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## External knowledge absorption in Chinese SMEs

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## **Curriculum Vitae**

Lei Pi was born in Henan province, China, on March 3rd, 1983. He studied mechanical design and automation from 2001 to 2005 at Xiamen University, China. He gained his bachelor's degree in engineering in 2005. After graduation from Xiamen University, he worked as an R&D Engineer for Han's Laser Science & Technology Co., Ltd. in Shenzhen, China, from 2005 to 2008. Then he worked as a business manager for Jinfulin Investment Consultant Co., Ltd in Xiamen, China. In 2010, he entered Peking University to study innovation and entrepreneurship management and earned his Master's degree (Software Engineering) in 2013. In the same year, he joined Professor Bernhard R. Katzy's research group to study technology and innovation management. He was admitted to the Ph.D. program at the Faculty of Science, Leiden Institute of Advanced Computer Science in 2014.

During his Ph.D. study, he also worked at the Center for Technology & Innovation Management at Universität der Bundeswehr München for research and teaching from 2013 to 2018. He served as the Chair of the Chinese Students and Scholars Association of Universität der Bundeswehr München from 2015 to 2016. He also chaired the 2016 NiTiM Doctorate School (Trondheim, Norway) on Networks, Information Technology, and Innovation Management. He joined Huawei Technologies Munich Research Center in 2019 and is working as a resource collaboration engineer at the time being.

His research interests include technology management, innovation and entrepreneurship, innovative thinking, and organizational learning.



## **Publications**

Pi L., Paetzold, K., Ortt, J.R., “How SMEs Absorb External knowledge: Interviews on Chinese Entrepreneurs”, 24th International Conference on Engineering, Technology and Innovation, 2018, Stuttgart, Germany

Pi L., Paetzold, K., Ortt, J.R. “Path-dependence of Organizational Absorptive Capabilities: Causes and Possible Ways Out”, NITIM International Graduate Summer School, Trondheim, Norway, 2016

Pi, L., Katzy, B., Chapter “Not Invented Here Syndrome”, European Handbook on Networks in Innovation and Crisis Management: Theory and Practice in a Dynamic and Disruptive Environment (NITIMesr D.1.3).2016

Zou, L., Fu, H., Pi, L., Zhang, L., “The Management Transformation of Creative City Construction Abroad and Its Enlightenment to China”, China Soft Science, 2013 (10), P96-100

Pi, L., “The Impacts of Personality Traits and Background Factors on Entrepreneurial Intention”, International Conference on Entrepreneurship Research in the Globalization Context: Theoretical and Empirical Advances, 2013, Tianjin, China



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47. Christina Weber (UL) *Real-time foresight - Preparedness for dynamic innovation networks*
48. Tanja Buttler (TUD) *Collecting Lessons Learned*
49. Gleb Polevoy (TUD) *Participation and Interaction in Projects. A Game-Theoretic Analysis*
50. Yan Wang (UvT) *The Bridge of Dreams: Towards a Method for Operational Performance Alignment in IT-enabled Service Supply Chains*

## 2017

1. Jan-Jaap Oerlemans (UL) *Investigating Cybercrime*
2. Sjoerd Timmer (UU) *Designing and Understanding Forensic Bayesian Networks using Argumentation*
3. Daniël Harold Telgen (UU) *Grid Manufacturing; A Cyber-Physical Approach with Autonomous Products and Reconfigurable Manufacturing Machines*
4. Mrunal Gawade (CWI) *MULTI-CORE PARALLELISM IN A COLUMN-STORE*
5. Mahdiah Shadi (UvA) *Collaboration Behavior*
6. Damir Vandic (EUR) *Intelligent Information Systems for Web Product Search*
7. Roel Bertens (UU) *Insight in Information: from Abstract to Anomaly*
8. Rob Konijn (VU) *Detecting Interesting Differences: Data Mining in Health Insurance Data using Outlier Detection and Subgroup Discovery*
9. Dong Nguyen (UT) *Text as Social and Cultural Data: A Computational Perspective on Variation in Text*
10. Robby van Delden (UT) (Steering) *Interactive Play Behavior*
11. Florian Kunneman (RUN) *Modelling patterns of time and emotion in Twitter #anticipointment*
12. Sander Leemans (TU/e) *Robust Process Mining with Guarantees*
13. Gijs Huisman (UT) *Social Touch Technology - Extending the reach of social touch through*

*haptic technology*

14. Shoshannah Tekofsky (UvT) *You Are Who You Play You Are: Modelling Player Traits from Video Game Behavior*
15. Peter Berck, Radboud University (RUN) *Memory-Based Text Correction*
16. Aleksandr Chuklin (UvA) *Understanding and Modeling Users of Modern Search Engines*
17. Daniel Dimov (UL) *Crowdsourced Online Dispute Resolution*
18. Ridho Reinanda (UvA) *Entity Associations for Search*
19. Jeroen Vuurens (TUD) *Proximity of Terms, Texts and Semantic Vectors in Information Retrieval*
20. Mohammadbashir Sedighi (TUD) *Fostering Engagement in Knowledge Sharing: The Role of Perceived Benefits, Costs and Visibility*
21. Jeroen Linssen (UT) *Meta Matters in Interactive Storytelling and Serious Gaming (A Play on Worlds)*
22. Sara Magliacane (VU) *Logics for causal inference under uncertainty*
23. David Graus (UvA) *Entities of Interest--- Discovery in Digital Traces*
24. Chang Wang (TUD) *Use of Affordances for Efficient Robot Learning*
25. Veruska Zamborlini (VU) *Knowledge Representation for Clinical Guidelines, with applications to Multimorbidity Analysis and Literature Search*
26. Merel Jung (UT) *Socially intelligent robots that understand and respond to human touch*
27. Michiel Joosse (UT) *Investigating Positioning and Gaze Behaviors of Social Robots: People's Preferences, Perceptions and Behaviors*
28. John Klein (VU) *Architecture Practices for Complex Contexts*
29. Adel Alhuraibi (UvT) *From IT-Business Strategic Alignment to Performance: A Moderated Mediation Model of Social Innovation, and Enterprise Governance of IT*
30. Wilma Latuny (UvT) *The Power of Facial Expressions*
31. Ben Ruijl (UL) *Advances in computational methods for QFT calculations*
32. Thaer Samar (RUN) *Access to and Retrievability of Content in Web Archives*
33. Brigit van Loggem (OU) *Towards a Design Rationale for Software Documentation: A Model of Computer-Mediated Activity*
34. Maren Scheffel (OU) *The Evaluation Framework for Learning Analytics*
35. Martine de Vos (VU) *Interpreting natural science spreadsheets*
36. Yuanhao Guo (UL) *Shape Analysis for Phenotype Characterisation from High-throughput Imaging*
37. Alejandro Montes Garcia (TU/e) *WiBAF: A Within Browser Adaptation Framework that Enables Control over Privacy*
38. Alex Kayal (TUD) *Normative Social Applications*
39. Sara Ahmadi (RUN) *Exploiting properties of the human auditory system and compressive sensing methods to increase noise robustness in ASR*
40. Altaf Hussain Abro (VU) *Steer your Mind: Computational Exploration of Human Control in Relation to Emotions, Desires and Social Support For applications in human-aware support systems"*
41. Adnan Manzoor (VU) *Minding a Healthy Lifestyle: An Exploration of Mental Processes and a Smart Environment to Provide Support for a Healthy Lifestyle*
42. Elena Sokolova (RUN) *Causal discovery from mixed and missing data with applications on*



*ADHD datasets*

43. Maaïke de Boer (RUN) *Semantic Mapping in Video Retrieval*
44. Garm Lucassen (UU) *Understanding User Stories - Computational Linguistics in Agile Requirements Engineering*
45. Bas Testerink (UU) *Decentralized Runtime Norm Enforcement*
46. Jan Schneider (OU) *Sensor-based Learning Support*
47. Yie Yang (TUD) *Crowd Knowledge Creation Acceleration*
48. Angel Suarez (OU) *Collaborative inquiry-based learning*

**2018**

1. Han van der Aa (VU) *Comparing and Aligning Process Representations*
2. Felix Mannhardt (TU/e) *Multi-perspective Process Mining*
3. Steven Bosems (UT) *Causal Models For Well-Being: Knowledge Modeling, Model-Driven Development of Context-Aware Applications, and Behavior Prediction*
4. Jordan Janeiro (TUD) *Flexible Coordination Support for Diagnosis Teams in Data-Centric Engineering Tasks*
5. Hugo Huurdeman (UvA) *Supporting the Complex Dynamics of the Information Seeking Process*
6. Dan Ionita (UT) *Model-Driven Information Security Risk Assessment of Socio-Technical Systems*
7. Jieting Luo (UU) *A formal account of opportunism in multi-agent systems*
8. Rick Smetsers (RUN) *Advances in Model Learning for Software Systems*
9. Xu Xie (TUD) *Data Assimilation in Discrete Event Simulations*
10. Julienka Mollee (VU) *Moving forward: supporting physical activity behavior change through intelligent technology*
11. Mahdi Sargolzaei (UvA) *Enabling Framework for Service-oriented Collaborative Networks*
12. Xixi Lu (TU/e) *Using behavioral context in process mining*
13. Seyed Amin Tabatabaei (VU) *Using behavioral context in process mining: Exploring the added value of computational models for increasing the use of renewable energy in the residential sector*
14. Bart Joosten (UvT) *Detecting Social Signals with Spatiotemporal Gabor Filters*
15. Naser Davarzani (UM) *Biomarker discovery in heart failure*
16. Jaebok Kim (UT) *Automatic recognition of engagement and emotion in a group of children*
17. Jianpeng Zhang (TU/e) *On Graph Sample Clustering*
18. Henriette Nakad (UL) *De Notaris en Private Rechtspraak*
19. Minh Duc Pham (VU) *Emergent relational schemas for RDF*
20. Manxia Liu (RUN) *Time and Bayesian Networks*
21. Aad Slootmaker (OU) *EMERGO: a generic platform for authoring and playing scenario-based serious games*
22. Eric Fernandes de Mello Araújo (VU) *Contagious: Modeling the Spread of Behaviours, Perceptions and Emotions in Social Networks*
23. Kim Schouten (EUR) *Semantics-driven Aspect-Based Sentiment Analysis*
24. Jered Vroon (UT) *Responsive Social Positioning Behaviour for Semi-Autonomous Telepresence Robots*
25. Riste Gligorov (VU) *Serious Games in Audio-Visual Collections*
26. Roelof de Vries (UT) *Theory-Based And Tailor-Made: Motivational Messages for Behavior*

*Change Technology*

27. Maikel Leemans (TU/e) *Hierarchical Process Mining for Scalable Software Analysis*
28. Christian Willemse (UT) *Social Touch Technologies: How they feel and how they make you feel*
29. Yu Gu (UvT) *Emotion Recognition from Mandarin Speech*
30. Wouter Beek (VU) *The “K” in “semantic web” stands for “knowledge”: scaling semantics to the web*

**2019**

1. Rob van Eijk (UL) *Web privacy measurement in real-time bidding systems. A graph-based approach to RTB system classification*
2. Emmanuelle Beauxis- Aussalet (CWI, UU) *Statistics and Visualizations for Assessing Class Size Uncertainty*
3. Eduardo Gonzalez Lopez de Murillas (TU/e) *Process Mining on Databases: Extracting Event Data from Real Life Data Sources*
4. Ridho Rahmadi (RUN) *Finding stable causal structures from clinical data*
5. Sebastiaan van Zelst (TU/e) *Process Mining with Streaming Data*
6. Chris Dijkshoorn (VU) *Nichesourcing for Improving Access to Linked Cultural Heritage Datasets*
7. Soude Fazeli (TUD) *Recommender Systems in Social Learning Platforms*
8. Frits de Nijs (TUD) *Resource-constrained Multi-agent Markov Decision Processes*
9. Fahimeh Alizadeh Moghaddam (UvA) *Self-adaptation for energy efficiency in software systems*
10. Qing Chuan Ye (EUR) *Multi-objective Optimization Methods for Allocation and Prediction*
11. Yue Zhao (TUD) *Learning Analytics Technology to Understand Learner Behavioral Engagement in MOOCs*
12. Jacqueline Heijerman (VU) *Better Together*
13. Guanliang Chen (TUD) *MOOC Analytics: Learner Modeling and Content Generation*
14. Daniel Davis (TUD) *Large-Scale Learning Analytics: Modeling Learner Behavior & Improving Learning Outcomes in Massive Open Online Courses*
15. Erwin Walraven (TUD) *Planning under Uncertainty in Constrained and Partially Observable Environments*
16. Guangming Li (TU/e) *Process Mining based on Object-Centric Behavioral Constraint (OCBC) Models*
17. Ali Hurriyetoglu (RUN) *Extracting actionable information from microtexts*
18. Gerard Wagenaar (UU) *Artefacts in Agile Team Communication*
19. Vincent Koeman (TUD) *Tools for Developing Cognitive Agents*
20. Chide Groenouwe (UU) *Fostering technically augmented human collective intelligence*
21. Cong Liu (TU/e) *Software Data Analytics: Architectural Model Discovery and Design Pattern Detection*
22. Martin van den Berg (VU) *Improving IT Decisions with Enterprise Architecture*
23. Qin Liu (TUD) *Intelligent Control Systems: Learning, Interpreting, Verification*
24. Anca Dumitrache (VU) *Truth in Disagreement- Crowdsourcing Labeled Data for Natural Language Processing*
25. Emiel van Miltenburg (UvT) *Pragmatic factors in (automatic) image description*
26. Prince Singh (UT) *An Integration Platform for Synchromodal Transport*
27. Alessandra Antonaci (OU) *The Gamification Design Process applied to (Massive) Open Online*

*Courses*

28. Esther Kuindersma (UL) *Cleared for take-off: Game-based learning to prepare airline pilots for critical situations*
29. Daniel Formolo (VU) *Using virtual agents for simulation and training of social skills in safety-critical circumstances*
30. Vahid Yazdanpanah (UT) *Multiagent Industrial Symbiosis Systems*
31. Milan Jelisavcic (VU) *Alive and Kicking: Baby Steps in Robotics*
32. Chiara Sironi (UM) *Monte-Carlo Tree Search for Artificial General Intelligence in Games*
33. Anil Yaman (TU/e) *Evolution of Biologically Inspired Learning in Artificial Neural Networks*
34. Negar Ahmadi (TU/e) *EEG Microstate and Functional Brain Network Features for Classification of Epilepsy and PNES*
35. Lisa Facey-Shaw (OU) *Gamification with digital badges in learning programming*
36. Kevin Ackermans (OU) *Designing Video-Enhanced Rubrics to Master Complex Skills*
37. Jian Fang (TUD) *Database Acceleration on FPGAs*
38. Akos Kadar (OU) *Learning visually grounded and multilingual representations*

**2020**

1. Armon Toubman (UL) *Calculated Moves: Generating Air Combat Behaviour*
2. Marcos de Paula Bueno (UL) *Unraveling Temporal Processes using Probabilistic Graphical Models*
3. Mostafa Deghani (UvA) *Learning with Imperfect Supervision for Language Understanding*
4. Maarten van Gompel (RUN) *Context as Linguistic Bridges*
5. Yulong Pei (TU/e) *On local and global structure mining*
6. Preethu Rose Anish (UT) *Stimulation Architectural Thinking during Requirements Elicitation - An Approach and Tool Support*
7. Wim van der Vegt (OU) *Towards a software architecture for reusable game components*
8. Ali Mirsoleimani (UL) *Structured Parallel Programming for Monte Carlo Tree Search*
9. Myriam Traub (UU) *Measuring Tool Bias & Improving Data Quality for Digital Humanities Research*
10. Alifah Syamsiyah (TU/e) *In-database Preprocessing for Process Mining*
11. Sepideh Mesbah (TUD) *Semantic-Enhanced Training Data Augmentation Methods for Long-Tail Entity Recognition Models*
12. Ward van Breda (VU) *Predictive Modeling in E-Mental Health: Exploring Applicability in Personalised Depression Treatment*
13. Marco Virgolin (CWI) *Design and Application of Gene-pool Optimal Mixing Evolutionary Algorithms for Genetic Programming*
14. Mark Raasveldt (CWI/UL) *Integrating Analytics with Relational Databases*
15. Konstantinos Georgiadis (OU) *Smart CAT: Machine Learning for Configurable Assessments in Serious Games*
16. Ilona Wilmont (RUN) *Cognitive Aspects of Conceptual Modelling*
17. Daniele Di Mitri (OU) *The Multimodal Tutor: Adaptive Feedback from Multimodal Experiences*
18. Georgios Methenitis (TUD) *Agent Interactions & Mechanisms in Markets with Uncertainties: Electricity Markets in Renewable Energy Systems*
19. Guido van Capelleveen (UT) *Industrial Symbiosis Recommender Systems*

20. Albert Hankel (VU) *Embedding Green ICT Maturity in Organisations*
21. Karine da Silva Miras de Araujo (VU) *Where is the robot?: Life as it could be*
22. Maryam Masoud Khamis (RUN) *Understanding complex systems implementation through a modeling approach: the case of e-government in Zanzibar*
23. Rianne Conijn (UT) *The Keys to Writing: A writing analytics approach to studying writing processes using keystroke logging*
24. Lenin da Nobrega Medeiros (VU/RUN) *How are you feeling, human? Towards emotionally supportive chatbots*
25. Xin Du (TU/e) *The Uncertainty in Exceptional Model Mining*
26. Krzysztof Leszek Sadowski (UU) *GAMBIT: Genetic Algorithm for Model-Based mixed-Integer optimization*
27. Ekaterina Muravyeva (TUD) *Personal data and informed consent in an educational context*
28. Bibeg Limbu (TUD) *Multimodal interaction for deliberate practice: Training complex skills with augmented reality*
29. Ioan Gabriel Bucur (RUN) *Being Bayesian about Causal Inference*
30. Bob Zadok Blok (UL) *Creatief, Creatieve, Creatiefst*
31. Gongjin Lan (VU) *Learning better -- From Baby to Better*
32. Jason Rhuggenaath (TU/e) *Revenue management in online markets: pricing and online advertising*
33. Rick Gilsing (TU/e) *Supporting service-dominant business model evaluation in the context of business model innovation*
34. Anna Bon (MU) *Intervention or Collaboration? Redesigning Information and Communication Technologies for Development*
35. Siamak Farshidi (UU) *Multi-Criteria Decision-Making in Software Production*

## 2021

1. Francisco Xavier Dos Santos Fonseca (TUD) *Location-based Games for Social Interaction in Public Space*
2. Rijk Mercuur (TUD) *Simulating Human Routines: Integrating Social Practice Theory in Agent-Based Models*
3. Seyyed Hadi Hashemi (UvA) *Modeling Users Interacting with Smart Devices*
4. Ioana Jivet (OU) *The Dashboard That Loved Me: Designing adaptive learning analytics for self-regulated learning*
5. Davide Dell'Anna (UU) *Data-Driven Supervision of Autonomous Systems*
6. Daniel Davison (UT) *"Hey robot, what do you think?" How children learn with a social robot*
7. Armel Lefebvre (UU) *Research data management for open science*
8. Nardie Fanchamps (OU) *The Influence of Sense-Reason-Act Programming on Computational Thinking*
9. Cristina Zaga (UT) *The Design of Robothings. Non-Anthropomorphic and Non-Verbal Robots to Promote Children's Collaboration Through Play*
10. Quinten Meertens (UvA) *Misclassification Bias in Statistical Learning*
11. Anne van Rossum (UL) *Nonparametric Bayesian Methods in Robotic Vision*
12. Lei Pi (UL) *External Knowledge Absorption in Chinese SMEs*