

An Absorptive Capacity Based View of the Determinants of University Technology Transfer

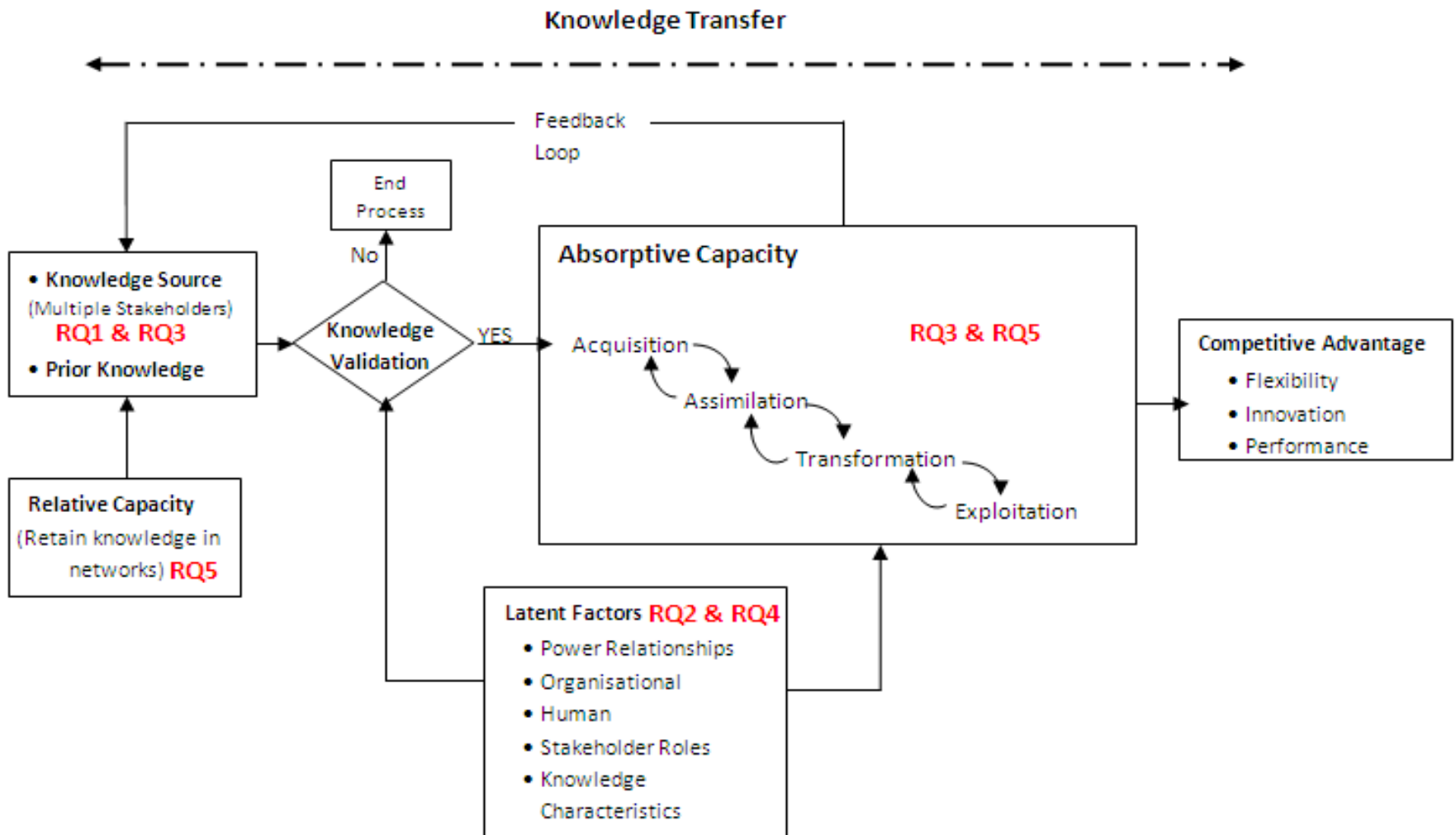
Miss Kristel Miller
University of Abertay, Dundee

Dr Sandra Moffett, Professor Rodney McAdam, Dr Michael
Brennan
University of Ulster

Background to Research

- *“Universities are a key component in positioning the UK as a key knowledge economy at the forefront of the 21st Century innovation”*
(Lord Drayson, Science and Innovation Minister, 2009)
- University technology transfer is highly complex and risky
- Multiple stakeholders help commercialise university research
- Need to understand these knowledge processes and how they can be managed
- Absorptive capacity can help do this...
 - A set of organizational routines and processes by which firms acquire, assimilate, transform, and exploit knowledge to produce a dynamic organizational capability (Zahra and George, 2002)

Conceptual Framework



Research Questions

- **RQ₁** – Who are the stakeholders involved within the UTT process?
- **RQ₂** – What encourages these stakeholders to participate for UTT?
- **RQ₃** – What role do the stakeholders and their relationships play in aiding knowledge transfer for UTT commercialisation activities?
- **RQ₄** – What factors enhance or impede UTT activities?
- **RQ₅**– What impact has this research has for theoretical development within the areas of technology transfer, knowledge transfer and absorptive capacity?

Methodology

- Qualitative, intrinsic case study approach
- Focus on inductively building theory
- Data collected in 4 stages

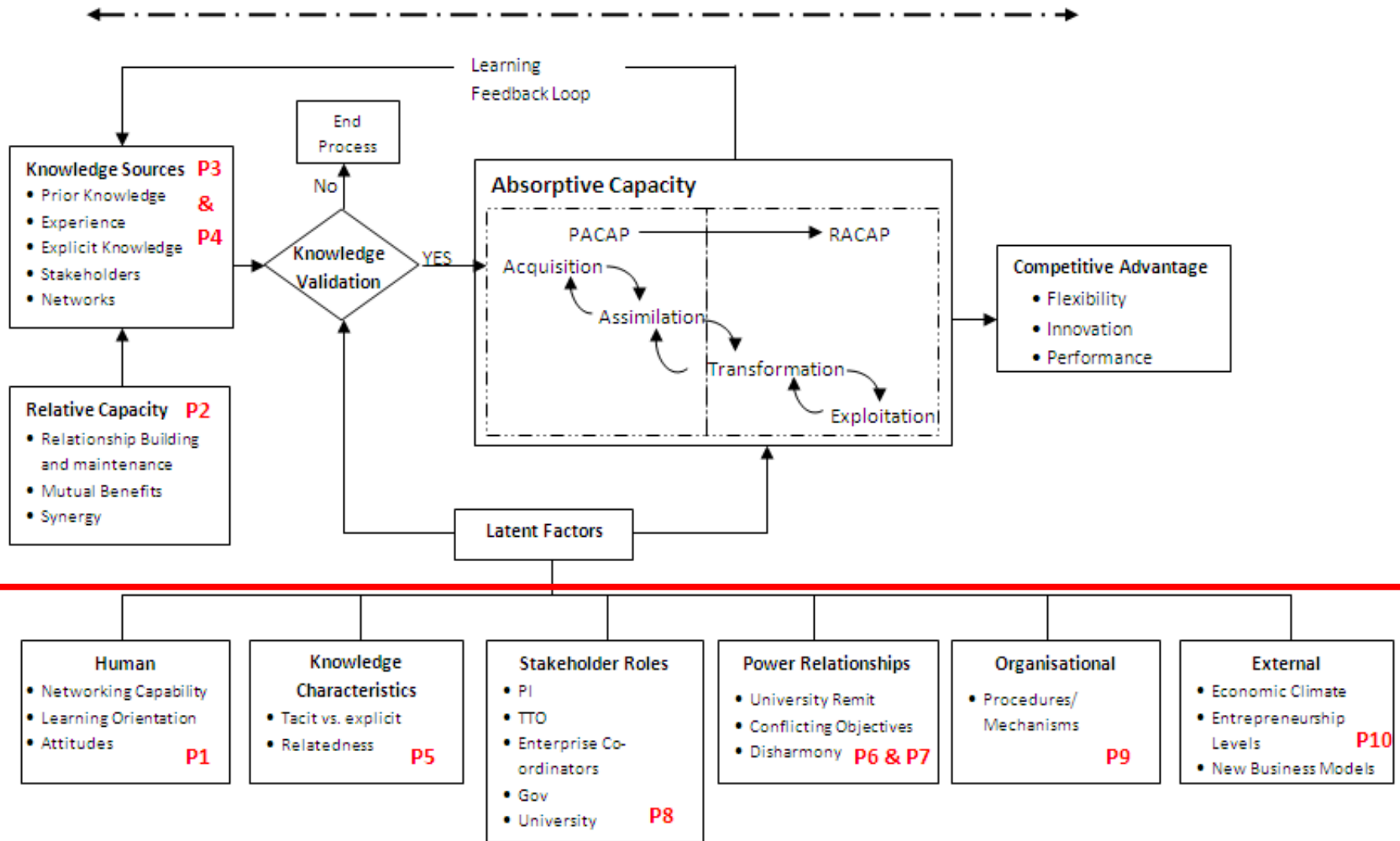
Stage	Detail
1) Pilot Interviews	Spin in companies (n=2), Spin Out Companies (n=2), Manager of the USI (n=1), Head of Innovation Services (n=1), Director of Office of Innovation (n=1),
2) In-depth Interviews	PI's (n=26), TTO Staff (n = 6), Enterprise Co-ordinators (n = 5), Government Staff (n = 3)
3) Observational Analysis	TTO meetings over the period of May 2009 – November 2009
4) Repeat interviews	PI's (n = 10), TTO Staff (n= 4), Enterprise Co-ordinators (n = 1)

Key Findings

- 7 latent factors
 - Human factors
 - Knowledge source
 - Knowledge characteristics
 - Stakeholder roles
 - Power relationships
 - Organisational factors
 - External influences
- Positively and negatively affect knowledge sharing and exchange

Revised Framework

Knowledge Transfer



Lessons to be Learned

- Need to enhance knowledge sharing/social integration mechanisms
 - Supporting environments/culture
 - Tacit knowledge flows
- Support and pressure required to improve PI networking
- Address power relationships
 - Open communication
- Closer relationships between government and PI's
 - Training, aiding networking
- Evaluate rewards for UTT
 - Reward matches effort

Contributions to Policy

- Aids understanding of the knowledge processes and determinants of knowledge transfer
 - Addressing governments agenda
- Conceptual framework and latent factors provides a starting point for interventions
 - E.g. Incentives, training, support