



REPORT

# RESEARCH STRATEGY DEPARTMENT OF INFORMATION SCIENCE

ADVANCING INFORMATION SCIENCE

2020-2025

## **Advancing Information Science**

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# Advancing Information Science

## 1 Overview

Information Science is a research domain which unites computer science (the enabling IT technology) and management science (users seeking effective and efficient application of IT technology). In a sense, the information Science (=IS) discipline is a response to the inability on, both practical as well as on a scientific level, to realize the envisioned success of IT applications in a straightforward way. The inherent complexities of combining technological excellence with organization design and governance is seen as a key problem area in the research efforts in our IS department. In addition, the many different application contexts in which IT technology can be studied are sheer endless. The Information Science Group has defined its mission as *"to foster the co-evolution of the application of Information Systems in its environment to the greater benefit of the value creation of organizations, networks and society in general."* One way to cope with the diversity of the research domain, is to have a concise focus. Figure 1 visualizes the information systems centric focus of the IS research group.

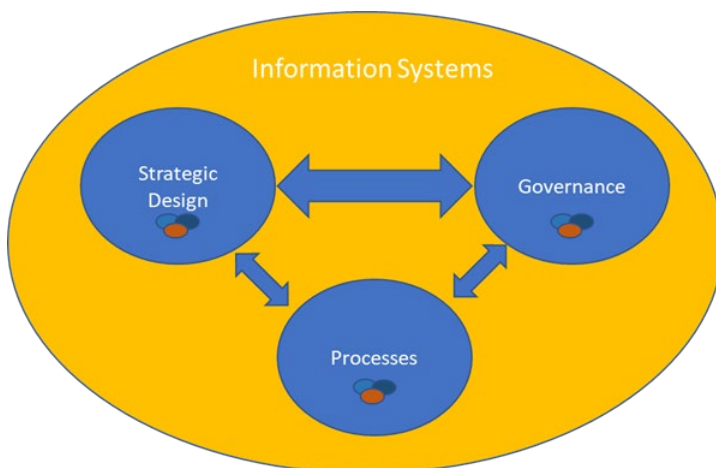


FIGURE 1 IS research triangle

As can be gleaned from Figure 1, the department has three research line. We will describe these in turn:

### **Strategic design research**

Understanding the setting or context in which IT is used is a key component for success. Architectural decisions, sourcing, security and access control systems are just some of the aspects demanding scrutinous research and are frequently addressed by the IS research team.

### **Governance research**

On top of the more static aspects mentioned above, dynamic control structures are being studied as well. Strategic design objects may be the cornerstone for creating and using effective and efficient IT, but only in combination with its controlled use, true successes can be achieved. Key focus in this research cluster lays on *when, how and who need what IT systems* in addition to in *what way* they can be utilized to achieve improved business processes as the ultimate goal in organizations and organizational networks.

### Processes research

To embark onto improvement and innovation initiatives, the IS research group makes use of the business process perspective. In general, all design and governance study success will eventually materialize in improved processes, i.e. culminates into better process performance/quality.

Understanding and modelling processes, its stakeholders and their ethics, the supporting systems and the context in which they are embedded is addressed in depth by the IS research team.

It is clear that all three research clusters are highly interdependent, and therefore it makes sense to study them in harmony to avoid isolated views and risk sub-optimization. We foster an integrated approach where possible. New architectural measures may never achieve their full potential without support of specifically adapted business processes and governance and vice versa. In a sense, IS's research can be typified as multi-domain oriented. IS research can be characterized by three basic viewpoints:

- 1 The model view; research issues are stripped from non-focal aspects and structured to suit analysis. Choosing the right model-approach helps with the analysis and communication with peers and actual problem owners.
- 2 Use of actual data; The IS research embraces actual data as a source of studying research questions in contrast with using simulated data. Case studies, questionnaires and design methodologies are used regularly in cooperation with actual organizations.
- 3 A pragmatic approach towards analysis. Various techniques, both qualitative as well as quantitative (and hybrids of both) are used for analysis and knowledge development.

Grouped under the main three program lines, explained in the overview section, our research themes and interests will be presented in the next sections.

## 2 Strategic design

Global technology trends like big data, the Internet of Things, and the rise of artificial intelligence are making firms' ability to change and adapt its organizations' structure, architecture, and people as crucial as its competitive strategy. In this day and age, firms, therefore, need to embrace the digital transformation journey to become a top performer in the digital economy. Hence, they can leverage new IT resources and innovations, (data and IT-driven) organizational capabilities, business models, and value networks and to facilitate new, better and more effective ways of working, enhanced service delivery to customers (and patients) and reduce cost. The strategic design program line encompasses four broad interrelated theme's that focus on IT business value using organizational capabilities, innovation and enterprise architecture. These are:

### IT innovation and digital transformation

A key driver of digital transformation and organizational growth in the 21st century is data driven innovation whereby data analytics unlocks the multiple facets of 'big data' in different types and forms of organizations. Ongoing digitalization in combination with the emergence of digital technologies such as AI, big data, Cloud Computing, the Internet of Things and VR/AR, enable the creation of innovative products, services, business models, networks and processes. The outcome of ongoing digitalization and the emergence of new business models impact many operational aspects of organizations. One of these is new forms of work (FoW) that includes innovative forms of employment and job design that significantly transform the employer – employee relationship, work organization, and work patterns. In addition, new work organization and work patterns incorporate new locations of work and extensive use of ICT to support and enable new forms of work. These elements have the potential to significantly challenge and change the labor market through increased job and workflow automation while also creating new forms of management and leadership. Finally, the enabling and supportive role of adopting and using ICT artefacts are instrumental in creating innovative solutions that change human engagement and decision-making in a variety of specialized and industry-specific entities such as healthcare, supply chains, global ecosystems, scientific research, marginalized and specialized communities. Current topics:



- 1 Data-driven innovation
- 2 Work and organizing in the digital age
- 3 Business models
- 4 socio-technical innovation.

### **Business/IT alignment and IT Business value**

This line of research covers several aspects of the challenging problem to continuously align IT solutions with strategies, goals and needs of organizations, cross-organizational value networks and society, and in doing so, to create value for – and in collaboration with – stakeholders. In this effort, specific attention goes to complex contexts where this challenge especially continues to be crucial, such as healthcare IT, public block chain systems and cross-organizational value networks. Furthermore, this research stream works on co-evolutionary information systems alignment perspectives to better address internal and external complexity in creating IT business value. Current topics:

- 1 Co-evolutionary Information Systems Alignment
- 2 Added value of public block chain systems and the conditions under which this added value can be achieved
- 3 Cross-organizational value networks.

### **Enterprise architecture management**

Modern firms should align and integrate their information systems (IS), with business processes to efficaciously respond to changing environmental and market conditions. Many scholars regard Enterprise Architecture (EA) to be a blueprint of the organization that describes both the current and desirable future states of firms' IS and business processes and provides a roadmap to achieve this. We are particularly interested in the management practice of EA, value creation in a business-ecosystem context, and the development of EA artifacts for digital transformations and organizational value creation. Current topics:

- 1 EA artefacts for digital transformation
- 2 EAM for business value.

### **Organizational- and dynamic capabilities**

A question of central importance for researchers and practitioners is how IT can help modern firms survive and thrive in the turbulent economic environment. The Dynamic Capabilities View (DCV) has emerged as an influential theoretical and management framework in modern IS research. We use this framework to investigate how firms can measure their proficiency in exploiting IS/IT assets, competences, and capabilities. Moreover, we try to unfold those IT-based ordinary/operational ('to make a living in the present') and dynamic capabilities (focus on long-term business success) that drive private and public organization's organizational benefits and IT-business value.

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### 3 Governance

Governance concerns the design of an organization to enable decision making related to the management and execution of its business processes and monitors compliance with law and regulations. Typically, governance focuses on governing a particular asset, being it financial assets, data assets, human assets or IT assets. In this program line, we narrow the view of the asset being governed to that of IT systems. Hence, governance focuses on the design of the organization so that it can successfully use its IT systems in compliance with laws and regulations. Failure by the organization to do so would result in significant risks and wasting their investments in IT systems, and will ultimately threaten their competitiveness. Research in this program line centers around for major topics: governance models, software management, IT sourcing partnerships and behavioral IT governance.

#### Governance models

In the context of digitalization (or digital transformation) of organizations, the topic of governance is of growing importance. Governance ensures that the organization's digital assets (e.g. physical IT artifacts, new or established digital technologies, data or information, IT-enabled business processes etc.) are appropriately directed and controlled. Organizations have clear incentives to strive for effective governance of their digital assets, as this enables business value creation as well as business value protection (i.e. counteracting business value destruction). Governing digital assets is broadly concerned with areas such as: strategic business/IT alignment, risk management, resource management, value delivery, and performance measurement.

Current topics:

- Data governance
- Analytics governance
- IT governance
- Maturity models
- Board-level IT Governance
- Evolutionary dynamics of IT governance
- AI governance.

#### Software management

Research within the theme software management is aimed at the supporting the complex field of software strategy, development, implementation, and maintenance. IT- portfolio management and project management are important aspects within this field. The aim is to develop and validate frameworks and approaches to support systematically analysis of business situations and proposing, planning, and managing rigorous software development strategies and efforts to fulfill (organizational) objectives.





Resilience of organizations for ERP implementations aims at design and validation of measuring instruments with which the resilience of an organization for ERP implementations can be assessed.

Current topics:

- Resilience of organizations for ERP implementations
- Agile processes
- Qualitative performance management.

### **IT sourcing partnerships**

Organizations increasingly depend on strategic partnerships for various reasons. Strategic thinking surpasses classic client-supplier thinking and requires a focus on joint knowledge development, regular strategic goal and behavior alignment through systematic monitoring and relation management. This is in particular essential in the fast-paced IT sector. This theme aims on studying and improving strategic partnerships. In particular, developing and using qualitative performance criteria to govern strategic partnerships is of primary interest.

### **Behavioral IT governance**

This line of research aims to improve organizational decision making in IT governance. The focus of this research theme is on decision making under risk in the domain of IT, specifically on the effects of behavioral entrapments which can lead to irrational decisions. We investigate whether we can identify early indicators of behavioral entrapments in government IT projects. We study the dynamics of how behavioral entrapments could unfold in agile environments specifically. We find that many organizations struggle to implement effective monitoring and reporting of IT risks. In this part of our research, we examine biases that advance our understanding of how people perceive IT risks and how monitoring and reporting on IT risks could be enhanced. We also investigate how and to what extent risk perception and risk behavior are diffused across groups of individuals, and how the diffusion processes affect the group dynamics over time from a group perspective. This perspective can be applied to IT security and privacy behavior as well as to the development of new IT systems.

People are prone to decision biases and not always make rational decisions regarding IT risks. We explore and test the concepts of nudging (ease, attractive, social, timely) as a way to more successfully influence people's behavior on IT risks.

Current topics:

- Escalation of commitment in IT projects
- Changes in social risk behavior as a result of IT
- Nudging & gamification to improve IT risk behavior
- Privacy and security behavior in the digital age.

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## 4 Processes

Work is done in processes. So here the actual added value provided by IT is realized. This explains the focus we place in our research on the process aspect. IT, as a fast-changing basic production technology, is impacting business process on a continuous basis. At a strategic level this impact is looked at in the previous research lines. At a more operational design level, this issue is researched here. For this, two directions are explored. The first will take a model view and explores relevant modelling approaches. The second explores Business Process Management. This is a complex and diverse area. We decide to focus on the human perspective: developing human-centric business information technology, tools and techniques to support design, analysis, execution, and innovation of business processes, driven by challenges from practice.

### **Enterprise and process modelling**

The often-heard creed “Our business is IT and our IT is the business” captures precisely what we see happening in our field. Developments in Artificial Intelligence, Machine Learning, Semantic Technologies, Cloud Software Engineering (to name just a few) are taking away the focus from alignment, because the difference between business and IT is felt much less in our heavily digitalized society. To manage businesses from an information perspective, we have a research line “Processes” in which we apply modeling techniques to create value in today’s enterprises by applying IT inside business processes. Enterprise Modelling is oriented towards the systematic analysis and modelling of strategies, business models, processes, business policies and rules, information systems and any other relevant business perspective. Within this domain, process modelling can be situated on the operational layer of the organization, with the aim of analyzing and communicating about internal activities. Enterprise modelling efforts are particularly useful to analyze the current and desired future state of enterprises, which enables them to faster react on external changes and developments.

Current topics:

- Business models for value creation: how can business models be conceptualized to understand what a company needs for creating, delivering, and capturing value in its network of stakeholders.
- Creating value from architecture models: how can architecture models yield more added value to architects and the organizations they work for. An example is Policy Checking in ArchiMate, where we try to support the automatic verification of organization-specific constraints.
- Design patterns for co-evolution of business rules and their system-guided execution: This topic has been exploring business rule-based Semantic Web ontology design patterns for legal concepts and the efficient design of business system user interfaces for them. The current focus of this theme looking ahead is to develop more ontology design patterns that apply beyond law, and that form patterns applying constraints instead of only data models. We also continue exploring techniques for flexibly and efficiently deriving and designing interfaces supporting business data models and constraints on them.
- Models of knowledge management systems in enterprises, extensions of information systems with concepts for decision making.: how to model the vision of enterprises in projects concerning knowledge management systems.

### **Business Process Management**

Business Process Management (BPM) is the art and science of overseeing how work is performed in an organization to ensure consistent outcomes and to take advantage of improvement opportunities (Dumas et al, 2018). It studies business processes from a holistic point of view involving the people, organizations, applications, documents and other sources of information, to produce business outcomes in support of a business strategy (Gartner, 2020). Various methods, tools and techniques are used to elicit, discover, model, analyze, measure, improve and optimize business processes. The focus in this research theme puts special attention on human aspects of BPM.

**Current topics:**

- Process model quality: the influence of structure, aesthetics, etc. of a process model on the understandability and comprehension of this model by a model viewer
- The process of process modeling: understanding how do modelers create process models, which mistakes do they make, and how can they best be trained or supported to make better models
- Continuous process improvement: developing and evaluating process analysis and redesign methods to identify bottlenecks and improvement opportunities
- Task/resource allocation in BPM systems: advancing process automation with a focus on human capabilities, experience, and preferences to increase technology fit and adoption
- Application and evaluation of BPM technology, tools and techniques in various (new) domains (e.g. high-tech manufacturing, healthcare)
- Data analytics for BPM. This research theme relates to the application of a broad set of data analytics on business process management in order to create and evaluate new process analysis and improvement methods.

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- Dr. ir. Irene Vanderfeesten (irene.vanderfeesten@ou.nl).

**Selected publications**

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- Vanwersch, R.J., Shahzad, K., Vanderfeesten, I., Vanhaecht, K., Grefen, P., Pintelon, L., & Reijers, H.A. (2016). "A critical evaluation and framework of business process improvement methods". *Business & Information Systems Engineering*, 58(1), 43-53.

## 5 Special areas of interest

To demonstrate that our research is closely interrelated indeed, can perhaps be seen by research activities which have a close connection with social relevant institutions and interests, such as:

### Healthcare IT

Co-evolutionary information systems alignment perspectives on the continuous alignment of Electronic Medical Records (EMR) with strategies, goals and needs of hospitals and its stakeholders, both during the EMR implementation and after go-live. We also focus on the role of innovative IT (e.g., health information exchange, decision-support) solutions to drive the hospital's capabilities to sense and respond adequately to the patient's needs and wishes.

### Healthcare process improvement (Value Based Health care)

Development, refinement and evaluation of BPM methods, tools and techniques for the analysis and redesign of care pathways and clinical protocols (with a patient oriented focus), and healthcare business processes, leveraging e-health and healthcare information technology where possible.

### Big data & Analytics

The Business Rule Design Pattern topic has published and ongoing research about mining business data in general and event logs in particular to evaluate how well existing business rules are followed and executed, and to propose new business rules that improve systems further. An example of the research carried out in this field is the development of a so called Responsible Social simulation for European Law Enforcement Authorities, a collaboration with the Police Lab AI. Any application of so-called big data analytics in policing and security should be combined with an in-depth understanding of the idiosyncratic dynamics at play in a particular context. Where conventional agent-based simulation modelling (ABM) generates numbers and time series, we propose a methodology for ethnographic simulation where both the input as well as the output is qualitative (and therefore explainable) in nature. The integration of ethnography with ABM will move the simulation from agent to action orientation with a focus on actors' doings and knowings rather than their superficial traits and, hence, avoids stereotyping. Other areas of interest are emotion analytics in human communication, computer vision, the explainability and acceptance studies of machine learning in business contexts, multimedia annotation as a means high-quality data collection.

### Software development

The Business Rule Design Pattern topic applies design pattern techniques from software development research to the definition of business rules. It also proposed stylesheet-like mappings from business rules and their patterns to system interfaces to increase efficiency, reliability and resilience in software development of business systems.

### Government

The Business Rule Design Pattern topic has published and ongoing research applying to laws and efficient techniques for mapping them to end-system user interfaces and guide civil servants in following and supporting those laws.

### Ministry of Internal Affairs

Multi-year research cooperation with the Rijks-CIO office at the Dutch Ministry of Internal Affairs dedicated to build knowledge on behavioral decision making in IT projects and share such knowledge with other ministries on a yearly basis at the 'Rijks-CIO dag'. Research projects include the empirical examination of language cues in documents (business cases and reports) of large governmental IT projects in an attempt to identify decision biases in an early stage of the projects.

### Smart manufacturing

Application and extension of Business Process Management concepts and technology for smart factories to increase flexibility and efficiency in manufacturing processes. This involves for instance end-to-end process modeling, manufacturing process analysis and redesign, advanced task allocation, vertical integration between BPMS and IoT devices) resulting in a business process management system coordinating the work on the factory shop floor.

### Selected publications

- Benschop, N., Hilhorst, C., Nuijten, A., & Keil, M. (2020). "Detection of early warning signals for overruns in IS projects: Linguistic analysis of business case language". *European Journal of Information Systems*, 29(2), 190-202.
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- Vanwersch, R.J., Shahzad, K., Vanderfeesten, I., Vanhaecht, K., Grefen, P., Pintelon, L., & Reijers, H.A. (2016). "A critical evaluation and framework of business process improvement methods". *Business & Information Systems Engineering*, 58(1), 43-53.
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### 6 Research staff

The way in which the IS research group defines Information Science research necessitates a broad orientation in competences and open attitude to ease communication within the research group as well as with external peers. Amongst our staff, cross linking is very much encouraged, leading to "cross-fertilization" in ideas and consequently to original publications. For a complete list of all ISG staff members have a look at <link> Please have a look at the Pure database (<https://research.ou.nl/en/organisations/department-of-information-science>) for a full reference of up-to-date publications.

## 7 Relations and commitments

The IS research group actively participates in two central Open University research themes: Safety and the city (see: <https://www.ou.nl/de-veilige-stad>), and Learning and Innovation in Resilient Systems (see: <https://www.ou.nl/lirs>)

In addition, the IS research group is connected with CAROU (Center of Actionable Research of the Open University), which specifically aims at bridging the gap between science and practice, through education and joint research projects aiming for real solutions to real problems in Information Science and other related fields (see: <https://www.ou.nl/carou>)

Other relations/affiliations with scientific institutes:

- Katholiek Universiteit Leuven, Afdeling Industrieel Beleid/Verkeer & Infrastructuur, Belgium
- Utrecht University, Department of Information and Computing Sciences
- Utrecht University of Applied science, Digital Smart Services
- Universiteit Utrecht, department for Social and Economic History, Institutions for Collective Action
- RWTH Aachen University, School of Business and Economics, Technology Entrepreneurship (TEN)
- Maastricht University, School of Business and Economics, dep. Organisation, Strategy and Entrepreneurship (OSE)
- Maastricht University, Department of Accounting and Information Management
- The University of Melbourne, Computing and Information Systems, Melbourne School of Engineering
- National Research University Higher School of Economics, Moscow, Russia
- Norwegian University of Science and Technology, Department of Computer Science
- Radboud University, Social Cultural Research
- NIVEL, Netherlands Institute for Health Services Research
- Department of Informatics of the Ionian University, Corfu, Greece
- Erasmus University, Erasmus School of Accounting and Assurance
- Georgia State University, department of Computer Information Systems
- Ghent University, Faculty of Economics and Business Administration, UGentMIS Research Group
- Antwerp Management School, Research Group Digital Innovation
- University of Antwerp, Department of Management Information Systems
- Eindhoven University of Technology, department of Industrial Engineering and Innovation Sciences.



8 **People**

## FULL PROFESSORS

**prof. dr. Rob J. Kusters, Head of department Information Sciences, Program leader MSc Business Process Management and IT**

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Research themes: Strategic design research, Governance research, Process research

He obtained his master degree in econometrics at Tilburg University in 1982 and his Phd. in operations management at Eindhoven University of Technology in 1988. He is professor of 'ICT and Business Processes' at the Dutch Open University in Heerlen where he is responsible for the master of science program 'Business Process Management and IT' and chairs the information systems department. He published over 100 papers in international journals and conference proceedings and co-authored six books. Research takes mainly place within the theme software management which is aimed at the supporting the complex field of software strategy, development, implementation, and maintenance. IT-portfolio management and project management are important aspects within this field. The aim is to develop and validate frameworks and approaches to support systematically analysis of business situations and proposing, planning, and managing rigorous software development strategies and efforts to fulfill (organizational) objectives.

Key publications:

Guy Janssens, Linda van Moorst, Rob Kusters & Harry Martin (2020).

An expert-based taxonomy of ERP implementation activities, *Journal of Computer Information Systems*, 60:2, 175-183, DOI: 10.1080/08874417.2018.1429958

Rasouli, M.R., Kusters, R.J., Trienekens, J.J.M., & Grefen, P.W.P.J. (2019).

Service orientation in business networking: a demand-supply chain perspective. *Production Planning and Control*, 2019, 30:1, 2-19, DOI: 10.1080/09537287.2018.1519730

Bagheri, S., Kusters, R.J., Trienekens, J.J.M., & Grefen, P. (2019).

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Google Scholar: <https://scholar.google.nl/citations?user=46SV3k0AAAAJ&hl=nl&oi=sra>

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OU research portal: <https://research.ou.nl/en/persons/rob-kusters-2>



**prof. dr. ir. Stef Joosten**

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Research themes: design of information systems, Business & IT architecture.

Prof. S.M.M. (Stef) Joosten has a master's degree in Electronics Engineering (University of Twente, NL) and a PhD degree in Computer Science (University of Twente, NL). He is a part-time full professor at the Open University of the Netherlands since 1999. He has been a visiting associate professor at Georgia State University (1995-1996), entrepreneur (1996-2000), and has been working in the IT industry as a consultant and architect ever since.

To advance the correctness of software and reduce the complexity of IT projects, Stef has developed a system (Ampersand) that can generate information systems completely. As an architect, Stef has authored multiple IT-systems (e.g. RAP, Indigo, Ampersand, Archchecker, DTP, and others). He has taught workflow management, business rules, software engineering, semantic theory, design of information systems. His current research lies in the field of enterprise architecture, where Stef is analyzing architecture models to find inconsistencies wrt. Corporate policies.

**Key publications:**

Joosten, S. (2018). Relation Algebra as programming language using the Ampersand compiler. *Journal of Logical and Algebraic Methods in Programming*, 100, 113-129.

<https://doi.org/10.1016/j.jlamp.2018.04.002>

Joosten, S., Wedemeijer L., Michels G., & V.d. Woude J. (2010). *Rule Based Design*, Open Universiteit, Heerlen

Joosten, S., & Michels, G. (2013). Generating a Tool for Teaching Rule-based Design. DOI: 10.5220/0004775902300236 In: *Proceedings of the Third International Symposium on Business Modeling and Software Design (BMSD 2013)*, pages 230-236.

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**prof. dr. ir. Remko Helms**

Research themes: Organizational- and dynamic capabilities, governance

Prof.dr.ir. Remko Helms is a professor in Information Systems at Open University in the Information Science group and Vice-dean of Education of the Science faculty. He received his PhD from Eindhoven University of Technology in the area of Product Lifecycle Management and commenced to work in industry for several years in various consulting roles. In 2003, he started his academic career at Utrecht University as an assistant professor and moved to Open University in 2013. Since then, his teaching and research interests are mainly focused on how organizations manage knowledge and how they can discover knowledge from (big) data, also including topics such as data analytics processes, data governance and analytics governance. Part of his teaching and research is conducted for the Center of Actionable Research of the Open University (CAROU), which is specialized in data science, artificial intelligence and social innovation. During his career he has been a visiting researcher at the Information Systems group of different international renowned universities in Canada, Australia and New Zealand. His work appeared in different Information Systems and Knowledge Management conferences as well as journals. He is a member of Association for Information Systems (AIS), secretary of the AIS Region2 Board and an associate editor for the European Journal of Information Systems.

**Key publications:**

- Baijens, J., Helms, R. W., & Velstra, T. (2020). Towards a Framework for Data Analytics Governance Mechanisms. In: Proceedings of the 28th European Conference on Information Systems. A virtual AIS conference.
- Baijens, J. and R. W. Helms. (2019). Towards an overview of Knowledge discovery process methodology research: A systematic literature review. In: Proceedings of the 25th Americas Conference on Information Systems. Cancún, México: AIS Library.
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<p><b>prof. dr. Arno Nuijten, Professor of Information Science</b></p> <p>Research themes: Innovation, Resilience, Learning</p> <p>Dr. Arno L.P. Nuijten is extraordinary professor of Information Science at the Open University in the Netherlands, where he holds a chair on Behavioral IT Governance. He currently is also academic director of the Expert Center on Behavioral Risk at the Erasmus School of Accounting and Assurance, Erasmus University Rotterdam, where he was academic director of the IT-auditing &amp; Advisory programs earlier. His research interests are in the area of IT auditing, internal auditing and managerial decision making on IT risks in general and IT projects in particular. For over 25 years he has consulted with large companies throughout Europe on a variety of business problems. On an interim basis, he fulfilled various positions such as Chief Information Security Officer, Project Portfolio Director and IT program manager. Arno has a PhD in Information Science and Economics from Erasmus University. He holds his MSc in Information Science from Tilburg University and his BSc in Computer Science from Eindhoven University of Applied Sciences. He is member of the organizing committee of the annually European Academic Conference on Internal Audit and Corporate Governance. He is a visiting researcher and lecturer at the University of Pretoria and Georgia State University. He performs contract research for the Institute of Internal Auditing and for Dutch Ministry of Internal Affairs.</p> <p>Key publications:</p> <p>Benschop, N., Hilhorst, C., Nuijten, A., &amp; Keil, M. (2020). Detection of early warning signals for overruns in IT projects: Linguistic analysis of business case language. In <i>European Journal of Information Systems</i>, 29(2), p. 190-202.</p> <p>Nuijten, A., Keil, M., Sarens, G., &amp; Twist, M. van (2019). Partners or Opponents: Auditor-Manager Relationship Dynamics following the Deaf Effect in Information Systems Projects. In <i>Managerial Auditing Journal</i>, 34(9), p. 1073-1100.</p> <p>Nuijten, A., Keil, M., Pijl, G. v.d., &amp; Commandeur, H. (2018). Why IT-Managers and IT-Auditors perceive Risks Differently: An Actor-Observer Asymmetry Perspective. In <i>Information &amp; Management</i>, 55(1), p. 80-93.</p> <p>Nuijten, A., Keil, M., &amp; Commandeur, H. (2016). Collaborative Partner or Opponent: How the messenger influences the Deaf Effect in IT-projects. In <i>European Journal of Information Systems</i>, 25(6), p. 534-552.</p> <p>Nuijten, A., Twist, M. v., &amp; Steen, M. v.d. (2015). Auditing interactive complexity: challenges for the internal audit profession. In <i>International Journal of Auditing</i> 19(3), p. 195-205.</p> <p>OU research portal profile: <a href="https://research.ou.nl/en/persons/nuijten/publications/">https://research.ou.nl/en/persons/nuijten/publications/</a></p> <p>Google Scholar profile: <a href="https://scholar.google.com/citations?user=hzDWdJwAAAAJ&amp;hl=nl">https://scholar.google.com/citations?user=hzDWdJwAAAAJ&amp;hl=nl</a></p>	
<p><b>prof. dr. ir Johan Versendaal</b></p> <p>Prof. Johan Versendaal, PhD is (endowed) professor of E-business at the Open University, in the Faculty of Science. He has background in Computer Science at Delft University of Technology and obtained his doctorate on design methods and software architectures of information systems. His current research interests include ethics regarding data-driven IT-implementations, Business/IT alignment, and impact of enabling technologies. He is supervisor of a number of PhD-students, and Master-students related to the topics of het research interest. He is also professor of Digital Ethics at HU University of Applied Sciences.</p> <p>Johan Versendaal is the (co-)author of many publications. He is a public speaker in his home country and abroad, and is a member of various international programme and organisation committees for (scientific) conferences, as well as reviewer and guest editor. He is chairing the community of ICT-professors of Universities of Applied Sciences in the Netherlands.</p>	






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RESEARCH STAFF

<p><b>Laury Bollen</b></p> <p>Research themes: IT Governance, Governance frameworks, AI Governance.</p> <p>Dr. Laury Bollen is an associate professor of Information Management and member of the Information Systems department within the Sciences faculty. He studied Business Informatics and holds a PhD in Business Economics from Maastricht University, where he has worked for over 30 years. His research covers a variety of topics all of which are broadly related to IT Governance. Most recently he has focused on projects studying the relationship between board-level characteristics and IT Governance and on Governance frameworks in the context of Artificial Intelligence (AI Governance). His research activities have resulted in publications in a broad range of international academic journals including <i>Information &amp; Management</i>, the <i>Journal of Information Systems</i>, the <i>Journal of Cleaner Production</i>, the <i>European Accounting Review</i> and the <i>Journal of Business Ethics</i>. Also, he has been active in various roles in conferences such as ICIS, ECIS and the annual conference of the European Accounting Association (EAA). He is a (co-)author of various teaching books on Information management.</p> <p>Key publications:</p> <p>Joshi, L. Bollen, H. Hassink, W. van Grembergen, &amp; S. de Haes, Explaining IT Governance Disclosure through the Constructs of IT Governance Maturity and IT Strategic Role. <i>Information &amp; Management</i>, Vol. 55, Issue 3, 2018, pp. 368-380.</p> <p>T. Thijssens, L. Bollen, &amp; H. Hassink, Managing sustainability reporting: many ways to publish exemplary reports. <i>Journal of Cleaner Production</i>, Vol. 136, November 2016, pp. 86-101.</p> <p>T. Thijssens, L. Bollen, &amp; H. Hassink, Secondary Stakeholder Influence on CSR Disclosure: An Application of Stakeholder Saliency Theory. <i>Journal of Business Ethics</i>, Vol. 132, pp. 873-891, 2015.</p> <p>A. Joshi, L. Bollen, H. Hassink, An Empirical Assessment of IT Governance Transparency: Evidence from Commercial Banking. <i>Information Systems Management</i>, Vol. 30, Issue 2, pp. 116-136, 2013.</p> <p>T. Keusch, L. Bollen, H. Hassink, Self-serving Bias in Annual Report Narratives: An Empirical Analysis of the Impact of Economic Crises. <i>European Accounting Review</i>, Vol. 21, Issue 3, pp. 623-648, 2012.</p> <p>OU research portal profile: <a href="https://research.ou.nl/en/persons/laury-bollen-2">https://research.ou.nl/en/persons/laury-bollen-2</a></p> <p>Researchgate profile: <a href="https://www.researchgate.net/profile/Laury_Bollen">https://www.researchgate.net/profile/Laury_Bollen</a></p>	
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<p><b>Rik Bos</b></p> <p>Research themes: Information Systems Requirements, Enterprise architecture.</p> <p>Dr. R. (Rik) Bos has a Master's degree and a PhD degree in Mathematics (both University of Utrecht, the Netherlands). He is assistant professor of the Department of Information Science at the Faculty of Science of the Open University of the Netherlands. His teaching and research activities are focused on information systems requirements and enterprise architecture.</p> <p>Some publications:</p> <p>Identification of IT-Needs to Cope with Dynamism in Collaborative Networked Organizations – a Case Study. Conference: itAIS &amp; MCIS 2019 The XIII Mediterranean Conference on Information Systems &amp; the XVI Conference of the Italian Chapter of AIS van de Wetering, R., &amp; Bos, R. (2019). Toward a fitness landscape model of firms' IT-enabled dynamic capabilities. In book: Encyclopedia of Organizational Knowledge, Administration, and Technologies Publisher: IGI Global</p> <p>van den Heuvel, R., Trienekens, J., van de Wetering, R., &amp; Bos, R. (2017, September). Toward CNO characteristics to support Business/IT-alignment. In <i>Working Conference on Virtual Enterprises</i> (pp. 455-465). Springer, Cham.</p> <p>van den Heuvel, R., Trienekens, J., van de Wetering, R., &amp; Bos, R. Business/IT-alignment adaptation in dynamic networked environments. 17th IFIP Working Conference on VIRTUAL ENTERPRISES At: Porto, Portugal (2016).</p> <p>van de Wetering, R., &amp; Bos, R. (2016, July). A meta-framework for efficacious adaptive enterprise architectures. In <i>International Conference on Business Information Systems</i> (pp. 273-288). Springer, Cham.</p> <p>Google Scholar profile: <a href="https://scholar.google.nl/citations?hl=nl&amp;user=4THXd_8AAAAJ">https://scholar.google.nl/citations?hl=nl&amp;user=4THXd_8AAAAJ</a></p>	
<p><b>Rachelle Bosua</b></p> <p>Research themes: data privacy, the IoT, knowledge leakage, IP management, knowledge sharing and knowledge strategy, mobility in work and the use of the IT artefacts to facilitate remote and co-located workers.</p> <p>Dr. Rachelle Bosua has an undergraduate degree in Computer Science (University of Pretoria) and a Master's in Information Systems and Software Engineering (University of South Africa). She acquired her PhD in 2008 from the University of Melbourne. She has worked on three continents (South Africa, Australia and Europe) and currently works at the Open University of the Netherlands, while she also holds a Senior Honorary Fellow position in the Computing and Information Systems (CIS) School of the University of Melbourne, Victoria, Australia.</p> <p>Her research interests are as varied as her undergraduate- and post-graduate studies, with recent research concentrating on the consequences and the value of adopting and using the IT artefact (i.e. the IoT, Social Media Platforms) in many different settings and contexts. The latter includes mobile work, Communities of Practice, remote and co-located work teams, chronic illness, and regional small and medium enterprises. In addition, her work explores the impact of using the IT artefact from an individual privacy and GDPR perspective, chronic illness management and as an enabling mechanism that underpins knowledge sharing and transfer. She has acquired over 500,000\$ competitive research grant funding in Australia. She is co-author of the text titled 'Knowledge Management in Organizations: A critical introduction'. She has 7 PhD completions and currently supervises two PhD students and 8 Masters students. Her teaching includes Data Governance, Business Analytics and Knowledge Management at the undergraduate and postgraduate levels.</p>	

<p>Key publications:</p> <p>Isika, N., Mendoza, A., &amp; Bosua, R. (2020). "I need to compartmentalize myself": Appropriation of Instagram for Chronic Illness Management, <i>Proceedings of the Australasian Computer Science Week Multiconference</i>, Melbourne, Australia, 1-9.</p> <p>Murad, A., Hyde, N. Change, S., Lederman, R. Bosua, R., Pirota, M., &amp; Audehm, R. (2019). Quantifying Use of a Health Virtual Community of Practice for General Practitioners' Continuing Professional Development: A Novel Methodology and Pilot Evaluation. <i>Journal of Medical Internet Research</i>, 12(11).</p> <p>Hislop, D., Bosua, R., &amp; Helms, R. (2018). <i>Knowledge Management in Organizations: A Critical Introduction</i>, Oxford University Press, 321p.</p> <p>Bentley, T.A., Teo, S.T.T., McLeod L., Tan, F., Bosua, R., &amp; Gloet, M. (2016). The Role of Organisational Support in Teleworker Wellbeing: A Socio-Technical Systems Approach, <i>Applied Ergonomics</i>, 52, 207-215.</p> <p>Caron, X., Bosua, R., Maynard, S.B., &amp; Ahmad, A. (2016). The Internet of Things (IoT) and its Impact on Individual Privacy: and Australian Perspective, <i>Computer Law, Security Review</i>, 32(1), 4-16.</p> <p>Ahmad, A., Bosua, R., &amp; Scheepers, R. (2014). Protecting Organizational Competitive Advantage: A Knowledge Leakage Perspective, <i>Computers and Security</i>, 42, 27-39.</p> <p>Bosua, R., &amp; Venkitachalam, K. (2013). Aligning Strategies and Processes in Knowledge Management, <i>Journal of Knowledge Management</i>, 17(3), 331-346.</p> <p>ResearchGate Profile: <a href="https://www.researchgate.net/profile/Rachelle_Bosua">https://www.researchgate.net/profile/Rachelle_Bosua</a></p>	
<p><b>Vanessa Dirksen</b></p> <p>Research themes: critical data studies; work and organizing in the digital age; digital methods</p> <p>Vanessa has a Master's degree in Social Anthropology and a PhD in the Social Sciences (both from the University of Amsterdam). Her work as a researcher and lecturer at various European universities saw her at departments of sociology, economics and of informatics.</p> <p>Her research activities are directed towards the investigation of the epistemological underpinnings of the 'new' methods and techniques of the Big Data era. In so doing, she aims to understand the ways in which the application of online social network analysis, social simulation and artificial intelligence may enhance (or hinder) social scientific knowing. In a study Vanessa is currently conducting at the Dutch National Police, she is investigating the kinds of knowledge claims made possible by ethnographic social simulation and the extent to which this method may be better equipped to 'capture' the highly complex and rapidly changing nature of organized crime in general and of drugs trafficking in particular. Her teaching includes Business Intelligence and Digital Transformation at the postgraduate level and Introduction to Information Studies (Inleiding Informatiekunde) at the undergraduate level.</p> <p>OU research portal profile: <a href="https://research.ou.nl/en/persons/vanessa-dirksen">https://research.ou.nl/en/persons/vanessa-dirksen</a></p>	

<p><b>Tim Huygh</b></p> <p>Research themes: IT governance, strategic IT management</p> <p>Dr. Tim Huygh has a Master's degree in Business Engineering: Management Information Systems (University of Antwerp, BE), an advanced Master's degree in Advanced Business Studies (University of Leuven, BE), and a PhD degree in Applied Economics (University of Antwerp, BE). He is Assistant Professor of Information Science at the Open University of The Netherlands. He is also a visiting Professor at the Antwerp Management School (Antwerp, Belgium). As such, he is actively engaged in teaching at the undergraduate, graduate, and executive level in the domains of IT governance, and strategic management of IT.</p> <p>His research interests include the governance and management of information and technology, business/IT alignment, and IT business value. An important part of his work includes the conceptualization of IT governance to account for agility and evolutionary dynamics. He is currently co-supervising a PhD student (at the University of Antwerp, BE) on the topic of board-level IT governance. His research got published in multiple SCI-indexed journals and conference proceedings. He also co-authored two books on the topic of IT governance (published by Springer). He is co-chairing the minitrack "IT governance and its mechanisms" at the HICSS conference since 2020.</p> <p>Key publications:</p> <p>Huygh, T., &amp; De Haes, S. (2019). Investigating IT governance through the viable system model. <i>Information Systems Management</i>, 36(2), 168-192.</p> <p>De Haes, S., Huygh, T., &amp; Joshi, A. (2017). Exploring the contemporary state of information technology governance transparency in Belgian firms. <i>Information Systems Management</i>, 34(1), 20-37.</p> <p>Joshi, A., Huygh, T., &amp; De Haes, S. (2017). Examining the association between industry IT strategic role and IT governance implementation. ICIS 2017 Proceedings.</p> <p>De Haes, S., Van Grembergen, W., Joshi, A., &amp; Huygh, T. (2020). <i>Enterprise Governance of Information Technology: Achieving Alignment and Value in Digital Organizations, Third Edition</i>. Cham, Switzerland: Springer Nature Switzerland AG.</p> <p>OU research portal profile: <a href="https://research.ou.nl/en/persons/tim-huygh">https://research.ou.nl/en/persons/tim-huygh</a></p> <p>Google Scholar profile: <a href="https://scholar.google.com/citations?user=JtMqZg4AAAAJ&amp;hl=nl&amp;oi=ao">https://scholar.google.com/citations?user=JtMqZg4AAAAJ&amp;hl=nl&amp;oi=ao</a></p>	
<p><b>Guy Janssens</b></p> <p>Research themes: His research and teaching focuses on project management and the complexity and control of implementation of ERP systems.</p> <p>Key publications:</p> <p>G. Janssens, L. van Moorst, R. Kusters, &amp; H. Martin, "An expert-based taxonomy of ERP implementation activities," <i>Journal of Computer Information Systems</i>, pp. 1-9, 2018, doi: 10.1080/08874417.2018.1429958.</p> <p>G. Janssens, "A complexity model for ERP implementations," Open Universiteit, Work in progress, 2018.</p> <p>G. Janssens, "Understanding complexity of ERP implementations: Exploration of three complexity research approaches," PhD Dissertation, Faculty of Management, science &amp; technology, Open Universiteit, Heerlen, 2017.</p> <p>G. Janssens, M. Hoeijenbos, &amp; R. Kusters, "Complexity impact factors on the integration process of ERP and non ERP systems: A basis for an evaluation instrument," presented at the ICSOFT 2011 - <i>Proceedings of the 6th International Conference on Software and Data Technologies</i>, Seville, Spain, 2011.</p> <p>G. Janssens, R. Kusters, &amp; F. Heemstra, "Specifying general activity clusters for ERP projects aimed at effort prediction," in <i>Organizational Advancements through Enterprise Information Systems: Emerging</i></p>	



<p><i>Applications and Developments</i>, A. Gunasekaran &amp; T. Shea, Eds., ed. New York: Business Science Reference, 2010, pp. 57-79.</p> <p>G. Janssens &amp; H. Martin, "The Feasibility of E-Ink Readers in Distance Learning: A Field Study," <i>International Journal of Interactive Mobile Technologies (IJIM)</i>, vol. 3, p. 9, 2009.</p> <p>G. Janssens, R. Kusters, &amp; F. Heemstra, "A small survey into the importance of and into a concept for estimating effort-related costs of ERP implementation projects," <i>Working papers Management Sciences</i>, p. 14, 2008.</p> <p>G. Janssens, R. Kusters, &amp; F. Heemstra, "Sizing ERP Implementation Projects: An Activity-Based Approach," <i>International Journal of Enterprise Information Systems</i>, vol. 4, p. 23, 2008.</p> <p>G. Janssens, R. Kusters, &amp; F. Heemstra, "Clustering ERP implementation project activities: A foundation for project size definition," <i>Proceedings of the 1st International Joint Workshop on Technologies for Collaborative Business Processes and Management of Enterprise Information Systems TCoB&amp;MEIS 2007 in conjunction with ICEIS 2007</i>, pp. 23-32, 2007.</p> <p>P. Ghijsen &amp; G. Janssens, "The role of global logistics service providers in supply chains," 2004.</p>	
<p><b>Pieter Kamminga</b></p> <p>Research themes: Governance, Strategic partnerships</p> <p>Dr. Pieter E. Kamminga started his academic career in the field of management accounting and control at the Faculty of Economics and Business at the University of Groningen. Here he conducted his PhD research project on management control of joint ventures and was appointed as assistant professor. In 2010 he moved to the Open University of the Netherlands, where he is now assistant professor in the Information Science group.</p> <p>His research focuses on the governance of interfirm relationships. To examine this topic, he uses different theoretical perspectives, including economic approaches, organisational approaches, and relational approaches. In his empirical work he applies qualitative research methods.</p> <p>Key publications:</p> <p>Van der Meer-Kooistra, J. &amp; Kamminga, P.E. (2015). Joint venture dynamics: the effects of decisions made within a parent company and the role of joint venture management control, <i>Management Accounting Research</i>, 26, p. 23-39.</p> <p>Kamminga, P.E. &amp; Van der Meer-Kooistra, J. (2013). Dynamic evolution of equity joint venture relationships: role of the parent companies and joint venture control. In T.K. Das(Ed.), <i>Interpartner Dynamics in Strategic Alliances</i>, 163- 185, Charlotte, NC: Information Age Publishing</p> <p>Van der Meer-Kooistra, J. &amp; P.E. Kamminga. Management control of interfirm transactional relationships. Westerman,, W, Van der Meer-Kooistra, J and K. Langfield-Smith (Eds), (2010). <i>International Management Accounting and Control</i>, 171- 188, McGraw Hill.</p> <p>Kamminga, P.E. &amp; J. van der Meer-Kooistra. The joint venture relationship: foreign entry modes, management control, and dynamics. Westerman,, W, Van der Meer-Kooistra, J and K. Langfield-Smith (Eds), (2010). <i>International Management Accounting and Control</i>, 189- 206, McGraw Hill.</p> <p>Van der Meer-Kooistra, J. &amp; P.E. Kamminga. The role of management accounting in joint venture relationships: a dynamic perspective. Håkansson, H., Kraus, K. and J. Lind (Eds), (2010). <i>Accounting in Networks</i>, 80 – 112, New York: Routledge.</p> <p>Kamminga, P.E. &amp; J. van der Meer-Kooistra (2007). Management control patterns in joint venture relationships: A model and an exploratory study, <i>Accounting, Organizations and Society</i>, 32(1-2), 131-158.</p> <p>Kamminga, P.E. &amp; J. van der Meer-Kooistra (2006). Parents' contribution and management control of joint ventures, <i>European Management Journal</i>, vol. 24, Nos. 2-3, 226-235.</p>	

**Harry Martin**

Research themes: strategic IT sourcing, performance management, business process management

Dr. ir. H. Martin holds a degree in Industrial Engineering. In 1988 he was appointed an assistant professor at the faculty of Technology Management of the Technical University of Eindhoven. During that time he specialized in maintenance management and wrote his PhD thesis in 1994 on the selection of maintenance software packages. In 1999 he was appointed associate professor at the Open University in Heerlen, where he concentrates on the design of distant learning material and research on business process (re)design, performance and operation management. He also is a research fellow at the CIB at the KU Leuven and has contributed as an external examiner in several PhD assessment committees in the UK, Sweden, Belgium and Australia.



Currently, he is active research on (strategic) cooperation of organizations and outsourcing in relation with a focus on measuring qualitative process performance.



## Key publications:


- Martin H. (2019) Measuring Qualitative Performance Criteria with Fuzzy Sets. In: Abramowicz W., Corchuelo R. (eds) Business Information Systems Workshops. BIS 2019. *Lecture Notes in Business Information Processing*, vol 373. Springer, Cham.
- Guy Janssens, Linda van Moorst, Rob Kusters & Harry Martin (2020), An expert-based taxonomy of ERP implementation activities, *Journal of Computer Information Systems*, 60:2, 175-183, DOI: 10.1080/08874417.2018.1429958
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<p><b>Montserrat Prats Lopez</b></p> <p>Research themes: Crowdsourcing, Knowledge Management, Learning</p> <p>Dr. Montserrat Prats López has a PhD degree in Business Administration (Vrije Universiteit Amsterdam, NL). She is assistant professor of Information Science and thesis coordinator of the Master BPMIT at the Open University of the Netherlands. She is also affiliated researcher at the research group Institutions for Collective Action (Utrecht University). Her teaching and research activities focus on the use of technology for knowledge management, organizational learning and new forms of organizing work, including phenomena such as telework and crowdsourcing. Her doctoral research focused on public participation in scholarly research, also known as citizen or crowd science. She has contributed to the KNAW project group on citizen science and she continues doing research on the crowdsourcing phenomenon in collaboration with the group Institutions for Collective Action. She is also involved in the 'Veilige Stad' research program together with the faculty of psychology, studying the use of social media by the elderly. Recently she started a research project on telework with students from the Master BPMIT of the Open University.</p> <p>OU research portal profile: <a href="https://research.ou.nl/en/persons/montse-prats-l%C3%B3pez-2">https://research.ou.nl/en/persons/montse-prats-l%C3%B3pez-2</a></p> <p>Google Scholar profile: <a href="https://scholar.google.nl/citations?user=3DNaBrwAAAAJ&amp;hl=nl&amp;oi=ao">https://scholar.google.nl/citations?user=3DNaBrwAAAAJ&amp;hl=nl&amp;oi=ao</a></p> <p>LinkedIn profile: <a href="https://nl.linkedin.com/in/montserratpratslopez">https://nl.linkedin.com/in/montserratpratslopez</a></p>	
<p><b>Ben Roelens</b></p> <p>Research themes: Conceptual Modeling, Business Ontology, and Enterprise Architecture</p> <p>Dr. Ben Roelens (Belgium, °1987) has a Master's degree in Business Engineering. He obtained his doctoral degree in Applied Economics in 2015 (Ghent University, BE), which dealt with the use of conceptual models to realize strategic fit. He is an assistant professor at the Open University of the Netherlands. As a voluntary post-doctoral researcher, he is also member of the UGentMIS Business Informatics research group (Ghent University, BE). He is currently co-supervisor of 3 PhD students and (co-)authored 9 publications listed in Web of Science, including articles in the BISE and SoSyM journals. His main research interests lie in the fields of Conceptual Modeling, Business Ontology, and Enterprise Architecture.</p> <p>Key publications:</p> <p>Roelens, B., Steenacker, W., &amp; Poels, G. (2019). Realizing Strategic Fit within the Business Architecture: the Design of a Process-Goal Alignment Modeling and Analysis Technique. <i>Software and Systems Modeling</i>, 18(1), 631-662. (impact factor 2018: 2.66, Q1: Computer Science, Software Engineering).</p> <p>Roelens, B., &amp; Poels, G. (2015). The Development and Experimental Evaluation of a Focused Business Model Representation. <i>Business &amp; Information Systems Engineering</i>, 57(1), 61-71. (impact factor 2015: 2.059, Q1: Computer Science, Information Systems).</p> <p>Poels, G., Decreus, K., Roelens, B., &amp; Snoeck, M. (2013). Investigating Goal-oriented Requirements Engineering for Business Processes. <i>Journal of Database Management</i>, 24(2), 35-71. (impact factor 2013: 0.903, Q3: Computer Science, Information Systems, Q3: Computer Science, Software Engineering).</p> <p>Rafati, L., Roelens, B., &amp; Poels, G. (2018). A Domain-specific Modeling Technique for Value-driven Strategic Sourcing. <i>Enterprise Modelling and Information Systems Architectures</i>, 13(8), 1-29. (Web of Science Emerging Sources Citation Index (ESCI)).</p> <p>Prince Sales, T., Roelens, B., Poels, G., Guizzardi, G., Guarino, N., &amp; Mylopoulos, J. (2019). A Pattern Language for Value Modeling in ArchiMate. In: Giorgini, P., Weber B. (eds.) <i>CAISE '19, LNCS</i>, vol. 11483, pp. 230-245, Springer, Cham.</p> <p>OU research portal profile: <a href="https://research.ou.nl/en/persons/ben-roelens-2">https://research.ou.nl/en/persons/ben-roelens-2</a></p> <p>Google Scholar profile: <a href="https://scholar.google.com/citations?user=Vi1LLclAAAAJ&amp;hl=en&amp;oi=ao">https://scholar.google.com/citations?user=Vi1LLclAAAAJ&amp;hl=en&amp;oi=ao</a></p> <p>ResearchGate profile: <a href="https://www.researchgate.net/profile/Ben_Roelens">https://www.researchgate.net/profile/Ben_Roelens</a></p>	

<p><b>Lloyd Rutledge</b></p> <p>Research themes: assisted generation of end-user interfaces from models and rules, usually with semantic wikis as form-based user interfaces for data structures and rules implemented on the Semantic Web.</p> <p>Dr. Lloyd Rutledge has a Master's degree and a Sc.D. in Computer Science from the University of Massachusetts at Lowell. His is an assistant professor in the Information Science department of the Faculty of Science at the Open University of the Netherlands. He teaches the Master's courses Business Intelligence and Rule-based Design. An overlap between these topics forms his core research interest: that of analyzing the data, documents and processes of an organization to make rules to guide it even better towards its goals. A core approach in this work is the use of design patterns for the data models and logical rules of a business that contribute more efficiently to business system development. This is an ongoing theme for Master's theses he supervises, which often implement the models and logic with technologies from the Semantic Web. He also guides research on mining data and processes for models and rules that drive system improvement. His own direct research focusses on assisted generation of end-user interfaces from models and rules, usually with semantic wikis as form-based user interfaces for data structures and rules implemented on the Semantic Web.</p>	
<p><b>Pien Walraven</b></p> <p>Research themes: Co-evolutionary Information Systems Alignment, Dynamic Capabilities, Health IT, Enterprise Architecture</p> <p>Pien Walraven has a background in Information Systems (MSc.), Information Science (BSc.) and Business Communication (B.A.). Her PhD research addresses an imperative problem for contemporary hospitals and professional organizations: How to enhance and improve (different aspects of) performance while operating in turbulent environments. Particularly, her research focuses on the process of co-evolutionary alignment of Electronic Medical Records with hospital goals, needs and strategies of hospitals, both during implementations and in operations. Her research explicitly addresses the challenge of multiple stakeholder perspectives and differing, possibly even conflicting, goals and needs within the hospital, using a complex adaptive systems view on organizations as a foundation.</p> <p>Her teaching activities are focused around Enterprise Architecture, Business-IT alignment and Digital transformation in the MSc. BPMIT program. Furthermore, Pien is the internal PhD representative in the board of the OU Graduate School.</p> <p>Supervisors: dr. Rogier van de Wetering, prof. dr. ir. Remko Helms, prof. dr. ir. Johan Versendaal, prof. dr. Marjolein Caniëls.</p> <p>Key publications:</p> <p>Walraven, P., Van de Wetering, R., Helms, R., &amp; Caniëls, M. (2020). Aligning effectively: the case of Electronic Medical Records Paper presented at the <i>Twenty-eighth European Conference on Information Systems (ECIS 2020)</i>, Marrakesh, Morocco.</p> <p>Walraven, P., Van de Wetering, R., Versendaal, J., &amp; Caniëls, M. (2019). Using a co-evolutionary IS-alignment approach to understand EMR implementations. Paper presented at the <i>Twenty-seventh European Conference on Information Systems (ECIS 2019)</i>, Stockholm-Uppsala, Sweden.</p> <p>Walraven, P., Van de Wetering, R., Helms, R., Versendaal, J., &amp; Caniëls, M. (2018). Co-evolutionary IS-alignment: a Complex Adaptive Systems Perspective. Paper presented at the <i>Twelfth Mediterranean Conference on Information Systems (MCIS 2018)</i>, Corfu, Greece.</p> <p>Van de Wetering, R., Versendaal, J., &amp; Walraven, P. (2018). Examining the relationship between a hospital's IT infrastructure capability and digital capabilities: a resource-based perspective. Paper presented at the <i>Twenty-fourth Americas Conference on Information Systems (AMCIS 2018)</i>, New Orleans.</p>	

<p>OU research portal profile: <a href="https://research.ou.nl/en/persons/pien-walraven-2/publications/">https://research.ou.nl/en/persons/pien-walraven-2/publications/</a></p> <p>Researchgate: <a href="https://www.researchgate.net/profile/Pien_Walraven">https://www.researchgate.net/profile/Pien_Walraven</a></p> <p>Personal website: <a href="http://www.pienwalraven.nl">www.pienwalraven.nl</a></p>	
<p><b>Rogier van de Wetering</b></p> <p>Research themes: innovation, learning, strategic design</p> <p>Rogier van de Wetering is an Associate Professor in information sciences at the Sciences Faculty of the Open University (OU), the Netherlands. He is also the Academic director of the MBA.</p> <p>Rogier moved into academia after a decade of managing IT/business transformations in Deloitte's Strategy &amp; Operations practice. Rogier holds both a Master's Degree from Utrecht University and a Ph.D. in Information Sciences and Medical Informatics. His research interests focus on understanding how organizations can gain organizational benefits from IS/IT alignment, dynamic capabilities, big data and enterprise architecture competencies and capabilities.</p> <p>Key publications:</p> <p>Van de Wetering, R. (2020). Dynamic Enterprise Architecture Capabilities and Organizational Benefits: An empirical mediation study. In the Proceedings of the <i>Twenty-Eighth European Conference on Information Systems</i>.</p> <p>Van de Wetering, R. (2019). Enterprise Architecture Resources, Dynamic Capabilities, and their Pathways to Operational Value. In the Proceedings of the <i>Fortieth International Conference on Information Systems</i>, Munich, Germany.</p> <p>Van de Wetering, R. (2018). IT-Enabled Clinical Decision Support: An Empirical Study on Antecedents and Mechanisms. <i>Journal of healthcare engineering</i>, 2018.</p> <p>Carvalho, J. V., Rocha, Á., van de Wetering, R., &amp; Abreu, A. (2019). A Maturity model for hospital information systems. <i>Journal of Business Research</i>, 94, 388-399.</p> <p>Van de Wetering, R., Versendaal, J., &amp; Walraven, P. (2018). Examining the relationship between a hospital's IT infrastructure capability and digital capabilities: a resource-based perspective. In the Proceedings of the <i>Twenty-fourth Americas Conference on Information Systems (AMCIS)</i>, New Orleans.</p> <p>OU research portal profile: <a href="https://research.ou.nl/en/persons/rogier-van-de-wetering-2">https://research.ou.nl/en/persons/rogier-van-de-wetering-2</a></p> <p>Google Scholar profile: <a href="https://scholar.google.com/citations?user=MQxZUEsAAAAJ&amp;hl=en">https://scholar.google.com/citations?user=MQxZUEsAAAAJ&amp;hl=en</a></p>	

**Irene Vanderfeesten**

Research themes: Resilience

Dr. ir. Irene Vanderfeesten has a Master's degree in Computer Science (2004) and a PhD degree in Technology Management (2009) both from Eindhoven University of Technology. She is an associate professor in Information Sciences at the department of Science of the Open University of the Netherlands. She also holds a part time associate professor position in Information systems at the department of Industrial Engineering and Innovation Sciences at Eindhoven University of Technology. Her teaching and research activities are mainly focused on business process management and business information systems engineering. Her research interest include: business process (re)design methodologies, process modeling and process model quality, process automation, process performance analysis, process compliance and process maturity. It is her ambition to innovate business processes from a human perspective, developing human centric business information technology, tools and techniques to support the design, analysis, and execution of business processes, driven by challenges from practice. She is currently involved in two large EU H2020 research projects (HORSE and SHOP4CF) in which business process management concepts and technology are applied in high tech manufacturing. Other application domains include banking and insurance, healthcare, and government.

## Key publications:

- O. Türetken, A. Dikici, I. Vanderfeesten, T. Rompen, & O. Demirors. The influence of using collapsed sub-processes and groups on the understandability of business process models. *Business & Information Systems Engineering*, 2020.
- J. Erasmus, I. Vanderfeesten, K. Traganos, X. Jie-A-Looi, A. Kleingeld & P. Grefen. A method to enable ability-based human resource allocation in business process management systems. *Proceedings of the 11th IFIP WG 8.1 working conference on the Practice of Enterprise Modelling (PoEM 2018)*, *Lecture Notes in Business Information Processing*, vol. 335, pp. 37-52, Springer, 2018.
- J. Erasmus, I. Vanderfeesten, K. Traganos & P. Grefen. The Case for Unified Process Management in Smart Manufacturing. *Proceedings of the 22nd IEEE International EDOC Conference*, pp. 218-227, 2018.
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- Vanwersch, R. J. B., Shahzad, K., Vanderfeesten, I., Vanhaecht, K., Grefen, P., Pintelon, L., ... Reijers, H. A. (2016). A critical evaluation and framework of business process improvement methods. *Business and Information Systems Engineering*, 58(1). <https://doi.org/10.1007/s12599-015-0417-x>

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