Applied research to orchestrate hybrid software development teams as a result of the covid-19 pandemic

Phase 2

globo PUCRS ESCOLA POLITÉCNICA PUCRS ESCOLA DE NEGÓCIOS

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Research Grou

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Agenda

1. Context
2. Challenge
3. Scope
4. Results
5. Next steps

How to make the hybrid model work?

Our goal

Supporting the management of globo's hybrid teams through a process of applied research

About this preliminary report: MVP Diagnosis 2

- Field Study 2 at Globo - Digital Platform: Aug. to Nov. 2022
- Analysis of non-participant observations: Nov. 2022 to Dec. 2022
- Final diagnosis - mvp 2: Dec. 2022

Phase 1

Methodology :

Case Study with Discursive Textual Analysis (Moraes and Galiazzi, 2016) complemented by Multivocal Literature Study (corporate and academic literature).

Phase 1


Field Study:
Semi-structured interview
Diagnosis: MVP 1
Multivocal Literature Review
Interview analysis

Participants in phase 1 - demographic profile

Time	Function	Professional experience (years)	Previous experience with distributed development	Joined the company during the pandemic
GloboID	Agile Manager	14	Yes	Yes
GloboID	UX design	14	Yes	Yes
GloboID	Development	15	Yes	Yes
Publishing platform	Manager	30	No	No
Video and audio platforms	Coordinator	12	Yes	No
Player	Product Owner	20	Yes	Yes
Backstage	Developer	8	Yes	Yes
Ingest	Specialist	8	No	No
Backstage	Developer	6	No	Yes
HR	HR Manager	22	Yes	No
Digital platforms	Director	20	Yes	No

Phase 1 results

1. Impact on People

- 1.1 Full remote onboarding
- 1.2 Psychological safety

2. Impact on processes

- 2.1 Working model
- 2.2 User experience - UX, agility and creative activities

3. Impact on Organizations

- 3.1 Communication with the HR team, the development team and policies labor;
- 3.2 Infrastructure for remote working

Phase 1 recommendations

1. PEOPLE

1.1 Full remote onboarding

Holding individual meetings (one-on-one) on a recurring basis for new hires, complementing onboarding with monthly follow ups.

1.4 Psychological safety

We recommend that employees are encouraged to open their cameras during agile ceremonies like Daily, for example.

2. PROCESSES

2.3 Working model

Piloting the optional hybrid model of a maximum of 2 face-to-face days.

2.4 User experience - UX, agility and creative activities

Promote face-to-face hybrid moments to be used for UX, agile ceremonies and creative activities such as Brainstorms.

3. ORGANIZATIONS

3.3 Communication with the HR team, the development team and labor policies

Create documents, protocols or booklets aimed at objectifying actions to work on soft skills.

3.4 Infrastructure for remote working

Recurring mapping of employees' infrastructure needs...

Phase 1 result

The migration from forced remote work to hybrid work and its impacts on software quality: the case of a multinational company

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7 AGRADECIMENTOS

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Phase 2

- 03 Sprints: Planning, daily, review and retrospective
- 03 Times: Backstage Interactivity, CDN, App Experience
- 38 Participants
- 32 meetings in total from 08 to 11/22

- Totaling 376 records made on 11/22
- Note: 334 records
- Interviews: 42 records

Methodology :

Case Study with Discursive Textual Analysis (Moraes and Galiazzi, 2016) complemented by Multivocal Literature Study (corporate and academic literature).

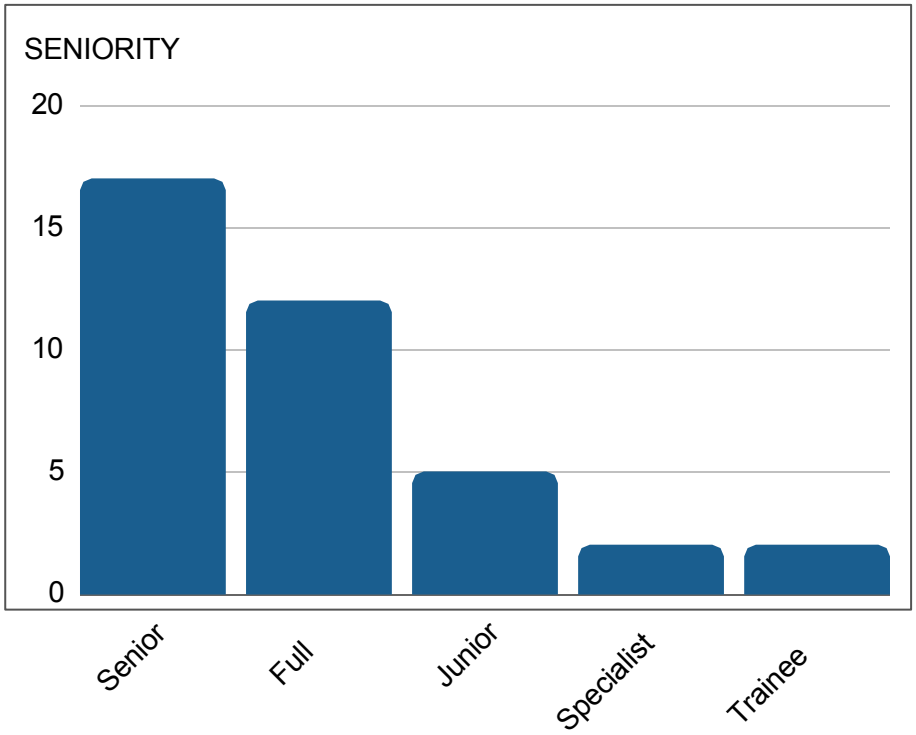
Phase 2

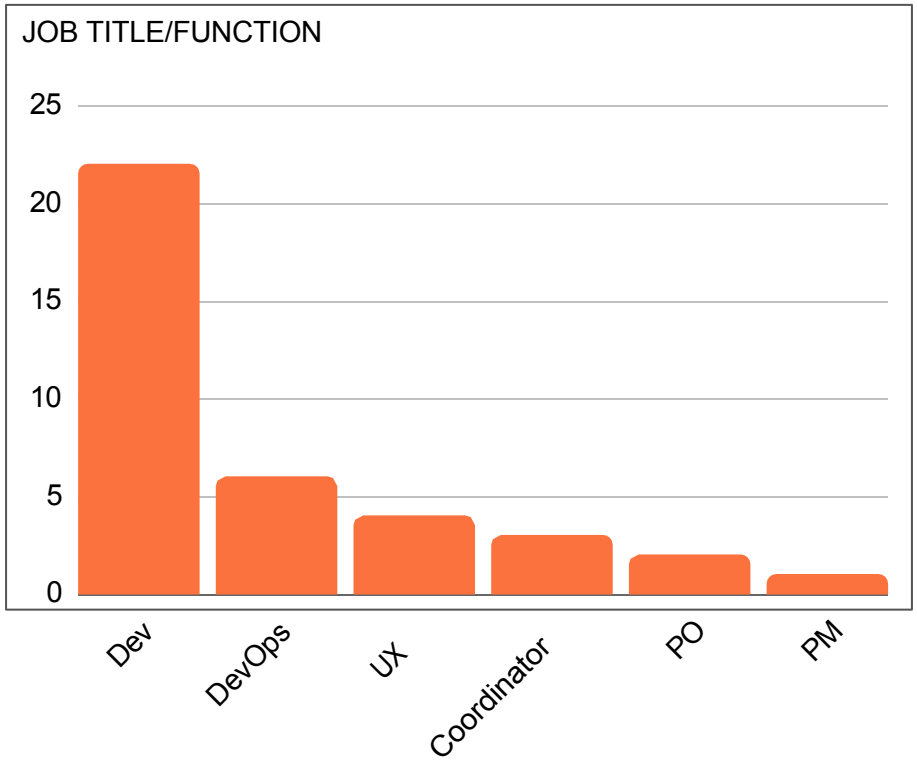

Field Study:
Non-participant observation
Diagnosis: MVP 2
Analysis of observations

Participants in phase 2 - interviews

Length of experience professional in years	Previous experience with distributed development	Joined the company during the pandemic	Start date at company
23	Yes	Yes	12/2020
13	Yes	Yes	11/2018
9	Yes	Yes	09/2021
7	Yes	Yes	07/2021
6	Yes	Yes	07/2020
6	No	No	01/2016
3	Yes	Yes	01/2022
2,6	Yes	Yes	02/2021
2,6	Yes	Yes	06/2022
2	Yes	Yes	10/2021

Phase 2 participants - Demographic profile





Phase 2 result

1. Impact on People

- 1.3 Training as a driver for face-to-face actions
- 1.4 Collaboration between peers

2. Impact on processes

- 2.3 Agile methods: Ceremonies
- 2.4 Agile methods: Pair Programming

3. Impact on Organizations

- 3.3 Communication and climate between different distributed teams
- 3.4 Driving actions for face-to-face agendas

Phase 2 result

1. Impact on People

1.3 Training as a driver of face-to-face actions - Evidence from interviews

"Attended in September/2022 to get to know Globo. 100% distance training. Larger face-to-face events focused on developers."

"Face-to-face meetings with the team are great, as is the hack day."

"Creating face-to-face meetings with various teams presenting their deliveries. There was Hack Day at Globo. This event motivates people to go face-to-face."

"Meeting other people from other teams, meeting new people. Having this face-to-face contact is fundamental to getting to know people. Integration activities".

Phase 2 result

1. Impact on People - Recommendations

1.3 Training as a driver for face-to-face actions - Recommendation 1

Promoting face-to-face training as a driving force for integrating distributed teams.

Further studies

According to the Havard Business Review[1] we can explore "structured serendipity. Serendipity, our fifth and final design driver, refers to the effect of stumbling across something truly wonderful while looking for something totally unrelated. A well-designed immersive experience consists of a balance of formal and informal elements that create a fertile ground for such a moment. This structuring can include elements such as the selection of a diverse set of participants, the pedagogical variety of the program, the opportunities to connect with different colleagues, the choice of locations that promote formal and informal connections, and the spaces conducive to reflection and sharing.

[1] https://hbr.org/2021/01/when-do-we-really-need-face-to-face-interactions

Phase 2 result

1. Impact on People

1.4 Peer Collaboration - Evidence from Interviews

"*Collaboration between peers is made more difficult by the number of remote meetings. In the remote model we have several meetings a day, so sometimes it's hard to focus and even pair up."*

"Moments of collaboration are essential for the team's creativity. People in a centralized place (environment) are easier to communicate with. They have an insight and can already exchange the idea and come to a conclusion on the subject."

"Collaboration when it's in the remote model, in calls for joint activities, sometimes yields better results than in person. It's better to be able to deliver remotely."

"It's fine between the same team. We have non-work meetings. Between different teams it's fine, communication could be improved, but that doesn't mean opening several channels on Slack. The company is very big with a lot of people, so most of the communication problems we have are probably not because of the remote, but because people end up staying in their own little world. They only talk to other teams when there's a common problem. And collaboration can happen when they call us on Slack, I can ignore it, but I'm not having this difficulty."

Phase 2 result

1. Impact on People - Recommendations

1.4 Peer Collaboration - Recommendation 2

Encourage synchronous and asynchronous collaboration between peers in the same team, especially by bringing together people with different levels of experience.

Further studies

Microsoft's 2022 report[2] highlights that "compared to two years ago, 5D% of respondents in hybrid work environments and 56% of those who are fully remote say they have fewer work friendships. As leaders encourage teams to return to the office, they should also encourage everyone to use this precious personal time to strengthen connections with colleagues."

[2] https://www.microsoft.com/en-us/worklab/hybrid-work-guides/how-to-unlock-asynchronous-collaboration

Phase 2 result

1. Impact on People - some studies

[1]

[2]

[1] https://hbr.org/2021/01/when-do-we-really-need-face-to-face-interactions

[2] https://www.microsoft.com/en-us/worklab/hybrid-work-guides/how-to-unlock-asynchronous-collaboration

Phase 2 result

2. Impact on Processes

2.3 Agile Methods: Ceremonies - Evidence from Interviews

"There are co-creation meetings on the board. The agility people have been driving this creative interaction. When making interactive deliveries, someone has to be in charge. This need occurs in person and online. At times it was dispersed, but it was pulled at another time and finished. The agile ceremonies were important for deliveries."

"Discovery meetings are very essential for collaborative work"

"We hold POC or Discovery meetings. We always call the people involved in this delivery, call other teams and present the idea before we start developing"

"There's no alignment of tasks or communication, sometimes what the development team has done doesn't agree with the UX team"

Phase 2 result

2. Impact on Processes - Recommendations

2.3 Agile methods: Ceremonies - Recommendation 1

Encourage agile ceremonies such as Daily and Product Discovery with the whole team. It's an approach that makes it easy and possible to test and validate hypotheses quickly. This pushes the team to be more agile in scaling and developing the project.

Further studies

The study by Munch et al. [2022] mentions that the challenge for companies is no longer how to identify and solve technical problems, but rather which products, resources or services solve problems that are relevant to customers and thus add value to the customer and the business. The approach is extremely important for driving the development team forward.

[1] https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=fiarnumber=D1D8328

Phase 2 result

2. Impact on processes

2.4 Agile Methods: Pair Programming - Evidence from Interviews

"There are two types of pairing (Internal and External). Internal: you're stuck in the search for a solution and you're looking for a partner in the team to help you with the solution. External: several pairs search for a solution together. He's a great believer in pairing. He always encourages it".

"The pairing of literature is different. Today, pairing is different. Pairing is an exchange of knowledge. I work in a more guided way. Pairing at the same level is an exchange of knowledge with lots of solutions. Pairing used to be just about code, now it's also about analysis and documentation between teams. A deeper collaboration aspect.

"There are several types of pairing. Some are more standby, I go and stay for a few minutes, give some tips. Others are with more people together, exchanging ideas, last week there were four people exchanging ideas and trying to understand what was going on. Pairing the task, so as not to leave things stuck".

Phase 2 result

2. Impact on Processes - Recommendations

2.4 Agile methods: Pair Programming - Recommendation 2

Encourage the use of the pair programming technique in both work models. This technique enables the practice of communication and knowledge sharing within software development teams.

Further studies

The study by Choi et al. [2021] mentions that in the environment of agile software development teams, communication is the main channel for sharing and transferring knowledge.

[2] https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=fiarnumber=D568D12

Phase 2 result

2. Impact on processes - some studies

Product Discovery – Building the Right Things: Insights from a Grey Literature Review

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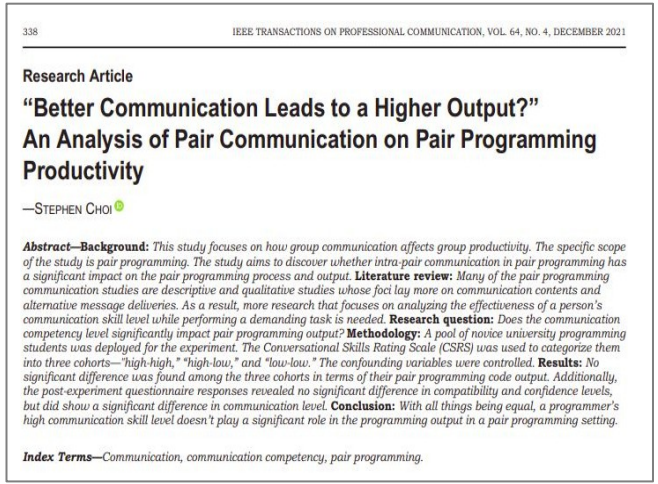
***Abstract* — Context:** In recent years companies have faced challenges by high market dynamics, rapidly evolving technologies and shifting user expectations. Together with the adaption of lean and agile practices, it is increasingly difficult to predict upfront which products, features or services will satisfy the needs of the customers and the organization. Currently, many new products fail to produce a significant financial return. One reason is that companies are not doing enough product discovery activities. Product discovery aims at tackling the various risks before the implementation of a product starts. The academic literature only provides little guidance for conducting product discovery in practice. **Objective:** In order to gain a better understanding of product discovery activities in practice, this paper aims at identifying motivations, approaches, challenges, risks, and pitfalls of product discovery reported in the grey literature. **Method:** We performed a grey literature review (GLR) according to the guidelines to Garousi et al. **Results:** The study shows that the main between a business strategy and the development of a product portfolio over time [3]. A good and effective product roadmap can be seen as a strategic tool that communicates the product vision across the company and outlines the efforts that are required to get there. Currently, many companies apply a traditional approach to product roadmapping which consists of a forecast and includes concrete planned products or features over a long-time horizon. This kind of roadmaps can be characterized as feature-based roadmaps. However, through increasing market dynamics, rapidly changing technologies and shifting user expectations it becomes almost impossible to predict which products, features or services will satisfy the needs of the customers and the organization [4]. Therefore, such roadmaps can be seen as lists of untested assumptions [5]. One of the most critical parts of the roadmapping process is to identify and validate the content of

[1]



Research Article

"Better Communication Leads to a Higher Output?" An Analysis of Pair Communication on Pair Programming Productivity

—Stephen Choi

***Abstract*—Background:** *This study focuses on how group communication affects group productivity. The specific scope of the study is pair programming. The study aims to discover whether intra-pair communication in pair programming has a significant impact on the pair programming process and output.* **Literature review:** *Many of the pair programming communication studies are descriptive and qualitative studies whose foci lay more on communication contents and alternative message deliveries. As a result, more research that focuses on analyzing the effectiveness of a person's communication skill level while performing a demanding task is needed.* **Research question:** *Does the communication competency level significantly impact pair programming output?* **Methodology:** *A pool of novice university programming students was deployed for the experiment. The Conversational Skills Rating Scale (CSRS) was used to categorize them into three cohorts—"high-high," "high-low," and "low-low." The confounding variables were controlled.* **Results:** *No significant difference was found among the three cohorts in terms of their pair programming code output. Additionally, the post-experiment questionnaire responses revealed no significant difference in compatibility and confidence levels, but did show a significant difference in communication level.* **Conclusion:** *With all things being equal, a programmer's high communication skill level doesn't play a significant role in the programming output in a pair programming setting.*

Index Terms*—Communication, communication competency, pair programming.*

[2]

[1] https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=fiarnumber=D1D8328
[2] https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=fiarnumber=D568D12

Phase 2 result

3. Impact on Organizations

3.3 Communication and climate between different distributed teams - Evidence from interviews

"I find it very easy to exchange with the teams. We have the Dailys and we communicate with them almost every day. There are teams that don't have Dailys. We always have a meeting called Voice. In general, communication is good. I have a greater exchange when it comes to validating the project. There are recurring UX meetings.

"It's fine between the same team. We have non-work meetings. Between different teams it's ok, we could improve communication, but that doesn't mean opening up several channels on Slack. The company is very large, so most of the communication problems we have are probably not because of the remote, but because people end up staying in their own little world. They only talk to other teams when there's a common problem. In collaboration it can happen that when they call us on Slack I can ignore it, but I'm not having this difficulty"

"Communication is good within the team. Nothing to complain about. It's getting better with the other teams. There are people in the team who manage to link up well with the other teams. In the channel, it's working".

Phase 2 result

3. Impact on Organizations - Recommendations

3.3 Communication and climate between different distributed teams - Recommendation 1

Provide planned "show case" moments, chapters, guilds or "cross" working groups between different teams to increase communication and social integration, maximizing the visibility of challenges and deliveries and people in the ecosystem.

Further studies

According to the Microsoft report[1]: "Face-to-face time is essential in a hybrid model. But leaders must balance the management of the organization with employees' need for flexibility. This means intentionally defining the role of personal collaboration and creating a program for where and why to meet."

[1] https://www.microsoft.com/en-us/worklab/hybrid-work-guides/how-to-make-in-person-time-count

Phase 2 result

3. Impact on Organizations

3.4 Driving actions for face-to-face agendas - Evidence from interviews

"I like to go to meet people from the team (face-to-face). There's always happy hour after the meetings."

"Face-to-face contact with people, moments of interaction. That's one of the few moments that motivates me to go into the office."

"Face-to-face meetings with the team are great, as is the hack day."

"Creating face-to-face meetings with various teams presenting their deliveries. I've been to Rio de Janeiro. There was Hack Day at Globo. This event motivates us to go face-to-face. It's in Maranhão and there's no Globo office in Maranhão".

"I think the company's concern is very cool, but what would motivate me is the need for a f a c e - t o - f a c e meeting to bring the team closer together, an important meeting. I don't see factors such as day food, happy games, toto table, ping-pong pool being motivating."

Phase 2 result

3. Impact on Organizations - Recommendations

3.4 Driving actions for face-to-face agendas - Recommendation 1

Encouraging moments of integration such as happy hour, day food and recreational activities such as table soccer (foosball), but these activities can be "fitted in" with planned events such as visits, training or hackathons.

Further studies

According to Harvard Business Revew[2]: "Instead of forcing employees back to personal work to make connections, leaders need to build intentional connections between employees across geographic - and generational - boundaries. Gartner research shows that to successfully create intentional interactions between employees, employers must focus on three elements: employee choice and autonomy, a clear structure and purpose, and a sense of levity and fun."

[2] https://hbr.org/2023/01/9-trends-that-will-shape-work-in-2023-and-beyond

Phase 2 result

3. Impact on Organizations - some studies

[1]

[2]

[1] https://www.microsoft.com/en-us/worklab/hybrid-work-guides/how-to-make-in-person-time-count
[2] https://hbr.org/2023/01/D-trends-that-will-shape-work-in-2023-and-beyond

Phase 2 recommendations

1. PEOPLE

1.3 Training as a driver for face-to-face actions

Promoting face-to-face training as a driving force for integrating distributed teams.

1.4 Collaboration in Pairs

Encourage synchronous and asynchronous collaboration between peers in the same team, especially by bringing together people with different levels of experience.

2. PROCESSES

2.3 Agile methods: Ceremonies

Encourage agile ceremonies such as Daily and Product Discovery with the whole team. It's an approach that makes it easy and possible to test and validate hypotheses quickly. This pushes the team to be more agile in scaling and developing the project.

2.4 Agile methods: Pair Programming

Encourage the use of the pair programming technique in both work models. This technique enables the practice of communication and knowledge sharing within software development teams.

3. ORGANIZATIONS

3.3 Communication and climate between different distributed teams

Provide planned "show case" moments, chapters, guilds or "cross" working groups between different teams to increase communication and social integration, maximizing the visibility of challenges and deliveries and people in the ecosystem.

3.4 Driving actions for face-to-face agendas

Encouraging moments of integration such as happy hour, day food and recreational activities such as table soccer (foosball), but these activities can be "fitted in" with planned events such as visits, training or hackathons.

Grouped results: Phase 1 and Phase 2

1. IMPACT ON PEOPLE

1.1 Full remote onboarding

1.2 Psychological security

1.3 Training as a driver for face-to-face actions

1.4 Collaboration in Pairs

2. IMPACT ON PROCESSES

2.1 Working model

2.2 User experience - UX, agility and creative activities

2.3 Agile methods: Ceremonies

2.4 Agile methods: Pair Programming

2. IMPACT ON ORGANIZATIONS

3.1 Communication with the HR team, the development team and labor policies

3.2 Infrastructure for remote working

3.3 Communication and climate between different distributed teams

3.4 Driving actions for face-to-face agendas

ICSE 2022

A Grounded Theory of Coordination in Remote-First and Hybrid Software Teams

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https://arxiv.org/pdf/2202.10445.pdf

Nominations for Distinguished Papers

- Static Inference Meets Deep Learning: A Hybrid Type Inference Approach for Python
  Yun Peng, Cuiyun Gao, Zongjie Li, Bowei Gao, David Lo, Qirun Zhang, Michael Lyu
  Pre-print
- PUS: A Fast and Highly Efficient Solver for Inclusion-based Pointer Analysis
  Peiming Liu, Yanze Li, Bradley Swain, Jeff Huang
  Pre-print
- What Makes Effective Leadership in Agile Software Development Teams?
  Lucas Gren, Paul Ralph
  Pre-print
- A Grounded Theory of Coordination in Remote-First and Hybrid Software Teams
  Ronnie E. de Souza Santos, Paul Ralph
  Pre-print

ICSE 2022

"Finally, we worry that the trend towards working from home and hybrid teams may lead the software industry to **backslide towards pre-agile processes**. As we observed in this study, teams **compromised many agile practices** as they acclimatized to working from home. Working-from-home seems to encourage professionals to **focus more on processes, tools, documentation and** planning-the opposite of the Agile Manifesto's recommendations. It is therefore incumbent upon us as researchers to make sense of how the emerging trend towards **more flexible work arrangements intersects with the cumulative body of knowledge surrounding software processes and team dynamics**".

March 2023

Team Creativity in a Hybrid Software Development World

Eight Approaches

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André van der Hoek, University of California, Irvine

Lisa Marshall, Salesforce

Table 1. Suitability of the approaches in terms of the six considerations (more stars means more suitable).

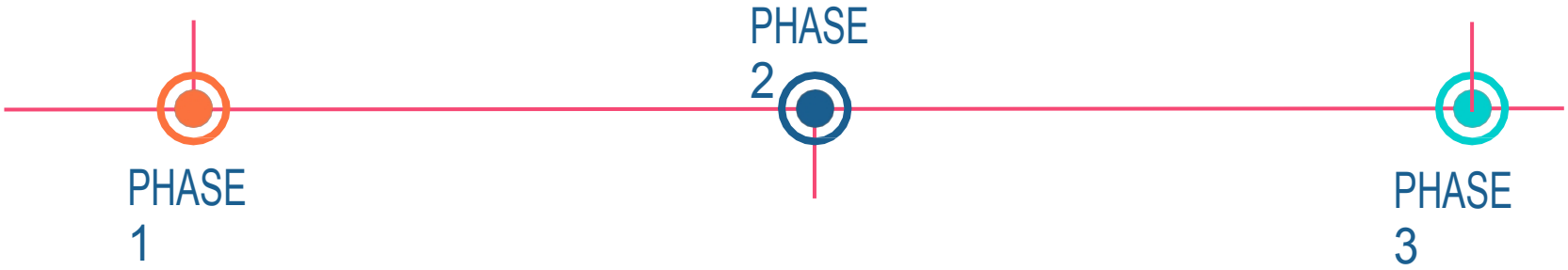
Factors / Approaches	Breadth of exploration	Depth of exploration	Amount of planning	Ability to cross time zones	Speed	Inclusivity
Remote brainstorming	★★★	★	★★	★★	★★★	★★★
Single author document with extensive team commenting/reviewing	★	★★★	★	★★★	★	★★
Designing alternatives with tradeoff analysis	★★	★★★	★★	★★★	★	★★
Spontaneous screen share and discussion	★	★★	★	★★	★★★	★
Regular, standing meetings	★★	★★	★★	★★	★★	★★
Hybrid hackathons	★★★	★	★★★	★★	★★★	★★★
Distributed mob programming	★★	★★★	★	★★	★★	★★
Temporary co-location	★★	★★★	★★★	★	★★	★

How did we arrive at the proposal for a Guide?

- Analysis of multivocal literature (corporate + academic)
- Semi-structured interviews with devs
- Analysis of the interviews
- Diagnosis of 6 topics in 03 dimensions (people, processes and organizations)

- Proposal presented by Igor after Phase 1
- Literature review:

  - [1] Microsoft WorkLab Guide - United States
  - [2] Google Workspace handbook - United States
  - [3] Phygital Work Manifesto Guide - Italy

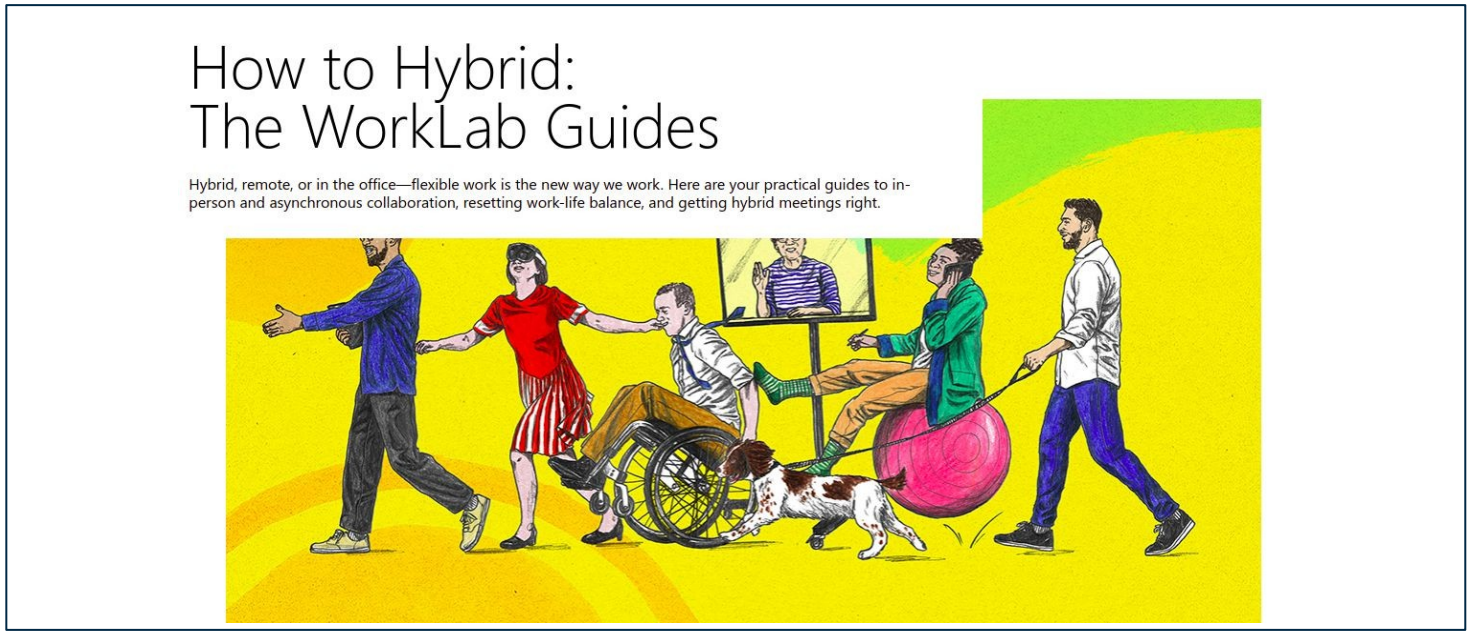


- Non-participant observations
- Semi-structured interviews with devs and po's
- Analysis of observations and interviews
- Diagnosis of 6 topics in 03 dimensions (people, processes and organizations)

Methodology :

Case Study with Discursive Textual Analysis (Moraes and Galiazzi, 2016) complemented by Multivocal Literature Study (corporate and academic literature).

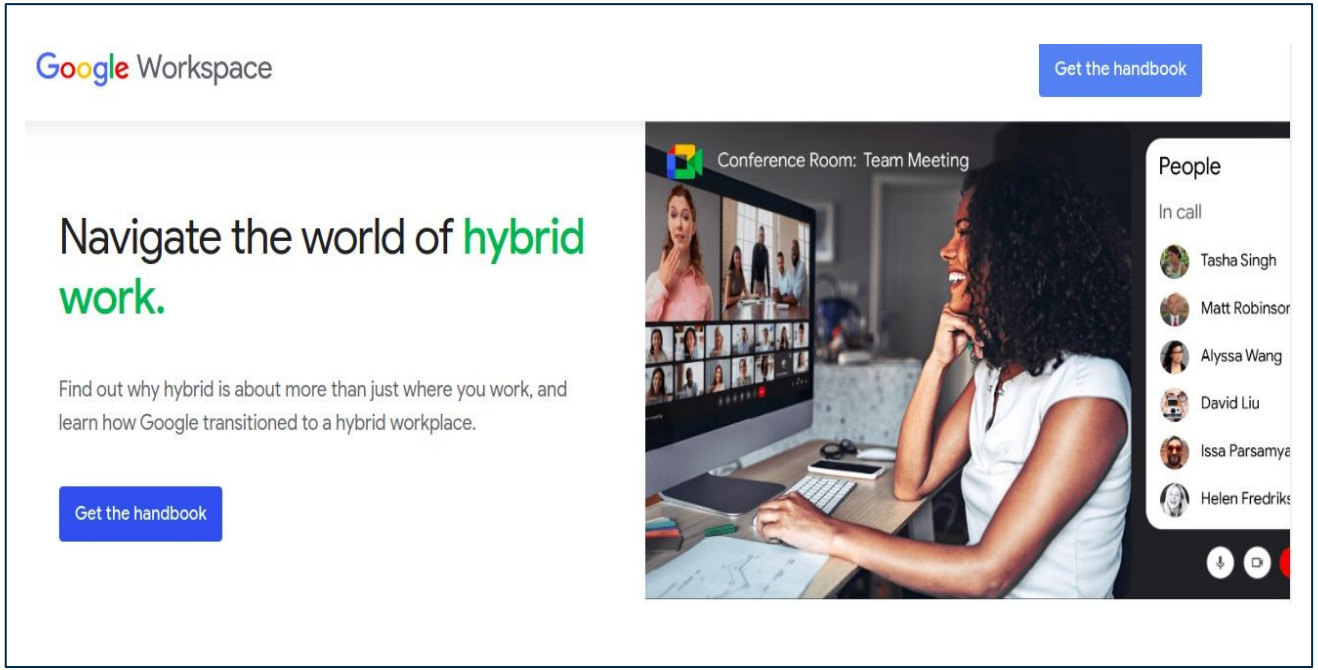
Literature with Hybrid Guide



Microsoft WorkLab Guide - United States

[1] https://www.microsoft.com/en-us/worklab/hybrid-work-guides - Launched in 2022 https://www.microsoft.com/en-us/worklab/

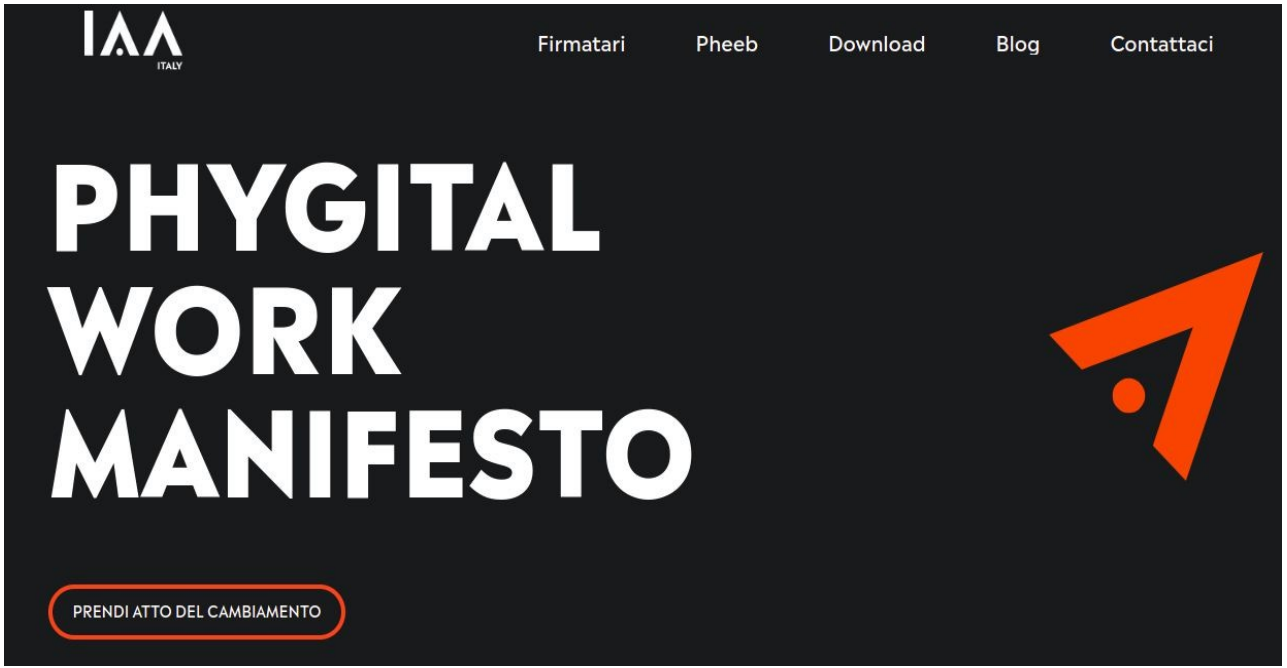
Literature with Hybrid Guide



Google Workspace handbook - United States

[2] https://inthecloud.withgoogle.com/navigating-work-handbook/dl-cd.html - Launched in October 2022 https://workspace.google.com/

Literature with Hybrid Guide

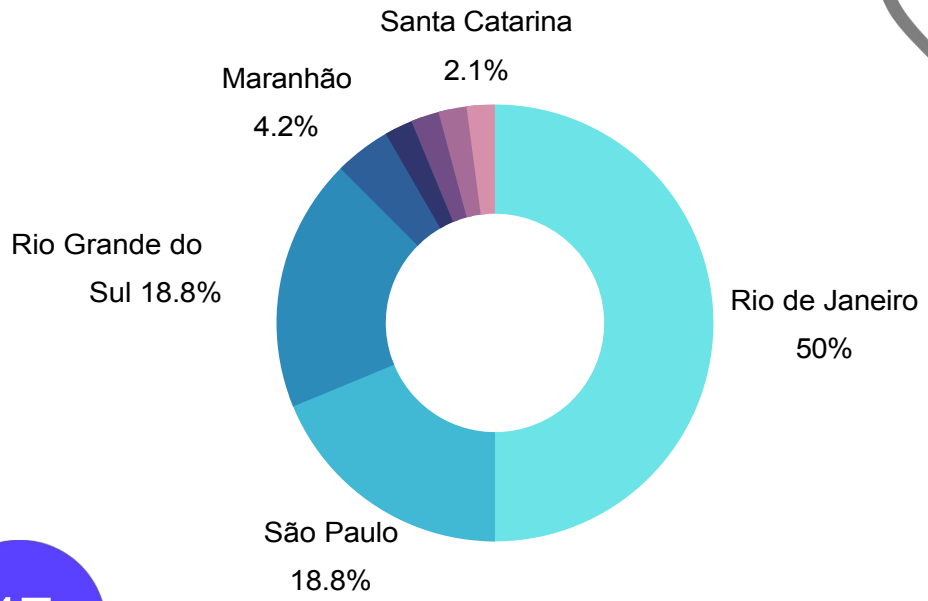


Phygital Work Manifesto Guide - Italy

[3] https://www.phygitalworkmanifesto.com- Launched in 201D

Geospatial distribution

The study has a national geospatial scope through the collaboration of 47 participants spread across six states



47 participants

Sum of study participants: **Phase 1** [11], **Phase 2** [25] and **Phase 3** [11]

Next steps

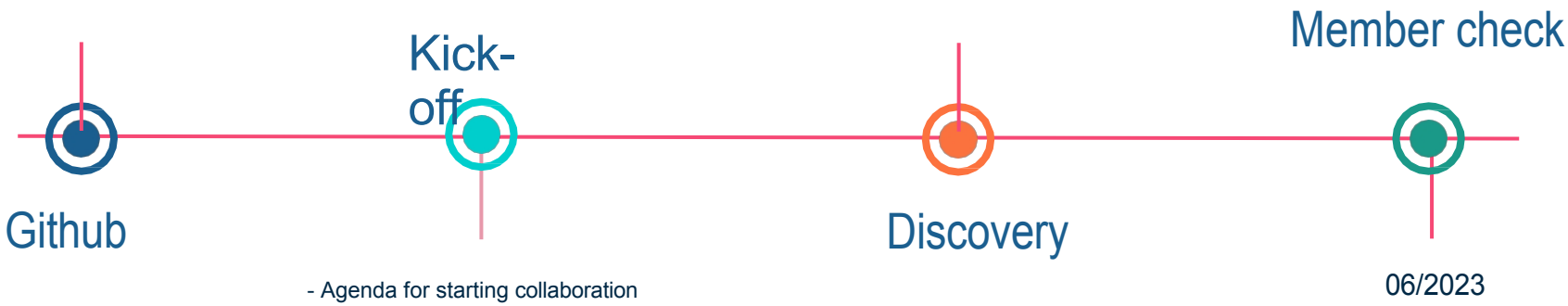
Planning

- Presentation of Phase 2 results
- Development of the good practice guide on hybrid work
  - Start inside Globo
  - Expand to the wider community
  - Explore aspects of innovation and creativity
  - Internal development: between February 2023 and April 2023
  - External development: between May 2023 and August 2023
  - Evaluation and publication: September and October 2023

Phase 3

- Publication of results with github page

- Ceremony to align purpose, values and actions (inspired by the agile manifesto)



Methodology :

Case Study with Discursive Textual Analysis (Moraes and Galiazzi, 2016) complemented by Multivocal Literature Study (corporate and academic literature).

References

Top 5 academic literatures

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[4] Courtney Miller, Paige Rodeghero, Margaret-Anne Storey, Denae Ford, and Thomas Zimmermann. 2021. How Was Your Weekend? Software Development Teams Working From Home During COVID-1D. Proceedings of the 43rd International Conference on Software Engineering. IEEE Press, 624-636. https://doi.org/10.110D/ICSE43D02.2021.00064

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[3] Google Workspace fi Economist Impact: Making hybrid work human. Retrieved from: https://impact.economist.com/projects/make-hybrid-human/executive-summary/. May 2022.

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Annexes

Function	Professional experience	Model work during interview	Experience with DDS	Joined the company during the pandemic	Location
Agile Manager	14	full remote	Yes	Yes	Porto Alegre
UX design	14	full remote	Yes	Yes	Rio de Janeiro
Development	15	full remote	Yes	Yes	São Paulo
Manager	30	full remote	No	No	Porto Alegre
Coordinator	12	full remote	Yes	No	Rio de Janeiro
Product Owner	20	full remote	Yes	Yes	São Paulo
Developer	8	full remote	Yes	Yes	Porto Alegre
Specialist	8	full remote	No	No	São Paulo
Developer	6	full remote	No	Yes	Maranhão
HR Manager	22	full remote	Yes	No	Rio de Janeiro
Director	20	full remote	Yes	No	Rio de Janeiro

List of participants PHASE 1

Annexes

Time	Seniority	Position	Location
1 - Backstage Interactivity	Senior II	Developer/Sp	Rio de Janeiro
	Senior	Developer	São Luis Maranhão
	Junior	Developer	Rio de Janeiro
	Full	Developer	RIo de Janeiro
	Full	Developer	Santa Catarina
	Junior	UX	Rio de Janeiro
	Senior	Devops	Rio de Janeiro
	Senior	PM	Porto Alegre

List of participants PHASE 2

Annexes

Time	Seniority	Position	Location
	Senior	Developer	Niterói/RJ
	Full	Developer	São Paulo/SP
	Junior	Developer	Macaé/RJ
	Full	Devops	Rio de Janeiro/RJ
	Trainee	Developer	Rio de Janeiro/RJ
	Junior	Developer	São Paulo/SP
	SPEC	Developer	Porto Alegre/RS
	SPEC	Devops	Rio de Janeiro/RJ
	Full	Developer	Rio de Janeiro/RJ
	Full	Devops	Rio de Janeiro/RJ
2 - CDN	Senior	Coordinator	Rio de Janeiro/RJ

List of participants PHASE 2

Annexes

Time	Seniority	Position	Location
3 - GloboID Experience App	Senior	Coordinator	Rio de Janeiro/RJ
	Full	Developer	Porto Alegre/RS
	Full	Developer	Porto Alegre/RS
	Junior	Developer	Rio de Janeiro/RJ
	Trainee	Trainee	Viamão/RS
	Senior	Developer	João Pessoa/PB
	Senior	AFTER	Rio de Janeiro/RJ
	Senior	Spec. PO	Rio de Janeiro/RJ
	Full	user experience	Rio de Janeiro/RJ
	Senior	Spec. Development	Rio de Janeiro/RJ
	Senior	Developer	Bauru/SP
	Full	Developer	Campo Grande/MS
	Full	user experience	Porto Alegre/RS
	Senior	Developer	Vitória/ES
	Full	Devops	São Paulo/SP
	Senior	Devops	Rio de Janeiro/RJ
	Senior	DS	Jundiaí/SP
	Senior	user experience	Porto Alegre/RS
	Senior	Coordinator	Rio de Janeiro/RJ

Applied research to orchestrate hybrid software development teams as a result of the covid-19 pandemic

Phase 2

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