

# Coordinating Expertise Outside Agile Teams

*“That’s why having the development roadmap is so important. So, the roadmap helps to determine who works outside of the team that we need.” - P11, Project Manager.*

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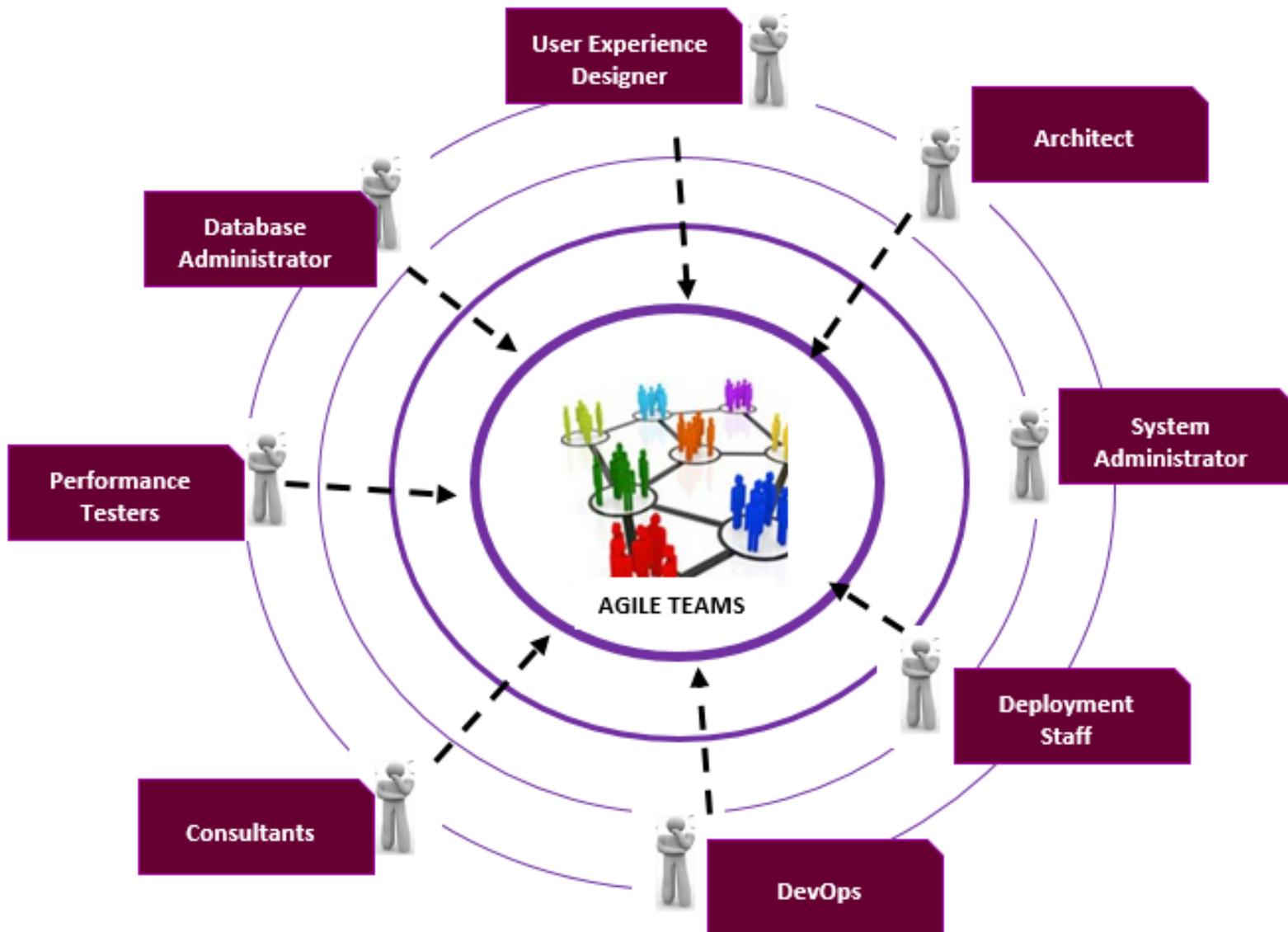


# Presentation Outline

- Introduction
- Research Motivation & Objective
- Grounded Theory
- Research Findings
- Discussion
- Conclusion



# Dependencies with External Specialists



# Research Motivation & Objective

## Research Motivation

- Further investigation is needed to explore the interaction between Agile teams and roles outside the teams (*Sharp and Robinson, 2010*)

## Research Objective

- To discover how Agile teams and external specialists depend on each other to manage and utilize external specialists



# Grounded Theory

## Grounded Theory

Inductive research method that aims to infer new theories from observed data (*Glaser and Strauss, 1967*).

### The reasons for choosing Grounded Theory:

- ✦ more appropriate for exploring human behavior and social interaction (*Glaser, 1992*).
- ✦ suitable in areas that are under-explored which require further investigation (*Birks & Mills, 2011*).
- ✦ Applicable for a study that emphasizes processes (*Charmaz, 2006*).



# Grounded Theory...

## Data Collection

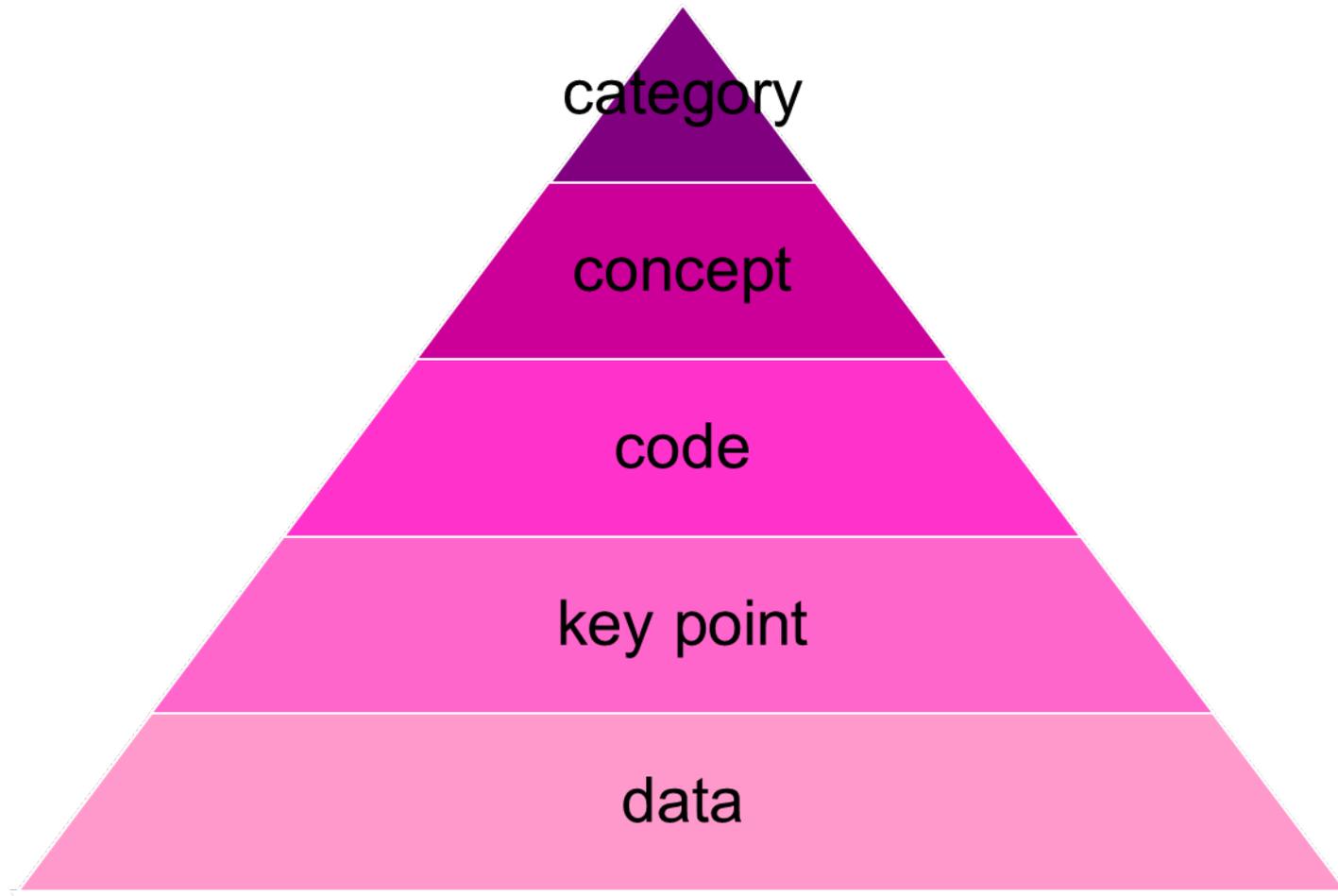
Person	Location	Agile Role	Agile Methods	Project Domain
P1	New Zealand	Developer	XP and Scrum	Mobile application
P2	New Zealand	Agile Coach	XP, Scrum, Kanban	Not disclosed
P3	Australia	Agile Consultant	Not disclosed	Not disclosed
P4	New Zealand	Agile Coach	Scrum and XP	Education
P5	New Zealand	Software Tester	Not disclosed	Printing
P6	Australia	Team leader	Not disclosed	Accounting
P7	New Zealand	Agile Consultant	Scrum and XP	Financial
P8	Australia	Agile Coach	Scrum, XP, Kanban, Lean	Human resource
P9	New Zealand	Business Analyst	Not disclosed	Insurance
P10	New Zealand	Software Tester	Scrum	Education
P11	New Zealand	Project Manager	Scrum	Education
P12	New Zealand	Agile Coach	Scrum and Kanban	Not disclosed
P13	New Zealand	Agile Coach	Scrum and Kanban	Government
P14	New Zealand	Product Owner	Not disclosed	Not disclosed
P15	New Zealand	Agile Coach	Scrum and Kanban	Government
P16	New Zealand	Agile Coach	Scrum and Kanban	Government
P17	New Zealand	Tester	Scrum	Education
P18	New Zealand	Developer	Scrum	Education
P19	New Zealand	Business Analyst	Scrum	Education
P20	New Zealand	User Experience Designer	Scrum	Not disclosed
P21	New Zealand	Agile Coach	Scrum and Kanban	Mobile Application
P22	New Zealand	Scrum Master	Scrum, Kanban, XP	Web-based Application
P23	New Zealand	Developer	Scrum and XP	Dataware house
P24	New Zealand	Scrum Master	Scrum and Kanban	Banking
P25	New Zealand	Developer	Scrum and Kanban	Financial
P26	New Zealand	Team Leader	Scrum and XP	Government Application
P27	New Zealand	Developer	Scrum and XP	Fishery
P28	Sweden	Developer	Kanban	Telecommunication
P29	Denmark	Developer	Scrum	Medical
P30	India	Business Analyst	Scrum and Kanban	Not disclosed
P31	Malaysia	Scrum Master	Scrum and Kanban	Broadcast
P32	Malaysia	Scrum Master	Scrum, Kanban, XP	Enterprise
P33	Malaysia	Project Manager	Scrum and Kanban	Security Application
P34	United States	Agile Coach	Scrum	Financial
P35	United States	Developer	Scrum	Financial
P36	United States	Developer	Scrum	E-commerce
P37	United States	DevOps	Not disclosed	Not disclosed
P38	United States	User Experience Designer	Not disclosed	Not disclosed
P39	United States	Agile Coach	Scrum and XP	Not disclosed
P40	United States	Stakeholder	Not disclosed	Not disclosed
P41	United States	Agile Coach	Scrum and XP	Biotechnology
P42	United States	Tester	Scrum and XP	Retail
P43	Wellington	DevOps	Scrum	Not disclosed
P44	Wellington	Architect	Scrum	Oil Retail
P45	Wellington	Tester	Scrum and Kanban	Financial
P46	Wellington	Agile Coach	Scrum, Kanban and XP	E-commerce
P47	Wellington	Developer	Scrum, Kanban and XP	E-commerce

**47 participants**



# Grounded Theory...

## Data Analysis



# Research Findings



# F1 : Availability

## Challenge

Working on multiple projects

*" We have difficulties such as the DBA is very busy and handles multiple projects. So, to get his time can be more challenging." – P33, Project Manager.*

## Strategy

Planning Ahead

*"Usually, what we do is we plan ahead of the release. For example, we needed a solution architect for 2 or 3 months. So we tried to get them involved before that. We told them earlier when we needed them to be involved. During planning, we get everyone to be involved." - P33, Project Manager.*



# F2 : Agile Mindset

## Challenge

Not being familiar with Agile methods

*"They [external specialists] didn't go to the same Agile training that we went through. We started doing our project, and we called our Database Administrator. We need these tables to be set up. We need it to be done in two weeks. But it didn't go very well." - P35, Developer.*

## Strategy

Understanding Agile Methods



*"We discussed with them what and how we're doing in Agile [ways]. So, they knew what they are responsible for and when it needs to be done. So, once we started doing that, they got more ideas about the Agile (method)."* - P44, Architect.



# F3 : Stability

## Challenge

### Changing teams frequently

*"Changing teams happens all the time. Frequent changes in the (Agile) project requires me to be flexible." - P38, User Experience Designer.*

## Strategy

### Ensuring Consistency



*"Frequent changes in the [Agile] project requires me to be very flexible. I have to familiarize myself as quickly as possible. So, we make sure that we do things more consistent. It is not difficult for someone to pick up the work." - P38, User Experience Designer.*



# F4 : Knowledge Retention

## Challenge

Difficult to retain external expertise

*"The things that got my bear there is a sustainability [sic]. How can the team learn from the person who comes in and then disappears? How can we extract the knowledge and learn from them?" - P16, Agile Coach.*

## Strategy

Sustaining external expertise



*"We have to make sure the knowledge can be passed to the team. We have person to person, pair-programming and peer review. They [also] pass the knowledge by mentoring and documentation." - P27, Developer.*



# F5 : Effective Communication

## Challenge

### Poor communication

*"The developer and the operation staff didn't talk to each other. This operation team did the deployment. Sometimes, there was failure, and we found that the development team blamed the operation team. The operation team blamed the development team." - P15, Agile Coach.*

## Strategy

### Keeping everyone in the same page



*"For every project, we have a different databases and architecture. So we get somebody, and we pull them into a sprint. We make them a part of the team. Bringing them to the daily meetings, reinforcing them and making them realize 'Aah, this guy is true. He is waiting for me. That's why he keeps reminding me.'" - P35, Developer.*



# Discussion

- *Strode et al. (2012)* revealed that availability is a coordination strategy component in Agile teams.
- Adopting an Agile mindset requires external specialists to believe the usefulness of Agile methods (*Kollmann et al., 2009*).
- Task reallocation and work disruption occur when there is a high rate of team member turnover (*De O Melo, 2013*).
- *Moe et al.'s study (2014)* mentioned that knowledge retention requires identifying the location of external specialists and distributing their expertise.
- Much existing literature has discussed the relationships between these factors (*Nuwangi et al, 2012; Martini et al., 2014*), but not in the context of interaction between Agile teams and external specialists.



# Conclusion

- ✦ 4 factors in coordinating external expertise in Agile teams: Availability, Agile mindset, Stability, Knowledge Retention, and Effective Communication.
- ✦ In future – relationship between the category “Coordinating External Expertise” and other categories.



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# Thank you !

**We value your input and feedback,  
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