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Which digital uses for which ecologisation of agriculture? The example of cereal farms in South West France

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1. Introduction



Food and Agriculture
Organization of the
United Nations



E-AGRICULTURE STRATEGY GU

PILOTED IN ASIA-PACIFIC COUNT



#AgricultureInnovation2025

30 projets

pour une agriculture compétitive
& respectueuse de l'environnement

Propositions de:
Jean-Marc BOURNIGAL
François HOUILLIER
Philippe LECOUIVEY
Pierre PRINGUET

Octobre 2015



im'agri

ÈRE DE L'AGRICULTURE, DE L'AGROALIMENTAIRE ET DE LA FORÊT
1 - OCTOBRE / NOVEMBRE / DÉCEMBRE 2016

RÉVOLUTION NUMÉRIQUE



(Lajoie-O'Malley et al., 2020)

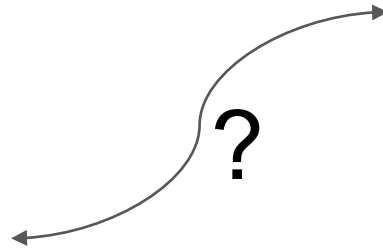


Introduction

Purpose : Show the diversity of digital use patterns and to explain how these patterns connect to different forms of agricultural ecologisation



Image : Pillaud, 2015



Ecologisation

2. Background : digitalisation and ecologisation

Trajectories



Digitalisation

- DTP : Digital Technologies for Production
- DTC : Digital Technologies for information and communication

Ecologisation

- Optimisation
- Reconceptation

Trajectoires



Digitalisation

- DTP : Digital Tech

Proposition 1 : the use of DTP is associated with weak forms of ecologisation that are intertwined with industrial economic models of farming

- DTC : Digital Tech
and communication

Proposition 2 : The use of DTC is associated with stronger forms of ecologisation, which are based on a reconception of production systems

Ecologisation

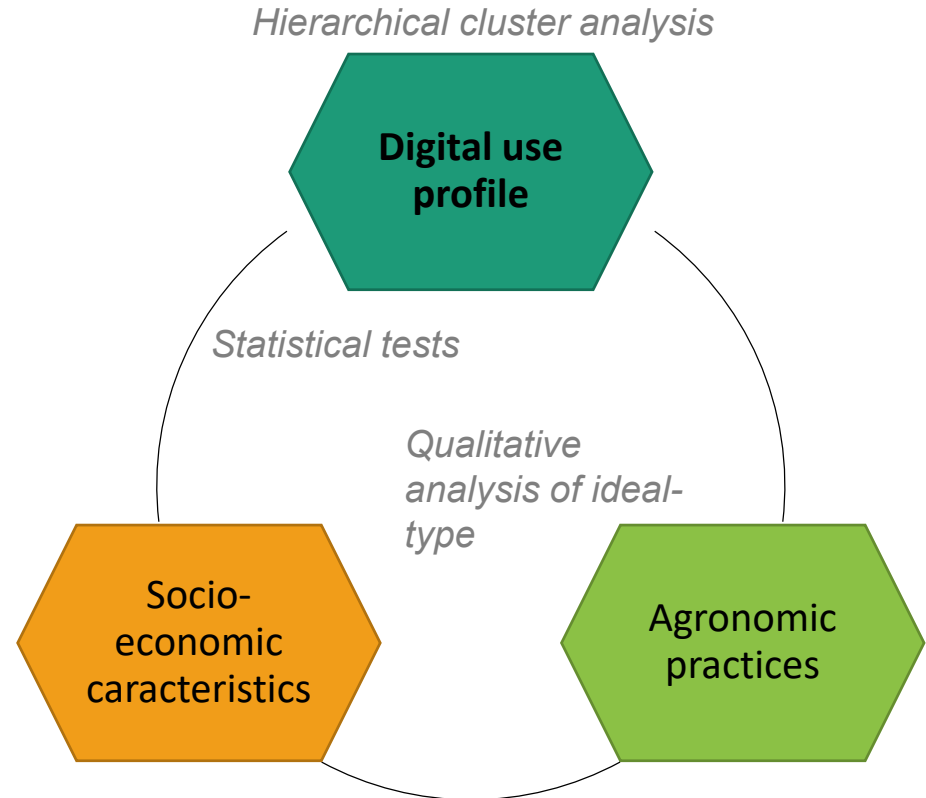
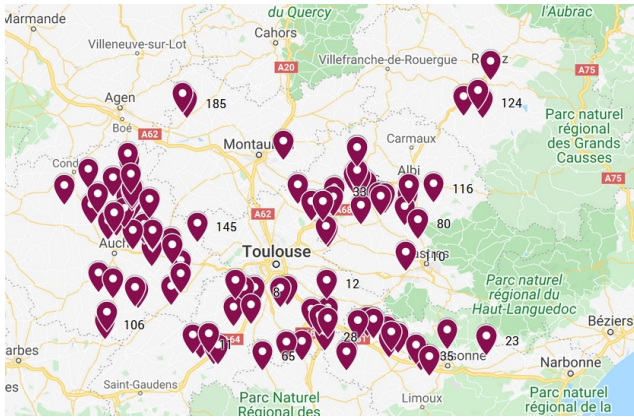
- Optimisation
- Reconception

3. Method

A mixed method



98 interviews with cereal farmers
in South-West France



4. Results

Digital use profiles

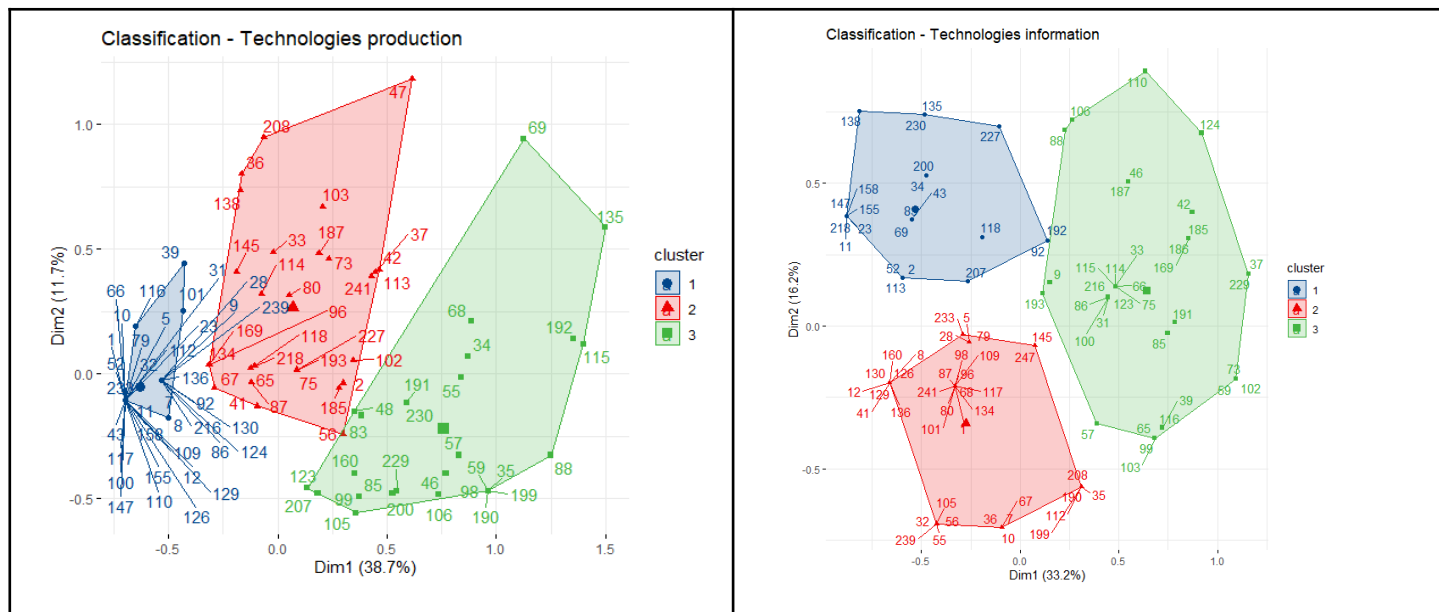
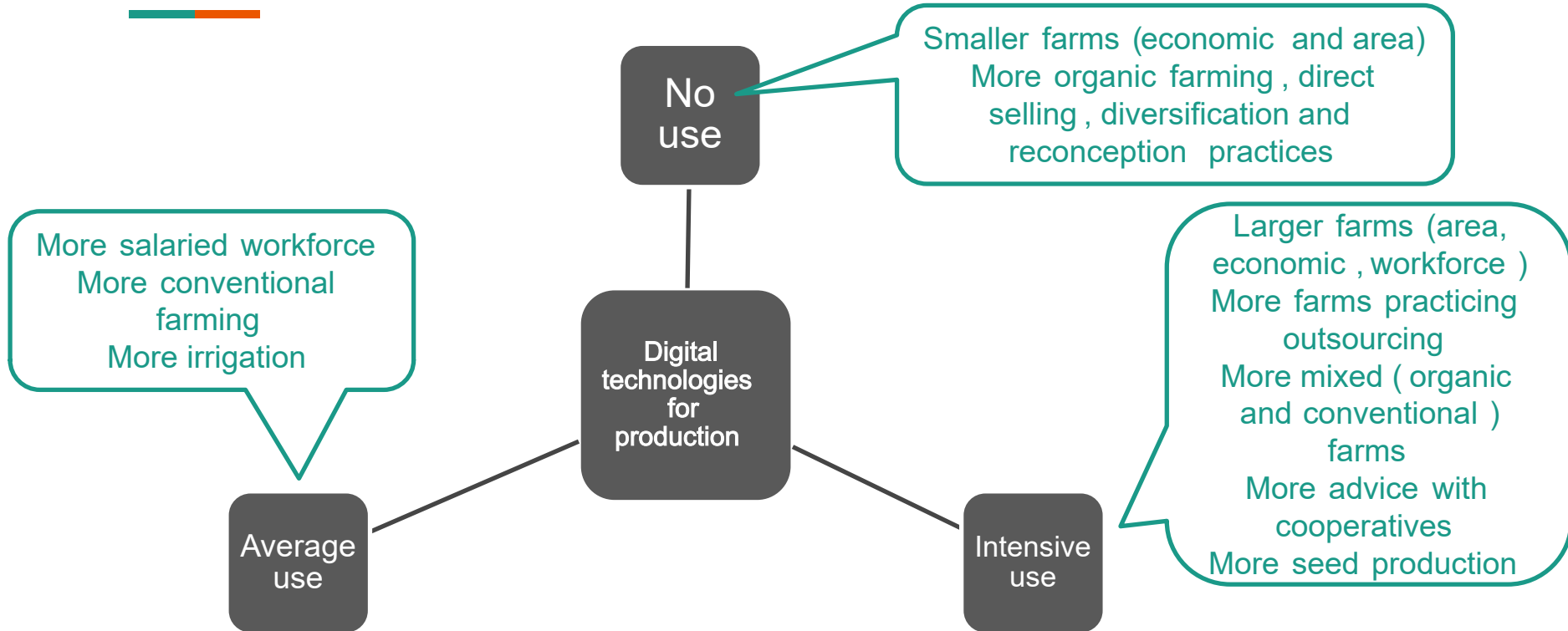
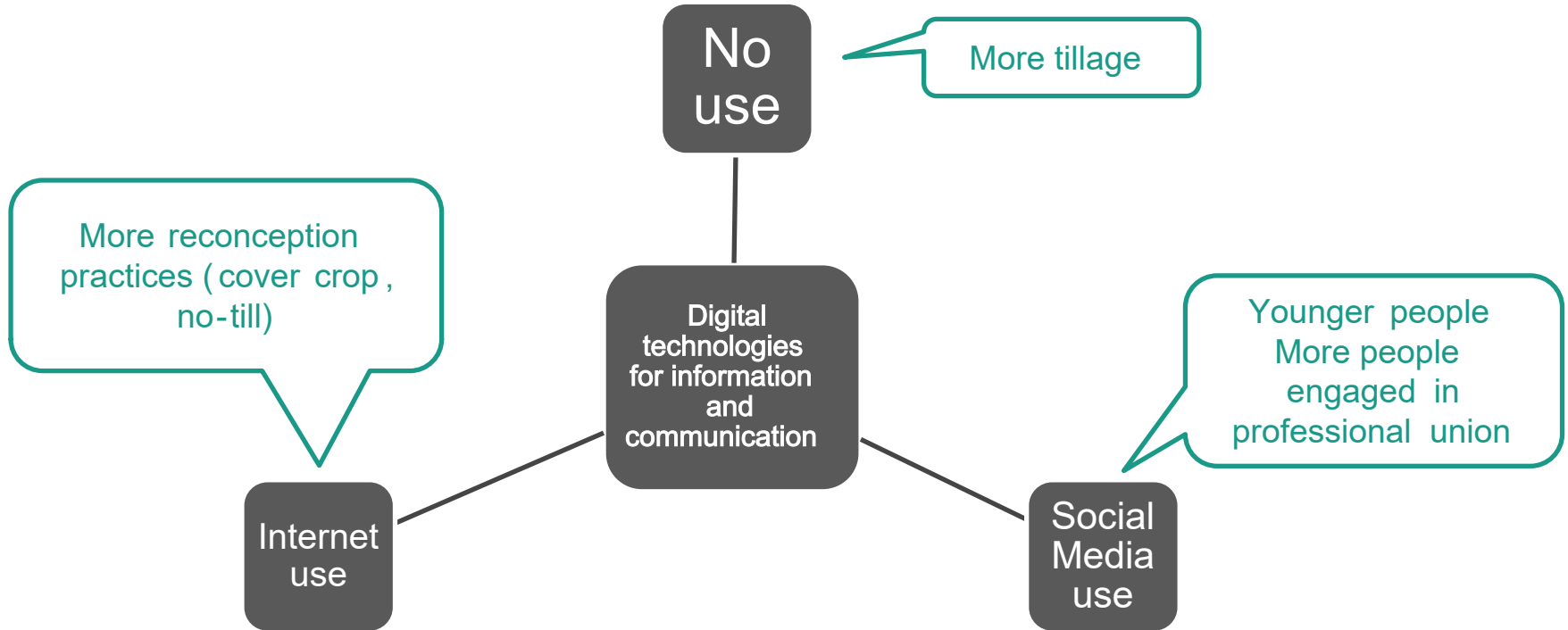


Figure 1 : résultats des classifications sur R

Digital use profiles and ecologisation trajectories



Digital use profiles and ecologisation trajectories



5. Discussion

Digitalisation & Ecologisation

- **A diversity of digitalisation trajectories coexist**
 - Non-linearity of the process of digitalisation (phenomena of technologies abandonment)
 - Non adoption of digital : coherent choice that matches their practices and objectives, towards a different technological trajectory
 - **The use of DTP is linked with the industrialisation of farming models**
 - Economic size = capacity to invest in digital (farm size or expansion through outsourcing)
 - DTP = a response to the specific needs of more industrial production models based on expansion, outsourcing activities, salaried employees, specialisation and intensification
- ⇒ Reinforcement mechanisms
- Organic farming: DTP is not adapted to their production system
 - The use of DTP seems to encourage optimisation over redesign.

Digitalisation & Ecologisation

- **Digital use associates with more radical ecologisation trajectories**
 - DTP : used to develop organic farming in industrial farms
 - DTC : cause and consequence of changing practices toward more ecologisation

- **Roles of intermediaries and institutions**
 - Seed and trading contracts : favour or even impose the use of DTP / decrease the use of DTC
 - Advice within a cooperative : favours the use of DTP / decreases the use of DTC

Perspectives and conclusion



Effects on farming trajectories ? Micro / macro

Roles of intermediaries and cooperatives

Digitalisation policies : not neutral , promote certain farming trajectory



Thank you

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