



CENTRUM FÖR TJÄNSTEFORSKNING
CTF | SERVICE RESEARCH CENTER

Research making an impact

CTF
35
YEARS
1986 - 2021

Annual report 2021

CTF.KAU.SE

Vision & Mission

CTF's vision and mission is to contribute to scientific knowledge and development of private and public organisations and the wider society through research on value-creation through service.



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Highlights 2021



35 years

CTF's 35th anniversary was highlighted and celebrated in different ways, for example through the digital seminar series "CTF 35" where CTF researchers and special guests talked about different topics in relation to service research.

Mia Larson

was promoted to professor of Business Administration. Her research is in the borderlands between organisation and marketing.

Foto: Lund University



Fredrik Wikström

was promoted to professor of Energy and Environmental Technology. He conducts research on how packaging can contribute to a sustainable development where less food is wasted.



Samhällsnytta AB was formed and presented



Samhällsnytta is a national meeting place for actors at different levels in society who need new forms of working together to solve societal challenges.



Several new courses for professionals were developed and offered within the project ISE.

Research making an impact

The Servitization journey

Good collaborations, results and evaluation are the outcome from the project Servzchall where researchers at CTF have collaborated with Voith Hydro, BillerudKorsnäs, Cellcomb and Kongsberg Maritime.



From the left top: JanErik Odhe, CTF, Stefan Roxenby, BillerudKorsnäs, Lennart Proper, Aspervall Instrument, Omed Rawandi, Voith Hydro, Bernt Svensson, Asko, Nina Löfberg, CTF, Maria Åkesson, CTF, Björn Hellström, Voith Hydro, and Peter Magnusson, CTF.



The results of the third survey of the Swedish Innovation Index was presented.



Per Skålén

received funding from Riksbankens Jubileumsfond to conduct full-time research for a year in the project “Marketing as a practice: A practical theoretical framework for marketing research”.

Tjänsteinnovationsdagen 2021

Over 100 participants joined us on Zoom for our Service Innovation Day (Tjänsteinnovationsdagen) and took part of interesting talks by Vinnova, Ikea, Systembolaget, Ica Maxi and others. CTF researchers presented the Swedish Innovation Index 2020.



Annika Zika-Viktorsson, Vinnova, and Nina Löfberg, CTF.



Reza Shomali, Ikea.



Christina Öberg

received a scholarship from the Knut & Ragnvi Jacobsson Family Foundation for the project “Dealing with the unforeseen – prediction and change in the light of the pandemic and AI”.

35 years in the footsteps of service research

CTF is ready and committed to continue the journey - to contribute to service research and respond to challenges in businesses, other organisations and society.

It is almost inconceivable that it is 35 years since CTF was founded. I am pleased to see that CTF today is in very good shape with a well-established culture, committed researchers and extensive collaboration with researchers and organisations all over the world. And, perhaps most importantly, have the support and management that takes the development further to the next level. To still be part of CTF, feels good and is a great privilege.

Let's go back to 1986 and how this journey began. One important reason of establishing CTF was the growing service sector, and the fact that there was relatively little knowledge and research about management of service firms. There was also an interest among businesses and from regional actors, and of course an interest I had together with two other researchers. We scanned the international market and visited research centers in the US, this was important for how CTF was organized, for the development and culture at CTF.

During 35 years, CTF has grown from a handful of researchers to over 80 scholars and PhD students. CTF has been active in the international service research community, published a large number of scientific articles, been on review boards and participated in, as well as organized, research conferences in collaboration with universities around the world.

Collaboration has been crucial for the development. A long-term program with visiting professors has been energizing CTF. Having leading international scholars, who stay for shorter or longer periods, is an important part of the CTF culture, as well as having our researchers spending time at other universities around the world. CTF collaborates not only with other scholars, but have a long tradition of conducting research in collaboration with companies and organisations. Collaborating with partners outside academia provides access to data and transfers research results to practice. Societal impact through external collaboration has been

a priority for CTF from the start and this mindset has also shaped the development courses and programs at Karlstad University. External funding of long-term projects and research programs has also been crucial for the growth of CTF. Some programs with over SEK 100 million over several years from research foundations such as The Knowledge Foundation and Vinnova have been of special importance. These big grants enable the recruitment of doctoral students, international researchers and professors. These programs span areas such as service development and service innovation, digital transformation and other aspects of value creation through service. The research contexts include healthcare, manufacturing, telecoms, retail and transportation.

From initially focusing on what a service is, service characteristics and quality of service, CTF has broadened its scope to value creation through service. Goods and services become resources or enablers in value-creating systems. Understanding and managing development and transformation of value creating, sustainable ecosystems is today the basis for CTF's research, or it is at least one way of portraying CTF.

Looking ahead, CTF is well positioned and equipped to meet the needs of the future. The CTF brand at Karlstad University is strong, which facilitates both internal and external funding and recruitment of new employees. High quality research, grounded in rigor and relevance requires a long-term commitment, not short-term projects. Therefore, long-term funding is crucial for CTF's development during the coming 35 years. CTF is ready and committed to continue the journey, contribute to service research and respond to challenges in businesses, other organisations and in society.

Bo Edvardsson
Founder of CTF

CTF
• 35 •
YEARS
1986 - 2021

”
When I look back on the past
35 years, I would like to borrow
a quote from Ikea’s founder,
Ingvar Kamprad:
“Most things are still undone.
What a glorious future.”

Bo Edvardsson, professor in Business Administration

Chair's view

Science, multidisciplinary skills and collaboration between different actors in our society is needed more than ever in these turbulent and challenging times.

The secret of success in future operations as well as in sustainable transformation lies in the ability to connect and balance the people, the planet and prosperity aspects. There are no easy solutions or binary answers to the global challenges nor the bright visions for our common future.

In this context CTF wants to take the lead and play a vital role by keeping up the pace and innovation level in producing high standard research results as well as making research-based insights available.

In 2021, CTF has presented several courses tailored for professionals to improve skills in strategic areas such as idea generation, digitalization and digital transformation in organisations. Research has been presented on a wide range of crucial and strategic subjects such as improved health, alternative low emission construction materials, servitization, value creation, customer experiences, public and fossil free transports as well as transformative packaging, and much more.

All of this contributes to finding answers and solutions to different needs and challenges in the everyday life of commercial enterprises and public organisations.

Another example is the new platform, "Samhällsnytta AB", that CTF presented during the year. The goal of the initiative is to create a new

co-lab hotspot where different stakeholders can meet to find solutions to common challenges by accessing new knowledge and research created by the community of researchers at CTF.

I am proud to say that the multidisciplinary skills represented among the CTF researchers cover all the three sustainability aspects, and the intercorrelations between them. In 2021, CTF celebrated 35 years of high-end research, and I can't wait to see what our curious and skilled researchers will present during the upcoming next 35 years. To be continued...

Malin Thorsén

CEO Bright Planet and chair of CTF Advisory Board



Key numbers 2021

100

SCIENTIFIC PUBLICATIONS IN TOTAL

52

SCIENTIFIC ARTICLES

8,8

NEW EXTERNAL FUNDING IN MSEK

30

INTERNATIONAL
CO-AUTHORED SCIENTIFIC ARTICLES

30

SEMINARS & CONFERENCES

50

ONGOING
RESEARCH PROJECTS

85

CTF PEOPLE

Including CTF people employed at Karlstad University,
guest researchers and affiliated researchers.

65

HITS IN MEDIA

5

PHD AND LICENTIATE DEFENSES

Director's report

Closing the chapter for 2021 implies leaving yet a challenging and different year due to the corona pandemic. But it was also the year for CTF's 35th anniversary.

When I look back and summarize the year I see, despite the pandemic, several joyful events and important contributions made by CTF. The researchers, supported by our administrative team, have investigated, collaborated, shared knowledge and contributed to value creation through service, which is the mission statement of CTF.

I am happy about our ability to collaborate and work with businesses and public organisations - co-production is an important factor in our research and for CTF's development. I am very pleased when we receive requests from new organisations who want to co-produce new knowledge that is needed for tomorrow's competition, a better world in the form of value creation through service.

The Swedish Innovation Index is one way for us to share our knowledge on service innovation from the customers' perspective. This was the third consecutive year we ranked companies and presented our index, which this year also focused on innovation within retail during the pandemic.

As many as four PhD students defended their doctoral thesis, and one PhD student presented his licentiate thesis. Two researchers were promoted to professor. We have welcomed several new researchers and PhD students, and can now boast with having researchers from no less than eight academic disciplines.

We have been visible and presenting our research in media and other public events. I have seen examples of how our research has been used by our external partners to transition in order to provide a better foundation for value creation through service. These efforts have led to an improved experience for customers, consumers, patients and citizens – this makes me both happy and proud.

CTF's 35th anniversary was highlighted and celebrated in several ways, for example through a digital seminar series that attracted more than 600 participants in total. Just to think back on

how it all started, when Bo Edvardsson and two colleagues established CTF in 1986, few would then have imagined that 35 years later we would have a leading research center with over 80 researchers active in research and teaching.

I want to thank everyone, colleagues at CTF as well as our important partners, for the work that was carried out during this past year. We will continue our work and our mission to contribute to scientific knowledge and development of private and public organisations and the wider society through research on value-creation through service.

Per Kristensson
CTF director



Organisation

CTF, Service Research Center, is a multinational research center at Karlstad University, Sweden, established in 1986. Our staff members, and guest researchers, come from all over the world and are variously involved in research and education within Business Administration, Psychology, Religion Sociology, Information Systems, Computer Science, Environmental and Energy Systems, Political Science, and Machine Design.

Management team

The daily operations are led by a director, Per Kristensson, supported by a vice director, Johan Quist, an administrative team and a strategic council.

Advisory board

The advisory board provides valuable insights, vital knowledge and experience.

- Malin Thorsén, Bright Planet AB (Chair)
- Kristina Heinonen, Hanken School of Economics
- Vilhelm Jensen, Nordea
- Hans Karlsson, Arvika Municipality
- Mikael af Kleen, Dalberg Advisors
- Jonas Matthing, Compare
- Peter Rovèr, Effect Management
- Anders Tufvesson, Ninetech
- Per Kristensson, CTF
- Johan Quist, CTF
- Jenny Karlsson, CTF

Funders and partners

CTF works in partnerships with businesses, public organisations and academia all over the world. Our funders and partners are important factors of our success.

In addition to support from Karlstad University, we are grateful for the support from the following funders and partners:

KK-stiftelsen ><

VINNOVA



In addition: Forte (Swedish Research Council for Health, Working Life and Welfare), Tillväxtverket (Swedish Agency for Economic and Regional Growth), Forskningsrådet Norge (The Research Council of Norway), Riksbankens jubileumsfond (Swedish Foundation for Humanities and Social Sciences), Handelsbankens forskningsstiftelse Jan Wallanders och Tom Hedelius stiftelse (Handelsbankens Research Foundation), Anne-Marie and Gustaf Anders stiftelse för mediaforskning (Anne-Marie and Gustaf Anders Foundation), Konsumentverket (Swedish Consumer Agency), Mistra SAMS (The Swedish foundation for strategic environmental research), Region Värmland, Experio Lab Sweden, Karlstad Municipality, Compare, DigitalWell Arena, City of Helsingborg, Arvika Municipality, Karlstad Congress and Culture Centre, Lidl's Future Initiatives/Plastutmaningen, Volvo Group, Valmet, Ikea, Löfbergs, Ica Maxi Supermarket, Tobii Technology, Miller Graphics, Kongsberg Maritime Sweden, QBIM, Thingssquare, Paper Province, BillerudKorsnäs, Voith Hydro, Cellcomb, Forskarskolan MIT (Swedish Research School of Management and IT), Elevenite, InTechrity, Genelle, Almega, Attityd, Effect management, Färjestads BK, Industriråd Värmland, NWT, RISE, SMA Mineral AB, Stål & Verkstad, Uddeholm AB, Unionen, and many others.

Selected scientific partners worldwide

CTF has a large international scientific network and collaborates with scientific partners all around the world. Here are some selected examples.

A selection of scientific networks and organisations:

- RESPONSE – Demand-Responsive Transport to ensure accessibility, availability and reliability of rural public transport
- Mistra SAMS, The Swedish Foundation for Strategic Environmental Research
- SIQ, The Swedish Institute for Quality
- SQMA, The Swedish Quality Management Academy
- MIT, Swedish Research School of Management and IT
- WASP-HS Graduate School

Ander Visiting Professors

Our Ander Visiting Professors contribute with an international perspective and knowledge from the forefront within their respective fields of research. The professorship is funded by Anne-Marie and Gustaf Anders Foundation for Media Research.

- Martin Schreier, University of Vienna, Austria
- Satoshi Fujii, Kyoto University, Japan
- Johanna Gummerus, Hanken School of Economics, Finland
- Joann Peck, University of Wisconsin, USA
- Stephen L. Vargo, University of Hawai'i at Manoa, USA

Visiting researchers, who stay for shorter or longer periods of time, is an important part of our environment. In 2021, Professor Frank Hannich, Zurich University of Applied Science (ZHAW), School of Management, Austria, and PhD student Qusay Hamdan, Vlerick, The Netherlands, visited us, and CTF researcher Alexandre Sukhov visited MINES ParisTech University, France.



Introducing new CTF people



Karin Ahlin

Postdoctoral researcher in Information Systems. Research focus: data and information linked to health aspects.



Charlotta Andersson

Administrator and a new member of CTF's administrative team.



John-Erik Hassel

Industrial PhD student in Business Administration. Research area: entrepreneurship and entrepreneurial processes.



Ingo Karpen

Professor in Business Administration
Research area: business and service design.



Agnieszka Kitkowska

Postdoctoral researcher in Computer Science. Research area: online privacy, decision-making and digital transactions.



Javaneh Mehran

Postdoctoral researcher in Business Administration. Research area: consumer behavior, service marketing and tourism expenditure modelling.



Pritam Padhi

PhD student in Business Administration. Research area: innovation management, service performance and service offerings.



Henrik Johansson Rehn

PhD student in Psychology
Research area: behavioral science and motivational factors for everyday travel.



Christina Öberg

Professor in Marketing
Research area: mergers and acquisitions, the sharing economy, innovation and networks.

Research framework and goals

Our research is driven by societal challenges with a focus on humans, society and our planet.

We conduct research on value creation through service based on the needs of individuals, businesses, organisations and society. We want our research to make a difference and help develop people, organisations and the world around us. Through research on services we develop new knowledge about value creating processes. With value creating processes, we refer to the effects that arise between an organisation and a user in the form of a customer, citizen or patient.

Central research areas: service innovation, service management, service experience, transformative service research, service logic and service system transformation. CTF is always open to new research areas when societal transformation makes such areas relevant. CTF's research is conducted in collaboration with private and public organisations as well as academia, and is at the forefront internationally in service research.



Several projects and studies at CTF are related to the Sustainable Development Goals (SDGs) in the 2030 Agenda for Sustainable Development.

New funding and projects

During 2021, CTF had about 50 ongoing research projects and received SEK 8,8 million in new funding. Here are some selected projects and collaborations that was initiated during the year.

Customer Sexual Harassments in the Nordic Service Workplace

Anna Fyrberg Yngfalk and Markus Fellessen received approximately SEK 1 million from the Nordic Council of Ministers through NIKK, Nordic Information on Gender. This in order to analyse how Nordic ideals related to management and organisation affect the work environment for people working in the service sector and in retail. The project entitled “Customer Sexual Harassments in the Nordic Service Workplace” will focus on examining customer-centric ideals. The goal is to contribute with further knowledge about the implications of organising for the customer, how this can generate gender inequality at work places by establishing power structures and gender structures which in turn can lead to violence and sexual harassment towards employees.

Samhällsnytta

A national arena is being created to jointly develop ideas and new forms of collaboration that can contribute to better solutions in society. Karlstad University Samhällsnytta AB has been formed and a board is in place. The mission is to use new knowledge and research results as tools for solutions to today's and tomorrow's societal challenges.

– During our research within CTF, we have seen a need to gather actors at different levels in society at an arena for co-creating and find smart solutions for both individuals and society, says Johan Quist, CEO of Samhällsnytta and researcher at CTF. Samhällsnytta can be described as a test environment for societal solutions, where ideas can be tested before they are rolled out throughout society.

Read more: www.kau.se/samhallsnytta

Smart Villages in Sweden

CTF is part of the project SVIS - Smart Villages in Sweden that was initiated in April 2021.

– The project expands a method developed within a project on placebased digital experiences in combination with a wider CTF perspective to focus on sustainable communities for residents and visitors alike and is in line with Agenda 2030 issues concerning environmental, economic, and social sustainability, says CTF researcher Pernille K Andersson.

The project is led by Geomedia at Karlstad University in collaboration with CTF and is funded by the Knowledge Foundation. Project partners include the Torsby and Årjäng municipalities, Region Värmland, Innovation Park, Visit Värmland, Compare, and Coompanion.



Markus Fellessen and Anna Fyrberg Yngfalk



Johan Quist



Pernille K Andersson

Publications

Publishing research is one of the distinguishing factors for researchers. The publication process brings quality assurance to higher education.

In 2021, 52 scientific articles were published in various academic peer-reviewed journals. 30 of them were the result of international collaboration with scholars found all over the world. Several articles were published in leading journals with a high impact factor, for example: *Journal of Business Research*, *Journal of Service Research*, *Journal of the Academy of Marketing Sciences*, *Journal of Retailing*, *Psychology & Marketing*, *Marketing Theory*, *Industrial Marketing Management*, *Journal of Product Innovation Management*, *Marketing Theory*, and *Journal of Business Ethics*.

During the year, 14 conference papers were accepted. This is a lot less than normal, which is due to the pandemic. In addition, four doctoral theses, one licentiate thesis, one book, 26 book chapters and four reports were published. Christina Öberg, was awarded for the paper “Managers, Minds and Machines in the Age of Artificial Intelligence” at the Academy of Management Annual Meeting in 2021. Kaisa Koskela Huotari was selected for the Highly Commended JSTP Paper Award for 2020-2021 for the article “Rethinking the actor in service research: toward a processual view of identity dynamics” published in *Journal of Service Theory and Practice*, 30(4/5).

Selected publications

- Ali, M. M., Karlsson, J., & Skålen, P. (2021). How Has Digitalisation Influenced Value in the Music Market?. *International Journal of Music Business Research*, 10(2), 53-63.
- Gummerus, J., Mickelsson, J., Trischler, J., Härkönen, T., & Grönroos, C. (2021). ActS-Service design based on human activity sets. *Journal of Service Management*.
- Koskela-Huotari, K., Patricio, L., Jie Zhang, Karpen, I.O., Sangiorgi, D., Anderson, L., & Bogicevic, V. (2021). Service system transformation through service design: Linking analytical dimensions and service design approaches. *Journal of Business Research*, 136, 343-355.
- Olsson, L. E., Friman, M., Lättman, K., & Fujii, S. (2020). Travel and life satisfaction-From Gen Z to the silent generation. *Journal of Transport & Health*, 18, 100894.
- Bolton, R. N., Gustafsson, A., Tarasi, C. O., & Witell, L. (2021). Managing A Global Retail Brand in Different Markets: Meta-Analyses of Customer Responses to Service Encounters. *Journal of Retailing*.
- Mehran, J., Escallada, O., & Olya, H. (2021). Employee well-being in guest-oriented industries: Evidence from food and beverage sector. In *Emerging Transformations in Tourism and Hospitality* (pp. 154-169). Routledge.
- Otterbring, T., Wu, F., & Kristensson, P. (2021). Too close for comfort? The impact of salesperson-customer proximity on consumers' purchase behavior. *Psychology & Marketing*, 38(9), 1576-1590.
- Falk, P. (2021). Towards a Public Sector Data Culture: Data as an Individual and Communal Resource in Progressing Democracy. In *The Data Shake* (pp. 35-45). Springer, Cham.
- Sebhatu, S. P., Enquist, B., & Edvardsson, B. (Eds.). (2021). *Business transformation for a sustainable future*. Routledge.
- Vink, J., Koskela-Huotari, K., Tronvoll, B., Edvardsson, B., & Wetter-Edman, K. (2021). Service ecosystem design: Propositions, process model, and future research agenda. *Journal of Service Research*, 24(2), 168-186.
- Åkesson, M., & Löfberg, N. (2021). Service-dominant logic: a missing link in servitization research?. In *The Palgrave Handbook of Servitization* (pp. 389-402). Palgrave Macmillan, Cham.
- Skarin, F., Wästlund, E., & Gustafsson, H. (2021). Maintaining or Losing Intervention-Induced Health-Related Behavior Change. A Mixed Methods Field Study. *Frontiers in Psychology*, 12, 2406.

Doctoral and licentiate theses



What are the challenges that organisations in the public sector face in their effort to create public value? That is the question **Sara Davoudi** has looked into in her doctoral thesis.

Davoudi, S. (2021) Business Administration, What happened with the leviathan of the Public Sector?: The challenges of vertical coordination in regional public organizations and its effect on public value, Karlstad University Studies, 2021:3.



Peter Samuelsson's doctoral thesis aims to create a framework for service innovation encompassing healthcare's prerequisites and, by empirical studies, provide valuable insights for service innovation research and healthcare practice.

Samuelsson, P. (2021) Business Administration, Framing service innovation in healthcare, Karlstad University Studies, 2021:5.



Sofia Molander's doctoral thesis examines how public transport can establish a service that satisfies customer needs through fruitful collaboration with the service provider. This thesis contributes to an increased understanding of how public-private dyads enact ("what"), enable ("how"), and embrace ("why") market orientation.

Molander, S. (2021) Business Administration, Enacting, Enabling, and Embracing Market Orientation: A study of Public-Private Dyads, Karlstad University Studies, 2021:12.



Jasenko Arsenovic's doctoral thesis mainly focuses on the process of managing customer complaints, with regard to both subtle and more clear instances of service failure. The aim of this thesis is to explain the role of customer and employee proactivity in service failure and service recovery.

Arsenovic, J. (2021) Business Administration, Proactivity in Service Failure and Service Recovery, Karlstad University Studies, 2021:25.



Andrey Abadzhiev has examined how alternative materials can replace the old ones. With his licentiate thesis he aims to understand how businesses within the construction industry organise in order to accomplish systemic change towards more sustainability.

Abadzhiev, A. (2021) Business Administration,, Wood We Change?: Business Model Innovation Towards Sustainability Transitions: Studying the Wood Construction Industry, Karlstad University Studies 2021:31.

Research highlights and impact stories

Co-creating new knowledge on servitization in manufacturing companies

CTF have been collaborating with Voith Hydro, BillerudKorsnäs, Cellcomb and Kongsberg Maritime in the project ServzChall. A fruitful collaboration where the companies have taken a step forward in their servitization journey with the support of research.



During a three-year period, researchers have co-created new knowledge on servitization in collaboration with the companies in the project supported by the Knowledge Foundation.

– The aim was for the companies to become more service-oriented and

for us to create research that can be disseminated and benefit companies, says researcher Maria Åkesson, project manager.

CTF have worked together with the companies through workshops and company visits. The companies presented and accounted for their work and received feedback from the researchers. They also discussed and shared experiences with each other.

– It has been an open and inclusive environment where the participating companies have shared their challenges and solutions with each other, says Maria Åkesson. We have received useful input for our research.

A model for servitization in practice, a model for collaboration between research and the business community, and several scientific publications are

some of the scientific results from the research that has paved the way for further research and development.

For Omed Rawandi, business area manager for Automation and Digital Solutions at Voith Hydro, the project has been an energy boost and a confirmation to be on the right track in their servitization journey.

Stefan Roxenby, business development manager for Packaging Solutions at BillerudKorsnäs, explains that the opportunity to have several people involved in this project has made it easier to continue discussions within the company and create a good basis for new perspectives.

Maria Åkesson identifies several gains with the project:

– Servitization is an ongoing journey and to succeed you need an approach that permeates the entire organisation. The process is also facilitated by committed and driven individuals, which we have seen in our companies - they have all made a great progress in their servitization journey. Our approach used in this project is applicable to future projects and a good example of how we can co-create value with our partner companies. I am certain that this project will lead to important renewal in the research area and in future research projects.

In addition to feedback and knowledge transfer from the researchers at CTF, we have received a lot of knowledge and inspiration from the other participating companies. Since the companies in the project represent different industries, everyone has been very open to sharing good examples and the discussions have been enriching.”

Mattias Skrinning

Business area manager for Global Customer Support at Kongsberg Maritime



The Swedish Innovation Index 2020

The Swedish Innovation Index is one way for us to share our knowledge on service innovation from the customers' perspective and to contribute to a sustainable development of business and society.



In 2021, we presented the Swedish Innovation Index for the third consecutive year. The index takes a customer perspective on service innovation and measures how customers perceive the innovativeness of service firms. Ikea was, for the third year in a row,

ranked as Sweden's most innovative company. Followed by Spotify and MTR Express in second and third place respectively. The key to being perceived as innovative is that these firms are top of mind for customers and they develop and introduce new services that are important and noticeable to customers.

The Swedish Innovation Index 2020 includes responses from almost 9,500 customers who have ranked the degree of innovativeness of approximately 80 companies and organisations in 11 industries. The customers have evaluated the company's offer, delivery, encounters, and interactions to better understand how customers experience the company's innovativeness, and how attractive these innovations are.

This time, we specifically looked at which companies that have improved their innovativeness since we first launched the index. Systembolaget,

H&M and Skatteverket have made the largest improvements. They have had a deliberate strategy to improve the service encounters across all touchpoints (store and online) and the customers recognize and reward them by ranking them high. It is remarkable to see the innovation journeys these service firms have embarked on, and it will be interesting to follow them in the coming years.

In addition, we looked on how retail firms have used service innovations to deal with Covid-19. Retail firms that are viewed as innovative have been better at innovating customer experiences that feel safe, for example by increasing social distancing in stores. Launching and improving online services has been the key for being viewed as more innovative. The key conclusion is – by developing your innovativeness you become better prepared for changing your business in time of a crisis.

The purpose of the Swedish Innovation Index is to complement traditional ways to measure innovativeness, such as patents and R&D expenditures, and to show that innovation is important in service industries. The index provides guidance and knowledge for policy makers and managers, and show how Swedish businesses are doing when it comes to innovation.

Lars Witell
Professor in Business Administration



Turning an idea into a solution that adds value to customers is great, and if you get every person in the organisation to do that – the impact is huge! You need to have a clear vision, a strategy and the right structures and leadership that enables for everyone to be innovative. We have a customer centric approach, using the customer journey to identify friction for our customers. We do not only exist for those who shop in our stores, our target group is everyone in Sweden. Therefore, we need to make sure that our development align with our purpose – to limit the harmful effects of alcohol in the society.

Frida Jarlbäck
Business development manager at Systembolaget



Hello there, Peter Santén, senior innovation manager at Volvo Group ...

... and one of our partners within the project DISCERN. What is the aim of the collaboration and what have you been working on so far?

– Focus has been to increase awareness about services and creating complete customer solutions, and to get a better understanding of the key factors to succeed. We are working on cases together with CTF in workshops. We look at topics with related research articles, review our current methods and way of working, discuss Volvo's point of view and what we can learn from research. This is then shared with each part of the organisation for reflection and discussion until the next session. It is an ongoing process.

– We also focus on broadening the knowledge within the company and input from CTF has been appreciated. Seminars have been held by CTF at Volvo, and also been recorded to spread the word and get the internal discussion going to accelerate change. Volvo Group is a big organisation and the internal Volvo DISCERN team members represent Volvo Trucks, Volvo Penta, Volvo Bus, Volvo Group Trucks Technology, Volvo Group Connected Solutions, Volvo Financial Systems and Volvo Construction Equipment. In the continuous dialogue with CTF, we have seen the importance of having an organisation that supports changes in servitization and that moves towards the same goal.

In what way can research and the collaboration with CTF be useful?

– It is important to understand what research can tell us in order to get a better idea of the big picture. CTF has brought examples from research and presented challenging situations faced by other companies, all of which we can learn from. It is always valuable to discuss and listen to the experiences of others. CTF also shows different angles and views when discussing the customer perspective and the complete business ecosystem. This in turn triggers ideas when we address ways of working with service development. We also share information about upcoming conferences, webinars, articles and books, etc., to deepen our knowledge.



Having access to research gives us a more solid foundation as we move forward.

Can you give an example of what you do different today as a result of the collaboration?

– The project has led to a well-functioning focus group and internal interfaces within Volvo's organisation that receive direct input and work with the feedback from our DISCERN teams. It has also resulted in a better understanding of the organisational setup and the challenges that may arise when you work with services. We are also planning for in-house training to further the know-how on servitization throughout the organisation in order to accelerate change.

DISCERN is funded by the Knowledge Foundation until 2023 in collaboration with partners from the business sector. Volvo is part of the subproject "Digital Service Infusion", led by CTF researcher Nina Löfberg, which focuses on how digital service infusion affects the customer experience and business model configurations in business ecosystems.

Research for a more accessible and sustainable transportation sector

CTF has been one of the partners in Response, an initiative aimed at strengthening the capacity of public transport authorities and local public transport service providers in the Baltic Sea Region. This to implement new services that shift the approach from supply oriented to demand-responsive transport (DRT) solutions.

In the sub-project “Interactive citizen involvement in DRT service design”, researchers from CTF and University of Borås have studied how travel groups with different disabilities experience demand-responsive transport services. Focus has been on critical aspects such as reliability and user-friendliness and how travellers and drivers co-handle different situations.

- Our studies show that drivers need to pay more attention to physical, behavioural, communicative and sequential aspects when interacting with the travellers, says CTF researcher Per Echeverri. It is important that the travellers’ own behavioural abilities are taken into consideration and are utilised.

The study also shows that the travel experience often is perceived as physically uncomfortable. To reduce vulnerability, it is important that drivers provide information and are responsive to the travellers’ subtle verbal and nonverbal signals during the journey.

- Results of our studies contribute to sustainability goals 10 and 11 in Agenda 2030, especially the sub-goals of promoting inclusion and equal rights in society and making sustainable transport systems accessible to all, says Professor Nicklas Salomonson at University of Borås. We

see the development and improvement of this form of transformative services as a cornerstone of a democratic and modern society.

Results from the study have been presented, and published in several scientific articles and a handbook. The handbook is based on studies with observations and interviews with DRT travellers, drivers and booking staff. The handbook is aimed at actors in the public transport sector and includes recommendations on how to develop a better experience for vulnerable travel groups.

- Hopefully our handbook can serve as a tool for future developments and provide with an increased understanding of how this group of travellers are experiencing their DRT-journeys - knowledge that can be used to improve this type of travel to better suit the needs of the travellers, concludes Per Echeverri.

Response was supported by the EU Development Fund Interreg Baltic Sea Region during 2019–2021, and was a collaboration between regions, universities, public transport companies and public transport authorities from Estonia, Lithuania, Sweden, Norway, and Denmark.

Read more: www.response-project.eu



We had the pleasure of listening to Nicklas Salomonson presenting this study. Within my area of responsibility, human rights for people with disabilities, this hit the spot. Being able to offer the county’s professionals to take part of new important research, presented in a knowledgeable and committed way, means a lot both to those who work strategically with these issues and to those who work at the operational and client level.

Therese Bjursell Lodesjö

Coordinator for Disability Policy and Democracy Issues at the County Administrative Board of Västerbotten



CTF and Friskvården i Värmland collaborating on digital services that promote health

CTF has together with Friskvården i Värmland conducted a study that have tested the feasibility and effectiveness of personalized digital coaching - an SMS-coach to help support individuals' behavior and lifestyle changes.



As a direct result of the collaboration, Friskvården i Värmland now offers SMS-coaching to its clients.

– The study has proven that SMS-coaching helps the clients increase their capabilities and opportunities to reach their goal behavior, says

researcher Charlotte Bäckman. It also increased the clients' overall self-rated wellbeing. The service provides a reminder of the desired behavior as well as social and emotional support. Many clients seem to have become more aware of their own responsibility for the changes, and this increased accountability is important for the maintenance of the new behavior.

The researchers have been studying how SMS-coaching affect motivation among clients who come to Friskvården i Värmland for support in changing their eating and exercise habits. Personalized text messages based on each client's needs are being sent by a health coach with whom the client also have physical meetings. The frequency and content were agreed upon by the client and health coach.

– From the coach's point of view, the SMS provided an added value to the ordinary wellness

dialog; not only in terms of increased flexibility but also by getting to know the clients better – they became part of the client's everyday life, says Charlotte Bäckman.

SMS-coaching did increase the workload to some extent, but the health coaches solved this with finding an increased structure or setting their own reminders. The SMS-coaching gave an added value when the pandemic hit. Many clients could receive coaching despite restrictions and personal situations.

– Despite the myriad of digital applications designed to support behavioral changes, few can be adapted to meet each individual's unique challenges and needs, says Charlotte Bäckman. Therefore, this study wanted to explore if, and how, individually tailored SMS-coaching could support behavior changes among individuals with different challenges and needs.

Friskvården i Värmland (Wellness Värmland) is a non-profit organisation with the mission to contribute to the health of the region. A majority of its clients have been prescribed there by a physician and need help to learn healthier lifestyles. The study is a part of the initiative DigitalWell Arena, and its endeavor to innovate new digital health and wellness services.

Read more: www.friskvarden.org

“We had the privilege of participating in this study and test SMS-coaching as a behavior change technique. It has given us valuable experience and increased knowledge of a working method that could strengthen the health process when communicating with clients, and thereby strengthen their motivation and ability to change lifestyle habits. We feel inspired to implement this as a continued way of working in our organisation.

Per Hjalmarsson

Head of operations for Friskvården i Värmland



Research and collaboration strengthening the regional music industry

During the past years, researchers have co-created new knowledge on how to increase growth and quality in the regional music industry. This within the project MECO, Music Ecosystems Inner Scandinavia.



The overall aim of MECO was to study, innovate and optimize the music service ecosystems in the Region of Inner Scandinavia. The researchers have looked at what is needed in order to stimulate, educate and develop the music industry in a sustainable inclusive way.

– Through research and various events; workshops, seminars, courses and song-writing camps, the project has managed to generate great results, says project manager Jenny Karlsson.

The project has provided support and generated important job opportunities in an industry that was hit hard by the pandemic. For example, a music innovation lab was developed as a digital meeting area with collaborations between researchers, students and actors, both from the music industry and from other creative and cultural industries such as art, theater, gaming etc.

The project has been part of developing the Music Production Programme at Ingesund School of Music into a three-year programme, which now also host a mentoring programme for women and non-binary students. The program has provided the opportunity to create long-term relationships with mentors from the music industry and to provide better conditions for creating a successful, rewarding and balanced professional life.

The core of MECO has been the music industry in Värmland and Norska Innlandet. The researchers have looked at the conditions needed to enable musicians to be based outside of the big urban areas and still operate on the big scene.

– MECO has contributed to an innovation-driven music life in Inner Scandinavia with an active music industry where local, regional, national and international actors can collaborate and co-create

across borders, says Jenny Karlsson. MECO has been a hub in an industry that has been struggling for many years and has supported the industry to establish new and develop existing networks as well as to get in touch with key people and enablers to be able to move forward.

The researchers have, among other things, studied the role of fans in music consumption and marketing, and how the interaction between the artist and fans takes place, affects, and, in some cases, generates marketing adding value to the artist's brand. This has included analysing everything from TikTok, Facebook, Instagram to streaming services such as Spotify.

– There are many interesting aspects that we would like to study closer and we are now working on establishing opportunities for further research, says Jenny Karlsson.

MECO was a three-year Interreg project conducted in collaboration between Karlstad University, Inland Norway University of Applied Sciences and Studieförbundet Örebro-Värmland. The project was also funded by Region Värmland, Arvika Municipality and Innlandet Fylkeskommune.

Read more: www.m-eco.no



Communication and dissemination activities

Research communication and sharing knowledge is an important part of our activities. During the year, we arranged several events and presented our research, nationally and internationally, in different ways. Here are some selected examples.

- [CTF's 35 year Anniversary](#) was recognized and highlighted with the digital seminar series "CTF 35" with different topics related to our research and with researchers and special guests amongst the speakers. The anniversary was also highlighted in a blog series.
- [MECO seminar series](#). The research project MECO presented their research results in the series.
- [The fifth edition of CTF's Service Innovation Day](#) was held on June 8. The seminar focused on innovation, transformation and sustainable development during changing times, and attracted over 100 participants.
- [The 10th annual Swedish transportation research conference](#) was hosted by Malmö University on October 19-20, and co-arranged with: CTF, Chalmers University of Technology, University of Gothenburg, Centre for Transport Studies at KTH Royal Institute of Technology, Linköping University, Lund University, and the Swedish National Road and Transport Research Institute, VTI. The annual conference gathered Swedish transport researchers around issues concerning the Swedish transport system.
- [The Sustainability Day – Agenda 2030 Challenges for societal impact](#) was arranged on December 6 by Karlstad Business School in collaboration with CTF.
- [The 2nd Annual PRME Nordic Chapter Responsible Management Education Symposium](#) was arranged on December 15 by Karlstad Business School in collaboration with CTF.

CTF researchers were invited to speak at seminars, public events and conferences around the world. For example at: Frontiers in Service-Service in the World of Artificial Intelligence and Digital Technologies

– Virtual on Zoom on 9-10 July, The 7th Naples Forum on Service on 6-9 September, The 81st Annual Meeting of Academy of Management, Virtual conference on 30 July-3 August, The International Conference on Transport and Health, Virtual event on 14-30 June, and the R&D Management Conference-An Era of Disruption, Virtual conference on 6-8 July.

Assignments outside Karlstad University

Several researchers were involved in internal and external assignments contributing to journals, boards, committees etc. Some examples are: Christina Öberg, member of the board for research questions at the Swedish Competition Authority. Margareta Friman, chair of the International advisory board for "Smart Cities and Communities", Halmstad University. Carolina Camén, member of the steering committee for SQMA. Johan Quist, member of the Swedish Coast Guard transparency council.

CTF in social media



@CTFse



CTFServiceResearchCenter



@kauresearch



ctf-service-research-center



CTFse

CTF in media

The pandemic continued to reduce media space for other stories, and we received less media exposure. Here are some selected examples of articles in media.

- "Bara företag som drivs av värderingar kommer att lyckas ställa om" (NWT)
- Så pallar du eventuella restriktioner (P4 Värmland)
- Miljöforskaren om klimatavtalet: Steg på vägen (P4 Värmland)
- Prischock på macken - ännu dyrare drivmedelspriser väntas (SR)
- Storpack och matsvinn (Smålandsposten)
- Efter Facebookhaveriet: Vi skulle inte använda mobilen mindre om det inte fanns (SR)
- DEBATT: Storpack kan skapa ökat matsvinn – anpassa förpackningarna för ett klimatsmart samhälle (Sundsvalls Tidning)
- "Räkna inte bort tjänsteinnovationerna – ställ om politiken" (Ny Teknik)
- Debatt: Storpack ger matsvinn (Västerbottens-Kuriren)
- Kraftig ökning av utlandsresor under sommaren (DN)
- Close proximity between salespeople and consumers reduces spending behavior (Honest Columnist)
- Forskaren: "Vi måste agera inom en tioårsperiod" (SR)
- Slopa storpack - gör förpackningar för ensamma (GP)
- The Swedish Bus Ridership Revolution (Researching Transit)
- Innovationerna blomstrar under pandemin (Industrinyheter.se)
- Aggressive salespersons beware: In-your-face approach may backfire with some products (Fastinform)
- Innovativare företag starkare under pandemin enligt Svenskt innovationsindex (IT-Retail)
- Idékläckare i vården behöver olika sorters stöd (Dagens medicin.se)
- Ny studie ska göra bussresandet bättre i Värmland (VF)
- Behovet av att klämma och känna kan vara fysiska handels framtid (P4 Västmanland)
- Hållbar, hållbarare, hållbarast? (it-hallbarhet.se)
- Öppnar nya skolan för ny teknik (Nwt)
- Ensamhet i pandemin – psykologen förklarar och tipsar (Nwt)
- Många förutspådda miljöproblem i framtiden (Sveriges Radio)
- Ett år med pandemi – så säger forskarna om det "nya normala" (Nwt)
- Riktade annonser? Nej det vill inte konsumenterna ha (Computer Sweden)
- Svenskar oroliga över hur deras information används på nätet (svt.se)
- Vårdens entreprenörer behöver bättre stöd (esbri.se)
- Professorn i Karlstad: Coronapandemin gör att våra resvanor ändras (SVT)
- Nu tröstater vi för att klara karantänlivet (ETC)
- "Phubbing" ett vanligt fenomen i butiker (P4 Sjuhärad)
- Nu ser vi ett tydligt behov av distans - handeln behöver snabbt lära om (market.se)
- Psykologiprofessorn: "Vi förväntar oss att de som sätter reglerna ska följa dem" (Nwt)



Education

Researchers at CTF are active in and have important roles in undergraduate, graduate, and postgraduate education. Here are some examples of how we contribute.

Researchers and doctoral students associated with CTF are active in teaching and supervising at different levels. Particularly within Karlstad Business School and in Business Administration, but also in other disciplines such as Psychology, Environmental and Energy Systems, and Political Science.

Researchers had leading roles in two programs offered by Karlstad Business School (Business and Economics and International Business) and were involved in teaching in Business Administration at all levels. Several researchers had course responsibilities, especially at master's level and within two master's programs (Master in Service management and Master in Marketing). 17 master's theses in Business Administration were connected to CTF research. Researchers also had leading roles, for example as "Head of discipline" and "Director of studies in doctoral education".

In Psychology, researchers were involved in teaching at all levels and in the Master of Science in Psychology Programme. They supervised undergraduate and master's theses as well as PhD students and had leading roles as "Head of discipline", "Director of studies" and "Director of studies in doctoral education".

Doctoral studies

20 doctoral students in the disciplines Business Administration, Psychology, Political Science, and Machine Design were associated to CTF. Seven of them are associated with MIT, the Swedish research school of Management and IT, a national research school and arena for exploring IT-related phenomena that intersect several disciplines in the area of management and IT. Petter Falk, PhD student in Political Science, is associated with the WASP-HS graduate school, which addresses challenges and consequences of autonomous systems and AI in society.

Courses for professionals

Several researchers were involved in competence development for professionals, foremost within the project ISE, but also in collaboration with Karlstad University's Uppdrags AB commissioned education in the course "Facility management from a service perspective".

In 2021, Karlstad Business School received AACSB accreditation. We are now part of a network that meet required high standards which opens many new doors and opportunities. For our research, where CTF has an important role, it will be easier to create formal collaborations with other leading business schools around the world. It should be mentioned that CTF and the research conducted there is a strong reason why we have achieved the accreditation.

Martin Grimberg Löfgren

Head of Karlstad Business School



AACSB was founded in 1916 and is the world's largest business education alliance that connects teachers, students and companies and has a presence in more than 100 countries.

Competence development for professionals



Within “ISE, Improving value creation through service education” we develop and offer flexible courses at advanced level for professionals, in collaboration with businesses and organisations.



ISE is one way for CTF to contribute to long life learning as well as to provide the business sector with up-to-date scientific knowledge and expertise. Additionally, one objective of ISE is to strengthen collaboration between the university and the business

sector. 2021 was a busy and intense year affected by the pandemic. Besides continuing to establish the project, focus has also been on innovation and development work, specifically on course development that matches the need of the Swedish business sector within specific areas connected to our service research at CTF.

During the year there has been a number of meetings and workshops with our partners. They are an important part of our work and contribute with knowledge, experience and ideas as well as input and feedback to our joint course development processes.

Four courses have been run in 2021: Applying service research for professionals, Idea management strategies and methods, Introduction to servitization

and Business models. Additionally, five courses were developed and will be run during 2022. Due to the pandemic, we have adjusted, not only the content of the courses, but also the time table for when the courses will be launched.

In addition to course development, discussions and development work have been done in cooperation with other departments within the university to jointly develop routines around, for example, admission, how to market courses for business professionals, film production etc. The ISE project involves many people, not only researchers and partners, but also administrative personnel in order to jointly be able to develop internal processes.

The work within ISE is an ongoing innovation and development process where we continuously work with quality improvement all to make sure that we can offer relevant courses of high quality and share results from research conducted at CTF to make impact within businesses, organisations and society.

Carolina Camén
Program manager

Read more: www.kau.se/ise



The course “Introduction to servitization” gave me the opportunity to listen to experienced researchers and take part of new knowledge. It also gave me the opportunity to share experiences with other course participants, and apply research to reflect on the issues that I have in my daily work.

Former course participant



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