, to reduce agency problems.*
> Remixed from Investopedia

Some agency problems refer to conscious and calculated actions to undermine a peer production process for self benefits, which is about a peer production network attack. In this document we are building an exhaustive list of possible attacks.

Context

To situate this discussion, we can start by looking at the COVID crisis, which was a major learning point for those involved in **material peer production**, and perhaps even a turning point. Classical logistics channels failed to adapt to the challenge where people and nations suffered to acquire much needed medical equipment and treatments. Facing this issue, several local **maker communities** offered alternative solutions and began fabrication using the **P2P paradigm**. Although mostly successful, it wasn't without several challenges. For instance, some hospitals that received personal protection equipment from a local makerspace did not accept it stating quality concerns. How can the medical institution be assured of the quality of these types of products? What do makerspaces need to become **dependable** in terms of fabrication? One dimension of dependability is **human agencies**, people **aligning their intentions** to efficiently and effectively produce a response to a problem.

During our initial research we identified 5 different domains that people operate in to **induce a better alignment in human agencies, to achieve higher levels of dependability**: Economic, Ecosystem, Social, Legal, Tech, and Standards. In this workshop we will explore the **Social**

[1] See definition on OVN wiki

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dimension, how (de)incentivise, (de)motivate better alignment of agencies in peer production. Social measures are seen in organizations that use values, ethos, shared purpose, social norms, spirituality, rituals, recognition and reputation, as well as a mix of powerful emotions (fear, happiness, shame, …) to align agencies and generate collaborative relations. They emphasize on building networks as communities.

The following organizations have been invited4th Sector, Plenty4All, Access To Land, AID, Arxterra, Careables.org, DIY Drones, e-NABLE, Ethos VO, Farm Hack, Galxe, GiveTrack, Gravity DAO, Helpful, Humaniq, Loomio, Nation of Makers, Neighbourhoods, Appropedia, OpenTEAM, ReputeX, Sew For Hope Kids, Stroud, The Fab Foundation, TOM, Toowheels, Grassroots Economics.

For a better contextualization, we strongly suggest reading our first report before joining this workshop.

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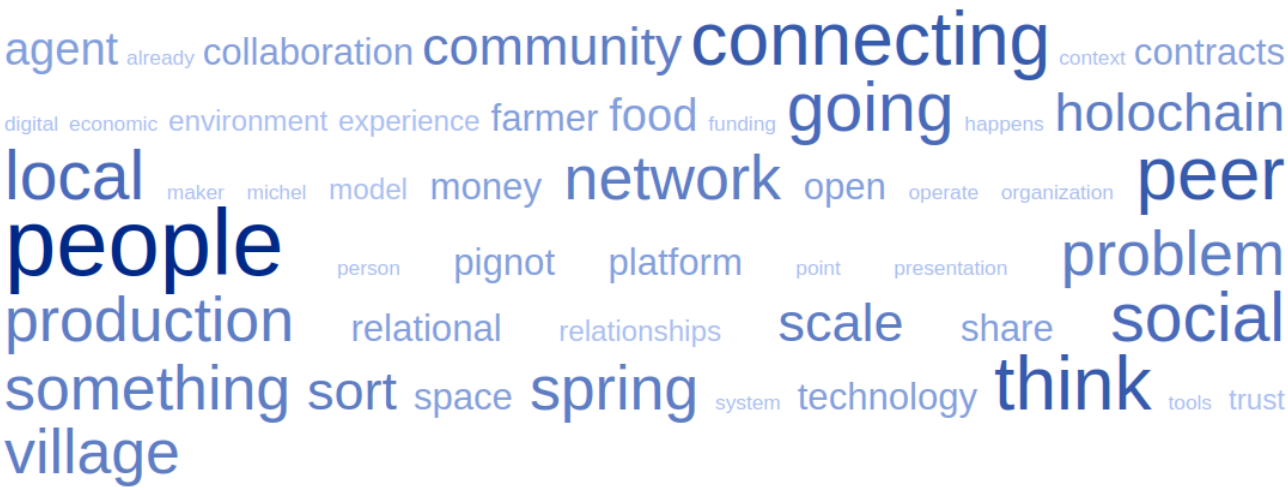
Summary of results



From [transcript] to [tag crowd]

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Methods

Facilitation process

This is an **collective intelligence-driven inquiry using AI-assisted analysis**. The focus is put on complementarities, synergies, as well as opposing views.

During the first half of this workshop (the *forging* stage), the facilitators will prepare the participants to forge a **collective brain**, to build potential for collective intelligence to express itself during the second part of the workshop (brainstorming stage), where we collectively try to delineate the **space of possibilities of tech solutions for aligning agency in material peer production**. Based on this methodology, we will explore places of possibility rather than define objectives in a solution space.
This workshop will be composed of a diverse group of stakeholders in *material peer production*, operating within the *tech category*, as mentioned above. The participants operate within various fields of expertise and approach problems in specific ways. We can also put participants in two broad categories of ***doers*** (operating within a peer production process, perhaps in a local makerspaces, an NGO, their role being to provide an accurate representation of reality to formulate problems and express needs) and ***enablers*** (collaborate on developing infrastructure that doers may use, their role being to explore with the dowers a space of technical possibilities to address these problems). Thus, a *problem - solution pattern* is framed, as the doers will present reality, real issues that they are facing (the *current present*) and the enablers will present what is possible (*ideal present* + *ideal future*). Whenever divergent views are manifested, we invite people on all opposing sides to advocate for their position and try to find common ground.
During the second half (brainstorming) our goal is to build understanding and provide directions (keep it generative), not to formulate solutions or strong opinions. We want to define a space of possibilities, specific solutions will come later.
Note that a long-term goal is to **configure** various actors like us to become successful peers in the IoPA ecosystem. This is not about integration, you are not invited into a new organization. This is about building inter-organizational capacity, a dynamic ecosystem where actors like us can assemble, disassemble and reassemble into collaborative units to solve problems. This also speaks to *multi-level competency architecture* and everyone's horizon. The facilitators' role is to make us fully conscious about what it is to be you within the ecosystem and to make us aware of superstructures (values, culture, protocols) that tie us all together and allows us to interoperate within the ecosystem, to dynamically form synergies and to collaborate.

Join here

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List of Participants

Invitations are sent to the following participants, some of them may not be able to join, depending on everyone's availability. The ones in green were present at this gathering.

4th Sector	Community
hREA / Holochain	Community of web developers
Nina	Food Coop
Lawrence	Open source hardware development, makerspaces
Plenty4All	NGO
Ethos VO | Ventures with social impact	Community
Open Food Network	Platform Builder
Loomio	Platform Builder
ReputeX	Company
Nation of Makers	Community
Stroud Community Agriculture	Community

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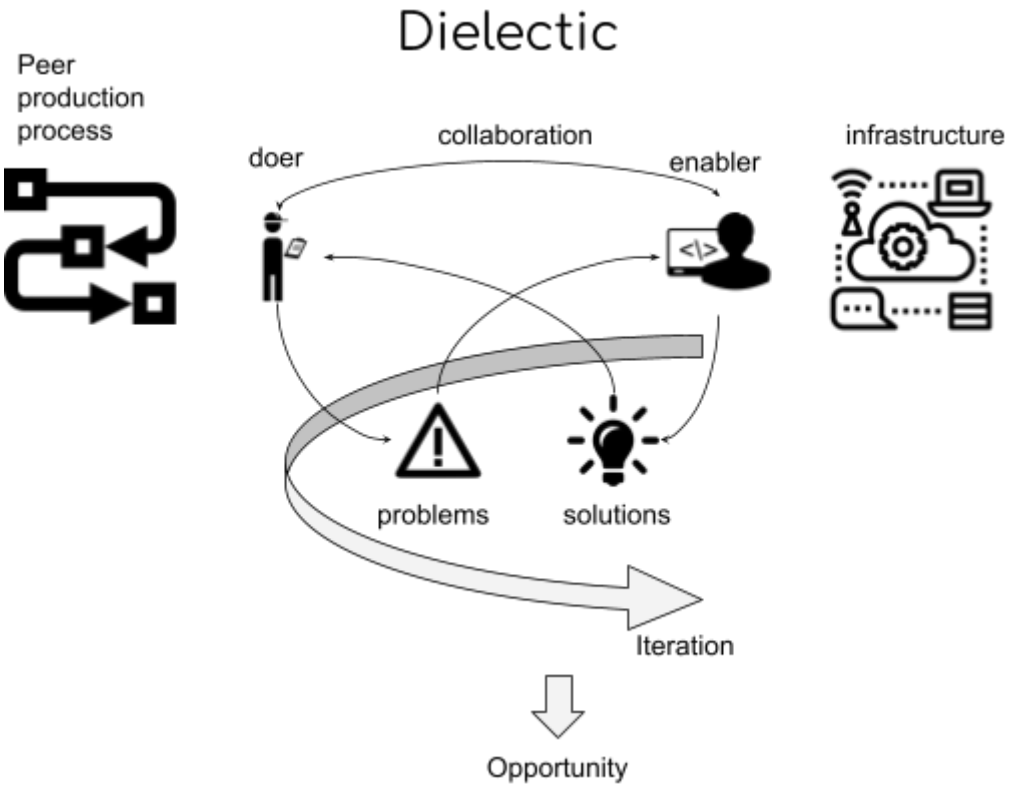
AI-guided analysis process

Send short communications to the IoPA community forum and to Sensorica's Discord server, the #iopa channel. If you are an observer you can follow the evolution of this document. For more context, please go to the webpage. If you want to contribute to this analysis you already have commenting access, use comments to ask permission to edit.

Like the workshop, the analysis also uses the doer / enabler dialectic.

A *doer* is an agent that experiences peer production processes and is aware of problems. Examples of dowers are people operating in makerspaces, engaged in prototyping, or designers collaborating over the Internet and with makers to design open source hardware. A doer can also be an intermediary, for instance someone operating within an NGO, facilitating relations between makers, academia and users of a particular hardware solution.

An *enabler* is an agent that can help the doer to find and implement solutions to these problems. Enablers can be web developers, providing digital infrastructure for makers for example.



There is a limit to how far we can go with this dialectic? It is not so useful to reveal complexity or to reveal the space of opportunity. The goal is, within the limits of our resources, to reveal some

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structures that barely pierce the surface of the murky waters of complexity, and feed them into an open and collaborative process, an adaptive, evolutionary process of building infrastructure (i.e. tools, methods, rules, standards) to improve peer production, in our particular case to better align agencies soe that peer production becomes more dependable.

If you were present at the gathering you can comment on the diagram hereinabove. Enter you comments right here below.

Comments:

Nina Allchurch agrees that the meeting process was such that Tiberius, Stephen and Mayssam acted as facilitators and enablers of thoughts around her specific case study of a small rural agroecology cooperative. Nina was happy to receive feedback from Stephen that the beginning of the development process often starts with face to face transactions and interaction on project development, and could then move to technology based solutions after the engagements between project partipcipants become more advanced and the projects require it.

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Synthesis process

The complexity of global peer production can be understood through the lenses of *living systems* and *ecosystem-based* theoretical frameworks. Both frameworks are valid and are to be seen as complementary, when it comes to the underlying structures that they reveal. We believe that a living systems approach is suitable for understanding types of agents and the ecosystemic approach is more revealing of relations among all the agents in a peer production network.

For the synthesis, we plan on using a canvases blending these two theoretical approaches, as a base layer, and overlay the perceived problems, probable causes and possible solutions identified in the analysis phase. This will provide a framework for understanding potential interactions, from the relations proposed by the theoretical model.

It is worth noting that the ecosystem in question (the peer production networks) operates within the p2p paradigm, but it exists in and draws vital resources from the ambient environment (a blend of free market and state controlled approaches), which operates in a different paradigm. This relation of dependency of the p2p on the ambient environment introduces specific types of problems. Along the same line of thought, some agents in peer production (call them p2p creatures) experience problems when they need to interface with creatures from the ambient environment, i.e. traditional institutions. We can say that since the emergent p2p is still largely dependent on the current dominant system, which may change in the future, creatures of p2p find themselves living in a “toxic environment”, i.e. in an economic and institutional environment for which they are not well adapted. Thus, some problems that we identify in peer production may be related to internal processes and others may be related to the incompatibility with the ambien capitalistic environment that operates in a different paradigm.

More on synthesis here.

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Content processing and analysis

Setting the stage of the analysis

Method

The gathering was recorded and a transcript was extracted by an AI agent (Fireflies).

1. After the gathering, participants were asked to provide their insights.
2. In parallel, the AI agent was asked to process answers to specific questions.
3. Then participants were asked to go over everything, get inspired and add more content. The AI answers were considered as provocations for second thoughts on the topic.
4. A summary was created from all the output.

Content processing was structured as following:
[click to go to the respective section]

Shared artifacts

During the gathering we used this slidedeck. During the preparation phase, we co-created the three following **artifacts**. Please don't interpret them as models, they are diagrams that were populated with elements, the meaning of which you can only understand by watching the full recording. Their role was mental exercise, to coordinate our thoughts in preparation for the co-creation phase of this gathering, preparing what we call a *collective brain*. They now provide mental references to participants as they contribute to this analysis process.

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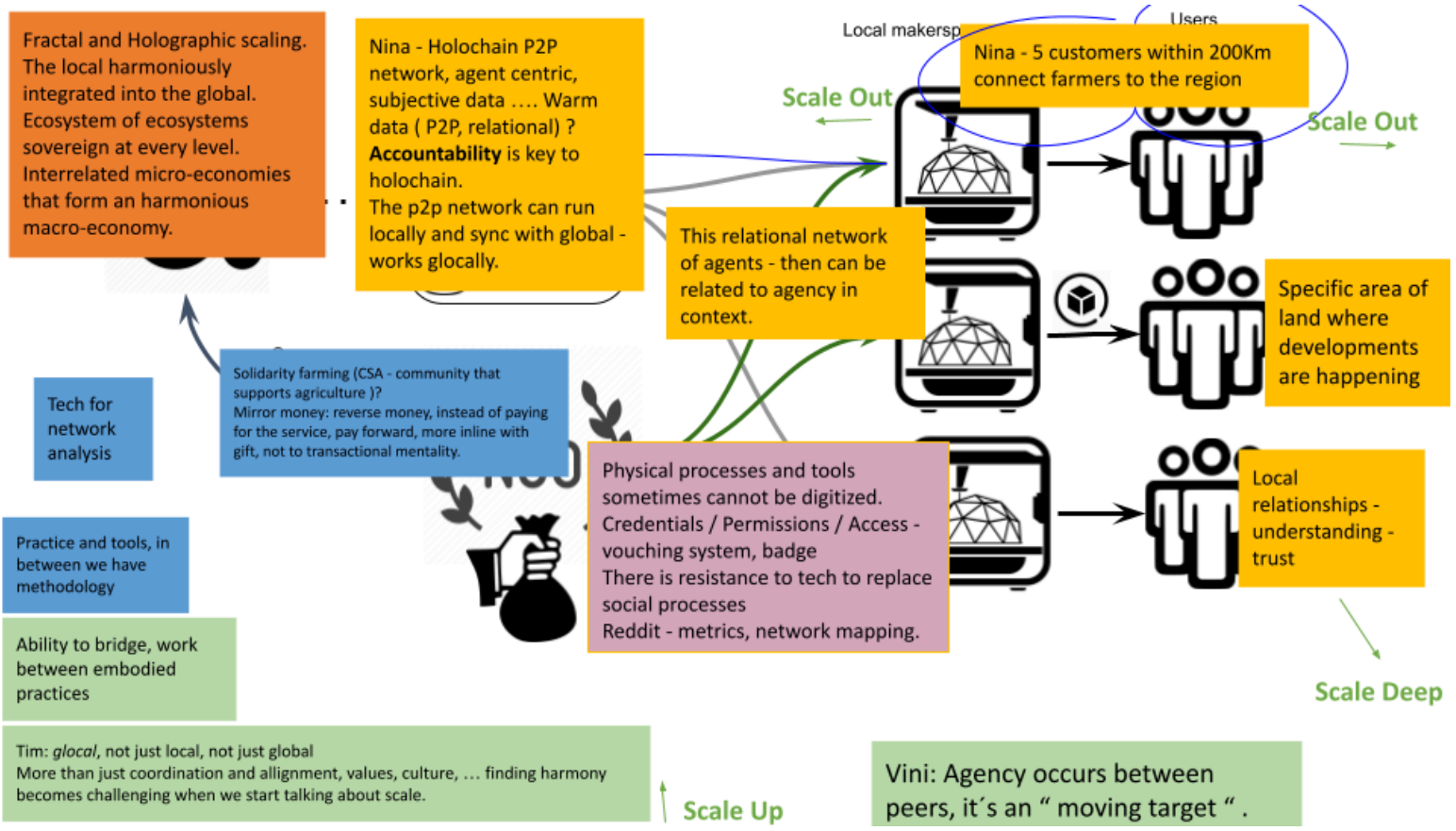
Shared artifact



If you were present at the gathering you can comment on the diagram hereinabove. Enter your comments right here below.

Comments: Nina is grateful for inclusion of her project on this schema.Agreed that Stephen's input was that the initial phase of the project could be face to face interactions between participants and that ater Holochain network processes could be applied to larger community once established.

Problems

Remember that these problems are related to intentionality, misalignment of agencies.

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The table below contains a list of **problems** that surfaced during the gathering and were captured by participants (not by AI). The last two columns are the inferred causes and solutions proposed by collaborators, after the gathering, during the content analysis phase. These are open to discussion, feel free to comment or improve.

Problem name	Description	Inferred causes by participants	Inferred solutions by participants
Contracting can undermine trust	In some cultures (what type of tribe we are talking about?) employing adversarial enforcing / defensive / assurance mechanisms can have a detrimental effect on collective initiatives.	Interpersonal p2p trust and mediated trust through institutions (legal and justice system) are sometimes at odds. In some cases, the social bond can supersede the institutionally mediated alignment. Mediated trust is also decontextualized.	Trust mechanisms must be chosen in context, depending on the type of problem we want to solve. There is also the need to scale interpersonal p2p trust. Mediated trust doesn't scale sometimes, especially in a many-to-many situation. Peer pressure mechanisms, related to reputation, may be more effective measures to deter wrongdoing.
Translocal	Sometimes individuals part of a network of networks must interact, without having access to the local context and culture. They don't share the same values, or the same vantage points, their reputation is not transportable. In this case misalignment can occur and social mechanisms are not effective to correct.	Lack of background, lack of cultural alignment, different vantage points. Agencies are going to be different based on the vantage point.	At least surface where everyone is coming from. This has consequences on digital identity or representation, it must carry with it information that reveals differences in values, lack of situational awareness. Lawrence proposes a social token. Make social capital transportable. Zero knowledge proof.
Make transactional what is relational	Relational is mostly related to p2p and transactional is related to contracting. Lack of clarity between what is transactional and what is relational.	Confusing transactional and relational	Map out what is relational and what is transactional in a peer production setting.
Manipulation	Intermediary web2 platforms distort the message between peers	The agency of platforms is not aligned with the agency of peers and their collectives. The platform can distort the message, access to reality, intervening in the relation between peers and reality.	Build on p2p infrastructures: Authentication, validation / proofs between individuals, trust, sovereign platforms for exchange, communication, ownership of information - cut the man in the middle, which can distort the message between peers.

Nina is talking about **good faith agreements** in the context of a local farming network with short distances for distribution.

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George was talking about the difficulty of seeding makerspaces across a region, because the reality is different in every location. Looks like something like a makerspace is much more rooted in the local community and dependent on local context, much more than a local convenience store, which spreads on a pretty simple template / standard. Lawrence proposes a path: build non-profit and build the community from the ground up, create templates for this process to be replicated elsewhere. Building the local community in context means inheriting critical features from the local context, integrating all that into the structure of the makerspace.

Mayssam: ethical economy - how can we incentivize honesty. Satoshi proposed a model to incentivize collaboration.

Authentication, validation / proofs between individuals, trust, sovereign platforms for exchange, communication, ownership of information - cut the man in the middle, which can distort the message between peers.

The for-profit model behind infrastructure development may lead to poor results. Open source development may be preferable to build infrastructure that can resonate with various types of agencies.

Mayssam pushes back on scaling, scaling up and scaling big. Michel Bauwens talks about cosmolocal, glocal. Establish something in a local context and replicate elsewhere, while respecting or integrating the local conditions. Federating may be the solution. Stefen talks about scaling deep. Stefen also brings the idea of operating between sectors, finding a wai\y not to be siloed. So scaling out means federating similar operations in particular contexts, but also coordinating between sectors, which operate perhaps at different levels.

Some tech is designed to eliminate the need of interpersonal trust, others are designed to allow this trust to operate. Tools, infrastructure, tech, can be built to sustain transactions or agent interaction. The paradigm of agent-centric infrastructure is a nexus between tech and relations. Agent-centric infrastructure (like Holochain), eliminates the problem of agreeing on a unique view of data and reality. It allows a pluralistic view. Perhaps this is the right infrastructure for translocal and multi-level interaction.
Local first infrastructure (Holochain) may be the nexus between tech and social, integrating local contexts, values, relations and still allowing federation. This speaks to translocal.
Infrastructures like Holochain can be used to implement trust protocols, building a protocol of trust protocols, with trust models being applied locally, but still able to coordinate on a larger scale.

Interesting case that Lawrence brought up is writing a blog post about his involvement in a local community (Open Source Ecology) provided him with the credentials for accessing other communities. That blog served as a passport.

Lawrence then proposed social tokens, which are a mix between relations and transactions, a way to transpose the relational into transactional. How can we encapsulate a social relation into

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a token for example, that is easily transportable (translocal) and can hint towards a valuation of an individual in a given socio-economic context?

Problems highlighted by participants and extracted by AI
Prompt to AI: *What are the problems identified in this meeting?*

To be inserted

Problem name by AI	**Description** by AI	**Inferred causes by participants**	**Inferred solutions by participants**

Please comment below on the text above, processed by AI from the workshop transcript. Consider the AI text as a provocation for your thoughts and write down ideas that you think are related to this particular topic, even if this was not discussed during the workshop.

Causes

Ask AI to associate causes to problems above.

Perspective on solutions

Some **perspectives on solutions** were discussed and extracted by participants, table below. Perspective on solutions are about meta or attitudes when thinking about solutions to problems related to agencies in peer production.

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AI-identified solutions perspectives
Prompt to AI: *What are the solutions identified in this meeting?*

Solutions by AI	**Description** by AI	**Comments by participants**

Please comment below on the text above, which was extracted by AI from the workshop transcript. Consider the AI text as a provocation for your thoughts and write down ideas that you think are related to this particular topic, even if this was not discussed during the workshop.

Particular solutions

Some more **particular solutions** were discussed

AI identified solutions
Prompt to AI: *What are the solutions identified in this meeting?*

To be inserted

Log contributions

Please comment below on the text above, which was extracted by AI from the workshop transcript. Consider the AI text as a provocation for your thoughts and write down ideas that you think are related to this particular topic, even if this was not discussed during the workshop.

Identified processes in material peer production

Processes are contexts of activity where failure can occur, or bad intentions can interfere.

Prompt to AI: *What processes in material peer production are identified in this conversation, for example, design, procurement, etc.*

To be inserted

Please comment below on the text above, which was extracted by AI from the workshop transcript. Consider the AI text as a provocation for your thoughts and write down ideas that you think are related to this particular topic, even if this was not discussed during the workshop.

Synergies

Extract points of convergence and divergence, synergies, common ground, and leads for solutions with respect to the problems expressed.

Prompt to AI: *What were the points of convergence on peer production among participants in the meeting?*

To be inserted

Please comment below on the text above, which was extracted by AI from the workshop transcript. Consider the AI text as a provocation for your thoughts and write down ideas that you think are related to this particular topic, even if this was not discussed during the workshop.

Prompt to AI: *Summarize the common ground on peer production developed during this meeting.*

Log contributions

To be inserted

Please comment below on the text above, which was extracted by AI from the workshop transcript. Consider the AI text as a provocation for your thoughts and write down ideas that you think are related to this particular topic, even if this was not discussed during the workshop.

Prompt to AI: *What were the points of divergence on peer production among participants in the meeting?*

To be inserted

Please comment below on the text above, which was extracted by AI from the workshop transcript. Consider the AI text as a provocation for your thoughts and write down ideas that you think are related to this particular topic, even if this was not discussed during the workshop.

Prompt to AI: *List complementarities and synergies among participants in the meeting.*

To be inserted

Please comment below on the text above, which was extracted by AI from the workshop transcript. Consider the AI text as a provocation for your thoughts and write down ideas that you think are related to this particular topic, even if this was not discussed during the workshop.

Prompt to AI: *suggest how participants in the meeting can collaborate*

To be inserted

Please comment below on the text above, which was extracted by AI from the workshop transcript. Consider the AI text as a provocation for your thoughts and write down ideas that you think are related to this particular topic, even if this was not discussed during the workshop.

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General considerations

The new economic paradigm *(P2P)* is about disintermediation reducing the need to trust among people that engage in p2p interactions. Moreover, as we see at the intersection between web3 and AI, there is a conscious effort to automate processes. Thus, it offers radical approaches regarding agency. To what extent does the new peer production framework reduce the need for human agency in material peer production, and why?

Opportunities

Prompt to AI: *What opportunities can be inferred from this discussion?*

To be inserted

Ecosystem and Themes

Our research explored the ecosystem and dissected 6 main models. Each of these models is then broken down into themes. The aim is to further dissect and investigate these themes from the perspective of causes/effects, problems and solutions. These themes

Levels		Themes
Model Drivers	Organizational framework	Culture
	Leadership	Ecosystem Vision and Value proposition
Resources		Financial
		Technology
		Outreach
Users		Commitment and Accountability
Support	Professionals	Policies and regulations
		Operations and Processes
		Technology
	Infrastructure machinery	Quality Control
Contributors		Communal Coordination

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Levels		Themes
Model Drivers	Organizational framework	Culture
	Leadership	Ecosystem Vision and Value proposition
Resources		Financial
		Technology
Distribution/Dissemination		Logistics and Value chain

Prompt to AI: *Summarize all discussions related to contributors, collaborators, ecosystem and communal coordination, challenges, causes and solutions*

To be inserted

Please comment below on the text above, which was extracted by AI from the workshop transcript. Consider the AI text as a provocation for your thoughts and write down ideas that you think are related to this particular topic, even if this was not discussed during the workshop.

Synthesis

Finish the living systems and ecosystem canvases on Miro.

The complexity of global peer production can be understood through the lenses of *living systems* and *ecosystem-based* theoretical frameworks. Both frameworks are valid and are to be seen as complementary, when it comes to the underlying structures that they reveal. We believe that a living systems approach is suitable for understanding **types of agents** and the ecosystemic approach is more revealing of **relations among all the agents** in a peer production network. To set the expectations right, the ambition in this report is not to provide a full account of what the workshop revealed in terms of these two theoretical frameworks, but only to tease the reader in that direction. Here we merely refer to these two theoretical frameworks and only use some key concepts to cluster the problems revealed by the participants, together with their hints to probable causes and possible solutions.

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The synthesis will be performed on the information that has been extracted during the Analysis phase, which itself feeds on information that was conveyed during the workshops. We treat the information conveyed during the workshop as a provocation, a starting point, opening to more input and extrapolations done by participants after the workshop, as well as to AI-driven extrapolation, using chatGPT to expand on the workshop provocations, all that reviewed by participants in the end.

To make sense of the information extracted through the Analysis, we use a canvases (diagram below) that blends the two aforementioned theoretical approaches, as a base layer, and overlay the **perceived problems**, **probable causes** and **possible solutions** that were identified in the Analysis phase. This will provide a framework for understanding potential interactions, from the relations proposed by the theoretical model. The canvas was proposed by Mayssam, and with Tibi they developed its semantics. It is meant to blend living systems and ecosystems in a very revealing way, providing a great heuristics, in our opinion, for a structured approach to solving wicked problems in peer production.

More about the synthesis methodology in the Main doc.

Log contributions

Feedback on the workshop

Participants can provide valuable feedback on the workshop, but if you have watched the video, then your feedback is welcome.

Please provide feedback on this particular workshop and propose improvements for the following ones. One proposition is to evaluate the information that we were able to produce, in this workshop report, and compare it with what you think would be an ideal case. Then propose changes to the facilitation process that would produce better results.

Log contributions

{*Signalization tools*}

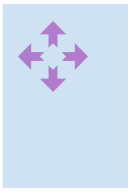
Copy and paste these table rows into the text above and use them.

{*symbol for process/status updates - use this to signal important milestones in the process*}

{*symbol for notes - use this to post reminders or short messages for self or to collaborators*}

{*symbol for important information - use this to attract collaborators' attention*}

{*symbol for ToDos - use this to signal to your collaborators about what they can do*}



Alternatives

The Alternatives box enumerates possible solutions to consider.

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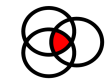

Reasoning

The Reasoning box presents arguments about possible choices.

...

Information

The Information box tells you how stuff works.

...

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Growing consensus

The Growing consensus box is a summary of a section of this report

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...

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