



iSchool Partnerships and Practices – information and proposal form

Please fill in the information below and upload the proposal form (in PDF format) at the secure submission website for consideration for presentation at the *iSchool Partnerships and Practices* track at the 2019 iConference in College Park, Maryland, USA. Please keep to the advised length or the proposal will not be considered for review.

Please consider also the key review criteria for selection:

- Transferability to other institutions
- Grade of innovation
- Pedagogical dimension
- Degree of knowledge transfer

Questions about the *iSchool Partnerships and Practices* track should be directed to the chairs of the track:

iSchool Best Practices Chairs

- [Elke Greifeneder](#), Humboldt-Universität zu Berlin
- [Sean McGann](#), University of Washington
- [Timothy Summers](#), University of Maryland, College Park

For general questions about the iConference, please contact iConference Coordinator [Clark Heideger](#).

<p>Name(s) of Author(s): Cecilia Sönströd, Jenny Balkow, Ulf Johansson, Tomas Müllern and Malin Sundström</p>
<p>Title of submission: INSiDR – a multi-disciplinary industrial graduate school in digital retailing</p>
<p>Area (please check the applicable area description with an x): <input checked="" type="checkbox"/> Curriculum <input checked="" type="checkbox"/> Teaching</p>

Student experience

Research

Administrative management

X Other (please enter the applicable keyword): Industrial graduate school

Submission abstract (max 150 words):

INSiDR is a multi-disciplinary industrial graduate school in digital retailing, consisting of 10 PhD students within business administration, textile management, informatics, and information technology. The graduate school will provide Swedish companies in the retail industry with highly skilled graduates, whose knowledge and competences will enhance their competitiveness in a market where digitalization has a profound impact. In the school, industrial and scientific challenges related to the digitalization of retail are addressed, spanning from new business models and markets logics to data management and data analytics. The graduate school is implemented in close collaboration with participating companies, from formulation of PhD projects and joint selection of candidates, and through shared supervision and management of each PhD project. The school setup also includes a number of activities for knowledge dissemination, within academia, participating industrial partners, and the wider retail sector.

Submission description (max 2,350 words):

The INSiDR industrial graduate school in digital retailing is a collaborative project between the University of Borås (UB) and Jönköping University (JU), both located in the west of Sweden, with funding from the Swedish Knowledge Foundation. In addition, the nearby University of Skövde participates in the project. The project started in April 2018, with PhD projects commencing in late 2018, and will run for at least six years. In the first round of admissions, 10 PhD projects have been initiated. Provided that funding is granted, a second round of admissions is planned for 2021, which will extend the project until 2026. The project is managed from UB, and students are admitted to existing PhD programmes in business administration, textile management, informatics, and information technology, at one of the participating universities, following the regular study plans at these programmes. Each PhD student is co-funded by the Knowledge Foundation, University of Borås and a company.

Background

Retail is one of the largest private sectors in Sweden, employing half a million people and accounting for about 10 percent of the country's GDP. Together with the manufacturing industry, retail provides a strong foundation for Sweden's employment and growth. Just as the rest of the society, the retail industry is dramatically affected by digitalization, which is often described as a disruptive transformation process. The shift from analogue to digital affects all aspects of retail; transforming many hitherto entirely physical interactions into virtual ones, e.g. communication, cooperation, negotiation, sale, payment and delivery. The new retail logic, where everything can be purchased at any time, from anywhere, means that retailers must adapt their services according to changes in consumer behaviour and expectations. Recent examples of this are self-scanning and delivery services like click-and-collect, but also implementation of digital sales support within physical store settings, as well as development of mobile shopping applications for consumers and omnichannel development. Consequently, retail increasingly becomes a part of the service industry, where understanding and predicting consumer behaviour enable businesses to design solutions to connect with customers and understand their

problems and challenges.

Already, information technology (IT) is a crucial part of the infrastructure needed to conduct business, but rapid technical development also drives innovation, as it enables new business models. In many instances, utilizing IT in retail does not entail digitizing an existing process, but involves process innovation, where traditional business principles and market logics are re-engineered. Data are ubiquitous in the digitalization process, both as a product of new solutions, where data are generated through digital exchanges, and as a catalyst for innovation. The large amount of data now available, both in business and in society in general, enables organizations to use advanced data analysis techniques, so-called data analytics, to support decision-making at all levels. Despite increased availability, utilizing data is far from trivial. From an industrial perspective, data quality becomes more and more important, both in terms of being useful for the application at hand, and in terms of being an exclusive resource. New rules and regulations about data management mean that businesses must adjust to the fact that consumers have sovereignty over their own data, and find new solutions that incentivize customers to share their data. Successful solutions to this problem, i.e. those who provide both consumer and retailer with value, have the potential of strengthening the ties between retailer and customer, whilst providing good models for data management in the digital era.

UB and JU are distinguished by their early embrace of digital retailing as an emerging multi-disciplinary field, by utilizing and further developing their respective strengths within retailing and data analysis. Together the universities have an extensive industrial network, a strong record of attracting research funding from a variety of financiers, conducting both research projects and PhD theses in co-production with industrial partners, and nationally unique master programmes focused on digital retailing. Furthermore, the research environment at UB and JU connected with INSiDR has an established track record in studies of digital retailing.

Industrial challenges addressed

The challenges and possibilities outlined above place huge demands on specialist knowledge within the retail sector, much of which concerns the ability to identify, absorb and adapt cutting-edge ideas and technology into the organisation. As well as close co-operation with academia, in joint research projects, increasing their own research competence is vital to retail businesses. The fundamental transformation resulting from digitalization requires integrated research and development initiatives, encompassing both analysis of the long-term and wider implications of digitalization on retailing, and development of novel solutions that will improve competitiveness. To successfully tackle this challenge, retailers need specialist knowledge of both retail and IT, and crucially, the ability to combine these in multi-disciplinary projects.

Traditionally, in Sweden, the retail industry employs few people with post-graduate education, and many companies are also relatively small. Thus, the retail industry in Sweden has had limited capacity for in-house research and development, and need to advance within these areas to continue thriving in a global and digital retail sector. The graduate school will provide Swedish companies in the retail industry with knowledge

and competences that will enhance their competitiveness in a market where digitalization has a profound impact. The industrial partners for the graduate school reflect the diverse nature of the challenges encountered and represent agents connected to many aspects of retail. In addition to traditional retail companies, the school has partners from financial institutions, IT consulting firms, logistics companies, recruitment and consultancy firms with a special focus on the service industry and analytics firms focusing on business development.

Scope and impact of the graduate school

The graduate school will address a broad spectrum of research questions, grounded in the business challenges that arise as a consequence of the digital transformation of retail. These challenges span from organizational and business model issues, traditionally studied in business administration, to technical solutions, regarding both software and hardware, from information technology. For each project, careful consideration has gone into finding the appropriate balance between multi-disciplinary perspectives on digital retail and formulating research questions at the forefront of one of the academic disciplines contained in the school.

Collaboration model

The long-term goal of INSiDR to strengthen the competitiveness of the Swedish retail industry through research and innovation in digital retail is achieved by actively engaging in co-production of both goals and knowledge. Each PhD project addresses business challenges particular to a specific industrial partner, but is also firmly grounded in ongoing research in retailing and data science at UB and JU. In order to achieve both business relevance and scientific impact for the projects, both companies and academic supervisors have been involved from early on in each PhD project. Based on tentative project ideas, each industrial partner and a team of academic supervisors formulated projects descriptions used for advertising the PhD positions. These projects descriptions included core skills needed both for the thesis work and work within the company. Since the PhD students in INSiDR are mostly employed by the companies, rather than at a university, the recruitment process was conducted jointly. The universities and prospective supervisors evaluated academic suitability for the projects, whilst representatives from the industrial partners focused on the potential for a successful career at their company. When doctoral students are admitted to the study programme and employment has been arranged, specific research questions for each project are formulated together by doctoral students, supervisors and industrial partners, thus ensuring continued co-production in each project.

The graduate school's organization includes a Supervisor Council, comprised of all supervisors, from both academia and companies. Each PhD project team has at least two academic supervisors and a company mentor. The supervisor council is an arena for discussions on how to balance demands from the company and academia on the doctoral projects, as well as issues related to pedagogical aspects of supervision.

The collaboration model also includes an Industrial Council, consisting of representatives from companies in the retailing business. This council is responsible for developing structures for knowledge dissemination within and between participating companies, and

the retail sector in general. Both the supervisor and industrial council also pursue opportunities for further research co-operation, for example by identifying opportunities for future research projects and communicating these within each university and company.

During the entire project, the school organizes a two-day workshop each semester. The workshop contains a number of activities, involving students, industrial partners, and supervisors. Students present their progress and discuss it in an open forum where all PhD students, supervisors, collaborators and researchers from both universities are welcome. The workshops not only support students' thesis work, but also play an important role for knowledge dissemination, both within and outside of the project. Discussions involving both academic supervisors and industrial partners safeguard continued co-production between business and academia in the particular projects, but also build structures for collaboration in research between the universities, between academia and business, and between disciplines.

Students are also required to participate in activities, such as presentations, seminars and internal workshops, intended to disseminate knowledge within the company where they are employed. Finally, students will also be given the opportunity to participate in other activities organised by INSiDR and/or industry associations with the objective to spread knowledge beyond participating companies to the industry as a whole.

School Curriculum

Apart from the mandatory courses for the respective degree, the project includes development of three mandatory courses specifically designed for INSiDR students. The aim of these courses is to establish a common knowledge base, grounded in current research in digital retailing, for all students in the graduate school. Specifically, the first course will cover fundamentals in retailing research to give all students a theoretical foundation in the INSiDR research area. The second course will focus on data analysis in retail, since many current problems and challenges in digital retail incorporates data analysis, and related activities. The final course will be a seminar course, where students are given the opportunity to critically examine current research in digital retailing. The courses will be spread out during the first three years of the PhD studies. Depending on thesis focus, earlier studies and work experience students are expected to fill in gaps regarding management, innovation and entrepreneurship, project management and team work, knowledge on commercialization and intellectual property, and presentation and writing skills. Additionally, students are expected to participate in one international research conference per year, starting in their second year of studies.

Industrial Benefits

Participating partner companies will benefit from their own PhD projects, both through the thesis work's knowledge contributions to their business challenges and the increased competence and personal development of the doctoral student. In addition, they will gain significant benefits from being a part of the wider context of a graduate school. The employee acting as industrial supervisor for the doctoral student will also gain skills and knowledge that are highly relevant for internal research and development work. Expected benefits for participating companies are:

- production of new knowledge, and a forum for discussing how this new knowledge may be implemented in the company
- to offer an attractive career opportunity to employees of outstanding talent, thereby retaining and developing the human resource capital of the company
- highly competent employees after a completed doctoral degree, that are able to see the challenges of digitalisation from multiple perspectives and build an innovative climate within the company
- a network that the companies can utilize beyond the actual project

PhD Student Benefits

One overall objective of INSiDR is to provide the retail industry in general, and the participating companies in particular, with doctoral candidates that have a thorough understanding of the digital transformation of retail, and the possibilities that this process entails. Compared to a traditional industrial PhD project, doctoral candidates will benefit from being part of a graduate school where other projects are related to their own work. Other projects, course work, and discussions with fellow students and supervisors, will, at the very least, provide highly relevant background knowledge and, most likely, also valuable input to their own work. After finishing their PhD, doctoral candidates are expected to work in industry, rather than academia, but also to retain strong ties with the academic environment.

The expected outcomes, regarding doctoral candidates' competences, upon completing their thesis are:

- the ability to lead research and development work in the retail industry
- the ability to apply their knowledge and skills to accomplish long term business value
- the capability to follow and actively engage in the international research front within digital retail, as a distinct field within general retailing research
- an extensive network within academia and the retail industry, through extensive interaction with researchers, supervisors and co-students during their PhD studies

Academic benefits

A key goal of the INSiDR project is to support the establishment of a nationally leading research environment for multidisciplinary research in digital retailing, producing internationally acknowledged research in collaboration with the industry. Some identified benefits for participating universities are:

- extending and further developing the existing collaboration between researchers from multiple disciplines, both between universities, and internally at each university
- utilization of research results to further develop education, particularly master programmes, to achieve internationally attractive and competitive education at advanced level

Societal benefits

At the societal and national level, the digitalization of retail, and the ensuing structural changes to a substantial commercial sector, offers both challenges and opportunities. Understanding emerging developments in consumption patterns and corporate

conditions will not only benefit retail companies, but also enable proactive solutions for sustainable societal development. It is of vital importance, for both companies and society, that new business models are sustainable. The wider implications of the digitalization of retail, such as perspectives on sustainability and consumption, transparency information systems, privacy and digital footprints, social media management, and future competence requirements, are addressed when formulating PhD projects. Furthermore, solutions developed by the PhD students, whether they are algorithms, methods or best practices, are evaluated using appropriate standards on sustainability and responsibility. Thus, the graduate school equips the doctoral candidates with the necessary skills and competences to act responsibly in a rapidly changing world.