

Inkyu Kim

Accounting and Information Systems
Eli Broad College of Business
Michigan State University
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EDUCATION

Michigan State University May 2022 (Expected)
Ph. D. in Information Technology Management

Yonsei University, Seoul, Korea June 2016
M.S. in Management Information Systems

Michigan State University December 2013
B.A. in Supply Chain Management (Honors)

RESEARCH INTERESTS

Healthcare Information Systems
Dynamic Network Analysis
Business Process Management
Routine Dynamics

Sharing Economy
Economics of Information Systems
Business Analytics
Text Mining

DISSERTATION

Title: Studies on Complex Task Networks based on Contextual Specifics in Electronic Medical Records
Chair: Dr. Brian T. Pentland

Abstract: As organizational processes have become more interconnected and interdependent, contextual factors have become central to both information systems and process management. Context can affect how we describe and model business processes. Depending on how much context you consider in the process description, the process can look very different. As business process models get more complex with more stakeholders and technologies involved, the notion of context-awareness business process gets more important. In spite of the importance of context, there are few studies that investigate the influence of contextual factors on the structure of business processes. In this dissertation, I examine the role of contextual specifics in the structure of the clinical documentation process. In the first essay, I address the influence of internal contextual factors on enacted complexity. In the second essay, I turn my attention to the effects of exogenous shocks: When routines are disrupted, are some patterns of action more likely to be affected than others? In essay three, I suggest a path prediction model in a process based on action sequence and its contextual specifics. Together, these essays represent a rigorous framework for analyzing the role of context in organizational processes and routines.

PUBLICATIONS

1. Kim, I., Frank, K., Wolf, J.R., & Pentland, B.T. "Predicting Process Structure after a Disruption: An Example from the Clinical Documentation Process" *Business Process Management Forum 2021*, Rome, Italy.
2. Wolf, J. R., Kim, I., Xie, Y., Pentland, A. P., & Pentland, B. T. (2021). Suitability of Clinical Workflows for automation. *Journal of Investigative Dermatology*, 141(5), S66.
3. Pentland, B.T., Wolf, J. R., Xie, Y., Kim, I., Frank, K. and Pentland, A. P. (2021) Processual Shadows: What Can We See with Digital Trace Data? in *Organizing in the Digital Age: Understanding the*

Dynamics of Work, Innovation, and Collective Action (Barrett, M., Vaast, E., Langley, A. and Tsoukas, H. Eds.). Oxford University Press.

4. Pentland, B. T. and Kim, I. (2021) Narrative Networks in Routine Dynamics. In Feldman, M. S., Pentland, B. T., D'Adderio, L., Dittrich, D., Rerup, C. and Seidl, D. (Eds), *Cambridge Handbook of Routine Dynamics*, Cambridge University Press.
5. Wolf, J. R., Xie, Y., Kim, I., Pentland, A. P., & Pentland, B. T. (2020). Visit Complexity Reflects Billed Level of Service and Documentation Burden, *Journal of Investigative Dermatology*, 140(7), S63.
6. Wolf, J. R., Xie, Y., Kim, I., Pentland, A. P., Frank, K., & Pentland, B. T. (2019). Team Documentation Influences Clinic Complexity and Patient Satisfaction. *Journal of Investigative Dermatology*, 139(5), S106.
7. Kim, I., Pentland, B. T., Ryan, J. L., Xie, Y., Frank, K., & Pentland, A. P. (2019) Effect of Attribute Alignment on Action Sequence Variability: Evidence from Electronic Medical Records, In *Business Process Management Forum 2019*, Vienna, Austria. Springer, pp. 183-194.

CONFERENCE PAPERS/PRESENTATIONS

1. Kim, I., Pentland, B.T., Wolf, J.R. "Enacted Complexity in the Clinical Documentation Process", *INFORMS 2020 Annual Meeting*, Online
2. Kim, I., Guo, C., & Susarla, A. "The Impact of Crime on the Sharing Economy: A Spatial Analysis" *INFORMS 2019 Annual Meeting*, Seattle, WA.
3. Pentland, B.T., Wolf, J.R., Xie, Y., Kim, I., Frank, K., & Pentland, A.P. "Visualizing Clinical Routines: What Can We See with Digital Trace Data" *PROS 2019*, Crete, Greece
4. Kim, I., Guo, C., & Susarla, A. "Natural Language Processing on Online Community Forums to Predict New Product Development Efforts: A Research Framework", *DSI 2018 Annual Meeting*, Chicago, IL
5. Pentland, B., Recker, J., & Kim, I. "Capturing Reality in Flight? Empirical Tools for Strong Process Theory", *38th International Conference on Information Systems (ICIS) 2017*, Seoul, Korea

WORKING PAPERS

1. "From Lock-in to Transformation: A Path-Centric Theory of Emerging Technology and Organizing" with Pentland, B.T., Recker, J., & Yoo., Y., 3rd round revision at *Organization Science*
2. "A Simple Measure for Enacted Task Complexity in Multi-Actor Organizational Processes" – with Pentland, B.T., Wolf, J., Target journal: *Organizational Research Methods*
3. "Synchronization and Duration in Organizational Process" – with Pentland, B.T., Zhang, Q., Target journal: *Management Science*
4. "The Impact of Supply and Quality of Sharing Economy on Crime in Urban Areas: Using Spatial Analysis" with Guo, C. and Susarla, A., Target Journal: *Information Systems Research*
5. "A Natural Language Processing Framework to Predict New Product Ideation from Online Community Forums" with Guo, C. and Susarla, A., Data Analysis in Progress

TEACHING INTERESTS

Business Intelligence & Analytics
Data/Text Mining
Data Visualization
Database Management

Social Media Analytics
Business Process Modeling
Sequence Analysis
Management Information Systems

TEACHING EXPERIENCE

Instructor, Michigan State University

Overall Rating: **4.0** (Summer 2020), **4.1** (Summer 2019), and **4.1** (Summer 2018) out of 5.0

Introduction to Business Information Systems (Undergraduate Core)

Summer 2020 (Online)

Introduction to Business Information Systems (Undergraduate Core) Summer 2018, 2019

Teaching Assistant, Michigan State University

Spring 2017 – Spring 2018

Introduction to Business Information Systems (Undergraduate Core)

Recitation Lecturer

Overall Rating: **4.2** (Spring 2018), **4.3** (Fall 2017), and **4.3** (Spring 2017) out of 5.0

- Business Process Modeling (Arena Simulation Software)
- Data Visualization (Microsoft Tableau)
- Database Management (Microsoft Access)

Introduction to Business Analytics (Undergraduate Level)

Spring 2019

Lab Assistant

- Data Visualization (Microsoft Tableau)
- Data Analytics (R)
- Database Management (SQL)
- Social Network Analysis (Gephi)
- Web Crawling and Text Mining (Python)

Data Management and Visualization (graduate Level)

Spring 2019

Lab Assistant

- Data Visualization (Microsoft Tableau)
- Data Analytics (R)
- Database Management (SQL)
- Social Network Analysis (Gephi)
- Web Crawling and Text Mining (Python)

Teaching Assistant Coordinator, Michigan State University

Introduction to Business Information Systems (Undergraduate Core)

Fall 2017 – Fall 2018

- Developed Recitation Materials
- Managed 8 TAs workload (20 sections with over 1,000 students)

Course Assistant, Yonsei University

Big Data Business Model (MBA Core Course)

Fall 2015 – Spring 2016

- Developed and Graded Assignments

WORK EXPERIENCE

Graduate Assistant, Michigan State University

Fall 2016–Present

Graduate Assistant, Yonsei University

August 2014 – June 2016

HONORS AND AWARDS

Ph.D. Student Excellence in Research, Department of Accounting and Information Systems, Michigan State University, 2020

Ph.D. Student Excellence in Teaching, Department of Accounting and Information Systems, Michigan State University, 2018

Doctoral Fellowship, Department of Accounting and Information Systems, Michigan State University, 2016 – Present

SERVICE

Reviewer Processor, *International Conference on Information Systems (ICIS)* 2017, 2019, 2021
Pacific Asia Conference on Information Systems (PACIS) 2020, 2021
European Conference on Information Systems (ECIS) 2017

SKILLS

Programming Languages: R, Python
Database Management: MySQL, Microsoft Access
Data Analysis & Visualization Tools: R, MATLAB, Stata, SmartPLS, SPSS, Tableau, Arena Simulation
Documentation Tools: R Markdown, LaTeX

GRADUATE COURSES

Information Systems Core Coursework

Ph.D. Seminar in Information Systems	Dr. Brian Pentland
Ph.D. Seminar in Economic-Based Research	Dr. Ranjani Krishnan
Ph.D. Seminar in Empirical Methods for Information Systems	Dr. Chenhui Guo
Ph.D. Seminar in Network Analysis	Dr. Anjana Susarla

Methodology Coursework

Data Mining	Dr. Fatme El-Moukaddem
Computational Techniques for Large-Scale Data Analysis	Dr. Arend Hintze
Pattern Recognition and Analysis	Dr. Arun Ross
Organizational Research Methods	Dr. John Hollenbeck
Simulation Methods	Dr. Stanley Griffis
Mathematical Applications in Economics	Dr. John Hoehn
Microeconomic Analysis	Dr. John Hoehn
Quantitative Methods	Dr. Leah Lakdawala
Probability and Statistics for Econometrics	Dr. Jeffrey Wooldridge
Introduction to Econometrics	Dr. Peter Schmidt
Cross Section Econometrics	Dr. Jeffrey Wooldridge

CONFERENCES ATTENDANCES

2021 AoM Annual Meeting 2021, Online
2020 INFORMS Annual Meeting 2020, Online
2019 INFORMS Annual Meeting 2019, Seattle, WA
CIST 2019, Seattle, WA
2018 Decision Science Institute 2018, Chicago, IL
2017 ICIS 2017, Seoul, Korea

REFERENCES

Dr. Brian T. Pentland

The Main Street Capital Intellectual Capital Endowed Professor of Information Systems
Eli Broad College of Business, Michigan State University
Email: pentland@broad.msu.edu
<https://broad.msu.edu/facultystaff/pentland/>

Dr. Anjana Susarla

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Dr. Quan Zhang

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