



CENTRUM FÖR TJÄNSTEFORSKNING
CTF | SERVICE RESEARCH CENTER



Annual report 2023

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 2023

CTF presented the Swedish Innovation Index 2022.



Strengthening the CTF culture and making plans for the future

In September, CTF met at Selma Spa for the annual planning days to discuss future research initiatives and to strengthen the CTF culture.



Guest speaker Tobias Degsell.



Build a duck in one minute was one of the tasks during Tobias Degsell's presentation.



How can we maintain positive changes in lifestyle and behaviour?

Frida Skarin defended her PhD thesis in Psychology, *Positive change for wellbeing: Maintained intervention-induced behaviors and healthier lifestyles*, and her research received some media attention during the year.

Tjänsteinnovationsdagen 2023

Collaboration, digitalization, customer experiences, sharing economy, and social innovation were the focus of the sixth edition of CTF's *Tjänsteinnovationsdagen* (Service Innovation Day), which was held on June 2 at Karlstad CCC.



Peter Samuelsson, CTF, and Erica Wredberg, Lyko, were some of the speakers.



Let the the children walk, cycle or take the bus to school!

This is the message from Jessica Westman Trischler who is featured as an expert on childrens' commuting habits in the German traffic safety campaign *Merci Dir.*

Co-creating future digital health care services

In November, Karlstad University and DigitalWell Arena invited the public sector and business community to jointly inventory needs related to digital health innovation in Värmland. The workshop was an activity within the project DHINO (Digital Health Innovation) in which Karlstad University, DigitalWell Arena/Compare and Region Värmland cooperate.



It's a wrap!

During 2023, five episodes of the new seminar series *Värdeskapande samtal* (Value creating conversations) – a joint initiative with the Hamrin Foundation – were produced.



Moderator Annika Lindqvist, multimedia producer Martin Lindkvist, Helle Sørensen, Östersunds Municipality, and Karin Brodén participated in episode 3.

New PhD students



Elena Palani

is a PhD student in Business Administration and her research area revolves around sustainability and how to reduce food waste.



Filip Högberg

is a PhD student in Industrial engineering management and his research focuses on innovation management and AI.

The research project Retake was awarded the *Special Prize of the Year* at *Återvinningsgalan* (the Recycling Gala).



Director's report

Many great activities took place during 2023, and I want to thank everyone who have contributed to the work that was carried out last year.



CTF researchers have examined, collaborated, shared, and contributed to our mission statement *value creation through service*, which makes us unique in the academic landscape.

One particular aspect that sticks out regarding our research during 2023, and which I believe will be representative for several years ahead, is our focus on executive education. Through our graduate professional program ISE (Improving Value Creation through Service Education) we develop and execute digital courses available for professionals in various industries. The program is developed with the challenges and competence needs of business organisations as the starting point. All of the courses offered imply opportunities for participants to take part of our findings from previous research, but also to share experiences between themselves and draw conclusions on future activities. On top of all this, researchers who are responsible for the courses also can learn from the analyses that are being made and ideas for future research projects come alive.

Other memorable efforts that stick out in my mind are all the external activities that we have arranged. In June, we arranged our *Tjänsteinnovationsdagen* (Service innovation day) for the sixth time and this time the event was held both with a live audience and live streamed at Karlstad Congress Culture Center. During this event we launched the Swedish Innovation Index 2022. We initiated a new seminar series, *Värdeskapande samtal* (Value creating conversations), in collaboration with the Hamrin Foundation, and arranged four seminars during the year where a researcher and practitioners met to talk about current issues.

In addition, we also arranged several meetings, seminars and workshops in the corridors of CTF, and also at organisations, where researchers and professionals collaborated in various forms.

During 2023 several of our researchers were promoted in one way or another, earning their PhD or becoming a PhD student. We have welcomed several new persons to our center and now we have researchers from no less than seven academic disciplines! For those who do not know, an academic research center is defined by three things, societal relevance, cooperation with organisations external to the university, and interdisciplinary research.

Speaking of precisely that, I am happy about our ability to work with businesses, private and public organisations, it is always a great opportunity when we manage to co-produce knowledge with organisations and people outside of the university. It is my sincere belief that such knowledge is needed for tomorrow's competitiveness and, as stated above, for a better and more friendly world where value is created through service.

I want to thank everyone, both at CTF as well as our important partners, for the work that was carried out last year. As of right now, spring is knocking on the door, the sunlight is coming back – I am looking forward to an exciting 2024!

Per Kristensson
CTF director

Key numbers 2023

115

SCIENTIFIC PUBLICATIONS IN TOTAL

37

JOURNAL ARTICLES

9

NEW EXTERNAL FUNDING IN MSEK

26

INTERNATIONAL
CO-AUTHORED JOURNAL ARTICLES

28

SEMINARS & CONFERENCES

39

ONGOING
RESEARCH PROJECTS

110

HITS IN MEDIA

79

CTF PEOPLE

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

57

CONFERENCE PAPERS

Chair's view



The decade of 2020 is called the age of delivery. We now have six years to deliver on the global agreements stated in the Paris agreement as well as the sustainable development goals of Agenda 2030. To put it short: it is time to ramp up the speed.

To succeed in this our economy and society have to become more circular. In an international study comparing the level of circularity Sweden proved to fall short. Our economy is only 3,4 percent circular which can be compared to the global average on 8,6 percent, and for example Austria 9,7 percent and 24,5 percent in the Netherlands. Among the key elements for an economy to succeed in becoming more circular there are different “as-a-service” solutions. In this context the mission statement of CTF: Value creation through service becomes even more relevant and important.

I am proud and impressed to see how the research community of CTF constantly is working to contribute to this mission by exploring to understand the underlying drivers, and to create insights on vital areas such as digital health, eco systems, innovation, consumption behaviors and mobility. In the areas of service management and servitization CTF is an established center of excellence of international standard.

The constantly ongoing exchange of researchers from all around the world are enriching to our university as well as to our region. At the same time, it also enriches the world with the culture and research quality of the CTF community. As always, I would like to thank all the dedicated researchers for their efforts to create new knowledge. I would also like to thank all the members of the board who so generously share their worldly intelligence and input that contribute to challenging the operations, so that we can see important and value-creating results in published articles, as well as in impact in companies and the society. I am looking forward to see what next year will bring in terms of insights, impact and transformative change from this excellent research center.

Malin Thorsén
CEO Bright Planet and
chair of CTF Advisory Board



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

Organisation

The Service Research Center (CTF) is a multidisciplinary research center at Karlstad University, Sweden, established in 1986.

Our staff members (researchers, PhD students, administrative team, guest researchers) come from all over the world and are variously involved in research and education within Business Administration, Psychology, Information Systems, Computer Science, Environmental and Energy Systems, Political Science, Machine Design, Industrial Engineering and Management and Religion Sociology. The daily operations is led by a director (Per Kristensson) supported by a vice director (Johan Quist), and by an administrative team (administrators, communication officer and accountant), and a strategic council consisting of professors and associate professors at CTF.

Advisory board

CTF's advisory board provides valuable insights, vital knowledge and experience and consist of representatives from private and public organisations, and academia.

- Malin Thorsén, Bright Planet AB (Chair)
- Kristina Heinonen, Hanken School of Economics
- Anna Skärdin, Elvenite
- Hans Karlsson, Arvika Municipality
- Mikael af Kleen, Differ Strategy
- Jonas Matthing, Compare
- Peter Rovè, Effect Management
- Per Kristensson, CTF
- Johan Quist, CTF
- Jenny Karlsson, CTF

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.

Funders and partners

We work 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 collaboration and support from the following funders and partners:

- 2030 Sekretariatet
- Almega
- Anne-Marie och Gustaf Anders Stiftelse för mediaforskning
- Arvika kommun
- Attityd Karlstad
- Compare, DigitalWell Arena
- Coop Värmland
- Dimatech
- Effect management
- Elvenite
- Energimyndigheten
- Europeiska Regionala Utvecklingsfonden (ERUF)
- Experio Lab Sverige
- Helsingborgs stad
- Högsolan i Gävle
- Ica Maxi Supermarket, Bergvik
- Ikea
- InTechrity
- Jan Wallanders och Tom Hedelius stiftelse samt Tore Browaldhs stiftelse
- Karlstads Energi
- Karlstads kommun
- KK-stiftelsen
- Kongsberg Maritime Sweden
- Konsumentverket
- Lidl's Future Initiatives/Plastutmaningen
- Light My Fire
- Livsmedelsverket
- Löfbergs
- Nifa
- Nobina Sverige AB
- Nordic Behaviour Group
- OK Värmland
- Panter
- Paper Province
- Polismyndigheten
- Postnord
- Region Värmland
- Riksbankens jubileumsfond
- RISE
- SBAB
- Scaaler
- Skellefteå Kraft
- SMA Mineral AB
- Stål & Verkstad
- Sunne kommun
- Svensk Handel
- Swegon
- The Hamrin Foundation
- The Research Council of Norway
- Thingssquare
- Tillväxtverket
- Tobii Technology
- Trafikverket
- Unionen
- Valmet
- Vinnova
- Visit Värmland
- Voith Hydro
- Volvo Group
- And many others.



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Europeiska regionala utvecklingsfonden

MED FINANSIERING FRÅN



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.

Visiting researchers who stay for shorter or longer periods of time is important to our environment. They contribute with an international perspective and knowledge. During 2023, we collaborated with professors Helen Perks and Stephen L. Vargo, the visiting professorship was funded by Anne-Marie and Gustaf Anders Foundation for Media Research. During the year, several guest researchers and PhD students visited; Julia Dicenta (University of Hohenheim), Aniek Toet and Maike Klip-Veltman (Delft University), Jaime Ortega Guitierrez (Universidad de Sevilla),

Joona Keränen (RMIT University), Alessandro Biffi (Politecnico di Milano) visited us, as well as Elina Jaakkola (University of Turku), and Cristina Mele (Università degli Studi di Napoli Federico II). Some CTF researchers spent time in other research environments and universities; Kristin Svård was at a research exchange at Università Cattolica del Sacro Cuore in Milan. Per Kristensson and Lars Witell visited Cambridge University, and Ingo Karpen visited Adelaide Business School at the University of Adelaide, to mention some examples.

A selection of academic partners worldwide.



Selected scientific networks and organisations

- Mistra (SAMS) - Stiftelsen för miljöstrategisk forskning
- SIQ (The Swedish Institute for Quality)
- SQMA (The Swedish Quality Management Academy)
- MIT, Forskarskolan management och IT
- WASP Graduate School
- SNABS (Swedish Network for Advanced Business Studies)

New funding and projects

CTF researchers continue to attract funding for new research and received about SEK 9 million in new funding. Here are some examples of new projects that were initiated during the year.

Again

Reuse and other circular solutions are becoming increasingly common in the retail business to enable more sustainable consumption. To promote this transition requires more knowledge on how companies can create better conditions and customer experiences in relation to circular retail. This is the focus of *Again: reuse within retail* project which is led by researcher Jenny Karlsson, and financed by the Swedish Retail and Wholesale Council over a two-year period.

The cycle shift

How can we encourage more commuters to cycle to and from work? This is the research question of a new study led by researcher Jessica Westman and conducted within a collaboration project that aims to develop and disseminate knowledge about behaviour-changing solutions that can encourage more people to choose cycling for their daily commute. In this project, CTF collaborates with the Swedish 2030-Secretariat, Akademiska Hus, Helsingborg City, Nordic Behaviour Group, Studio Berget and Örebro Municipality. The project is part of Vinnova's initiative *Human-Centered Mobility*, which seeks a psychological and behavioural science perspective on mobility issues.

Mapping of food waste in the Nordic countries

This research project aims to identify the initiatives and measures that have led to less food being thrown away in restaurants and school kitchens, retail, and households. The result will be presented in a report to the Nordic Council of Ministers. The project is led by researcher Fredrik Wikström. The researchers have been commissioned by the Swedish Food Agency to put together a report that describes and analyses measures for reducing food waste in the Nordic countries. The work will be submitted in a report to be delivered to the Nordic Council of Ministers in June 2024.

Health Data Sweden (HDS)

The purpose of Health Data Sweden (HDS) is to increase the use of health data within small and medium-sized companies and public organisations. The work package involving Karlstad University, led by researcher Karin Brodén, aims to increase the use and value creation based on health data. It is funded by the Swedish Energy Agency and is conducted in collaboration with Region Värmland and public transport providers in Säffle and Karlstad.



Karin Brodén (former Ahlin) is the project leader of HDS at Karlstad University.



Fredrik Wikström, Helén Williams, Siri Jagstedt and Peter Samuelsson will map food waste in the Nordic countries.

Publications

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

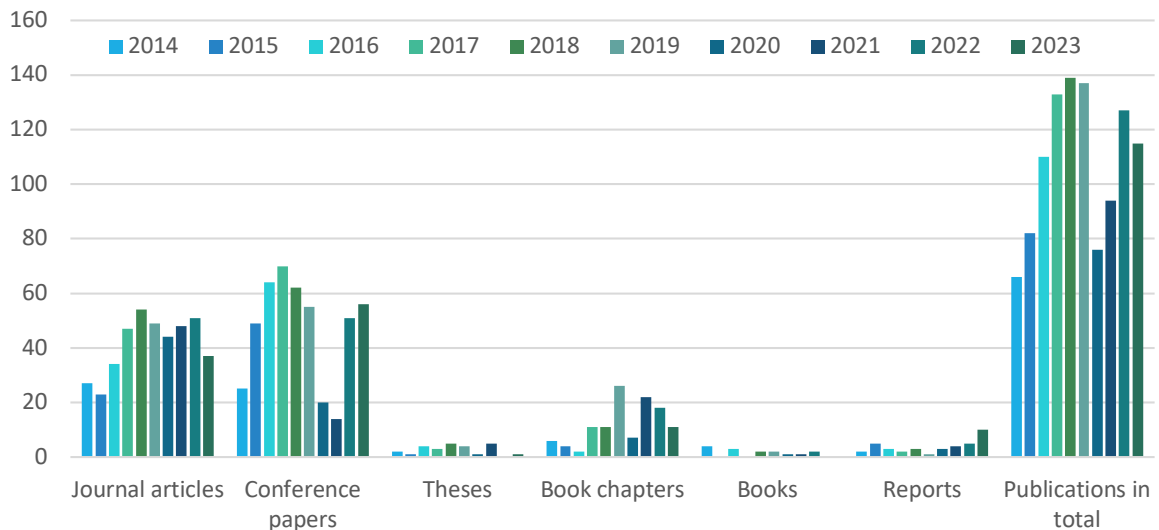
In 2023, 37 scientific articles were published in peer-reviewed scientific journals. 26 of the articles were written in cooperation with international scholars, which is a sign of our international position. In addition, 57 conference papers were accepted, 11 book chapters, 10 reports and one PhD thesis were published. Several articles were published in leading journals with a high impact factor, for example: *Journal of Business Research*, *Journal of Service Research*, *Marketing Theory* and *Journal of Business Ethics*, *Journal of Service Management*, to name a few. Several CTF researches have contributed to journals, boards and committees.

Acknowledgements

Researchers Andrey Abadzhev, Alexandre Sukhov, Antti Sihvonen (University of Jyväskylä) and Mikael Johnson received the Outstanding Paper in 2023

Emeraldi Literati Award for the paper “Managing the Complexity of Green Innovation”. Ingo Oswald Karpen received the Servsig Best Service Article Award 2023 for the article “Actor Ecosystem Readiness: Understanding the Nature and Role of Human Abilities and Motivation in a Service Ecosystem”. Jakob Trischler and Jessica Westman Trischler received the Kooiman Prize for Best Paper published in *Public Public Management Review* in 2022 for the article “Design for experience – a public service design approach in the age of digitalization”. Samuel Petros Sebhatu received the i5 excellence award at the Principles for Responsible Management Education (PRME) Global forum 2023. Per Skålén was the *Journal of Service Research* Best Reviewer Award Winner 2023. Bo Edvardsson was ranked among top researchers in the field business and management on the academic platform [Research.com](https://www.research.com).

Annual number of publications



Research collaborations and impact stories

Värdeskapande samtal a platform for value creating conversations and knowledge exchange

CTF collaborates with the Hamrin Foundation in the seminar series *Värdeskapande samtal* where researchers, businesses, the public sector, and other stakeholders engage in conversations related to research and contemporary societal challenges.

“With our seminar series *Värdeskapande samtal* we want to provide a platform to present new knowledge and share insights and experiences that can be used to meet and create solutions to societal challenges of our time,” says CTF director Per Kristensson. “We are very happy about our collaboration with the Hamrin Foundation and for this opportunity to be able to share our research with a broader perspective.”

The Hamrin Foundation creates interdisciplinary projects that move society, academia and business, and promotes research by financially supporting individuals, research groups, institutions and projects.

“Our collaborative project reflects our commitment to expanding our project portfolio,” says Lovisa Hamrin, chairperson of the Hamrin Foundation. “We strive to make academic knowledge more applicable to society and business. By partnering with a leading research center, we engage in a dynamic dialogue to evolve and enhance our collaboration. Exploring new media formats, our aim is to fuel creativity through dialogue. We are proud of our partnership with CTF, and we are dedicated to bridging academic and practical realms.”

During 2023, four seminars were held. In the first seminar, Maria Åkesson, CTF, and Peter Santén, Volvo Group, talked about servitisation and how it affects manufacturing companies. The second seminar focused on retail and how innovation and digital development affect the customer experience and included a conversation between

Peter Samulesson, CTF, and Erica Wredberg, Lyko. Karin Brodén, CTF, teamed up with Helle Sørensen, Östersund Municipality, in the third seminar to talk about the importance of measuring digital competence among employees in the health sector. In the fourth seminar, Charlotte Bäckman, CTF, and Julio Angulo, YouTube, shared experiences from the research project Truedig, focusing on data-driven innovation and the importance of a user perspective when developing new innovative services.

“During the upcoming two years, we will shed light on topics such as sustainability, eco systems, circularity, mobility, digitalisation and AI, to name a few,” says Per Kristensson.

Watch the seminars and learn more at: kau.se/ctf/vardeskapande-samtal



Per Kristensson and Lovisa Hamrin initiated the new seminar series during 2023.

CTF and Trafikverket - co-creating new knowledge for the service portfolio

CTF and Trafikverket have a well-established collaboration where research and practice are combined in order to create new knowledge and develop solutions for a sustainable and accessible Sweden.

The basis for the collaboration between CTF and Trafikverket has been a number of research projects on service logic, innovation, service development and having a customer-driven approach. The aim is to create value for the users, the travellers, as well as developing the expertise needed in the future, designing methods and models, and demonstrating new solutions that benefit businesses, citizens and society.

“Our collaboration is a balancing act between securing the scientific relevance of the projects and meeting Trafikverket’s specific need for practical implementation of the findings,” says Mikael Johnson, researcher at CTF. “Action research has been a good way of cooperating. It’s about change and development within an organisation, creating knowledge about how such changes happen and what happens throughout the process, examining practices, monitoring the process, and to reflect on what is happening.”

“For ten years now, we’ve had the good fortune of collaborating with CTF in the field of service logic,” says Torbjörn Bengtsson, service portfolio director at Trafikverket. “CTF has been crucial in the ongoing efforts to turn an infrastructure agency into an organisation that can also balance both customer and societal needs in a good way. Understanding the needs of the customers is fundamental for focusing our development efforts, as well as for securing our overall value propositions to citizens and society.”

CTF and Trafikverket have, among other things, developed a Service Portfolio Plan, purposed to create a holistic perspective on how various value-creating activities or services collectively contribute to the organisation’s goal fulfillment, as well as to create a better structure for service development initiatives, based on customer and society’s needs.

Research has also focused on collaboration efforts for joint development efforts related to Trafikverket, its staff and prioritised customers, as well as other collaboration partners/stakeholders. A work model for innovation has been developed and tested in order to create a more innovative organisation, as well as to coordinate the development between the various actors in the field.

“The latest collaboration effort is via a project about innovation and service design in a changing collaborative landscape (entitled “Innovation och tjänstedesign i det nya samverkanslandskapet”),” says Torbjörn Bengtsson. “Being open toward the surrounding world is vital for understanding which fields are most important to deal with in our development.”

“We are to accompany a number of collaborative development projects in order to – based on what’s beneficial for the whole transportation system – develop, improve, and test new and established methods, tools and work models, all based on service logic, as well as adapted for contexts where innovation happens through collaboration. The long-term objective is to reinforce the innovation skills in the transport sector,” says Mikael Johnson.



Collaborating with CTF has provided support in issues related to what a service is and what services mean for the organisation. As a result of these collaboration efforts, we now place greater importance on really understanding the customers’ needs, as well as the consequences of them. Actually going the extra mile with customer value-based services is becoming more and more important

Torbjörn Bengtsson, service portfolio director at Trafikverket.

The Swedish Innovation Index 2022

Swedes experienced a decrease in innovativeness during 2022, according to the Swedish Innovation Index presented by CTF.

CTF presented the Swedish Innovation Index for the fourth time, highlighting the innovativeness of companies, organisations, and authorities from a customer perspective. Ikea retained its position as Sweden's most innovative company, closely trailed by Spotify, Bahnhof, Omni, and Netflix. However, all were perceived as less innovative compared to previous years' surveys. Lyko ranked at the top in terms of digitalisation, which is an important factor in how innovativeness is perceived by the customer.

A general decline in overall innovation capacity was observed compared to past surveys, likely influenced by the pandemic. The initial pandemic-induced push for businesses to rapidly innovate in response to new customer needs and behaviours has led to a shift. Customers, now accustomed to this heightened level of innovativeness, no longer perceive these companies as highly innovative. Many businesses are still navigating pandemic recovery and facing new challenges in the current economic climate, diverting attention from prioritising innovation.

Contrary to this trend, companies like Swebus, Mediamarkt, and Carlings are perceived as more innovative than before. These companies consistently introduce changes in their offerings, delivery, customer interaction, and environment that resonate positively with customers.

Streaming service providers, including Spotify, Viaplay, and Bahnhof, stand out as the most innovative companies, belonging to an industry experiencing the smallest decrease in innovativeness.

Digitalisation emerges as a pivotal factor in perceived innovativeness. Companies incorporating digitalisation into their operations are seen as more innovative, offering customers more control over service delivery which is perceived as both safe and flexible. Lyko stands out as a company excelling in digitalisation, seamlessly integrating physical and digital in-store experiences to heighten customer satisfaction.

Lyko's success in integrating the physical and digital in-store experience has earned appreciation from customers, placing the company among the top ten companies experiencing the greatest increase in innovativeness throughout the year.

The Swedish Innovation Index's purpose is to emphasise a user-centric perspective. The pandemic highlighted that more innovative companies were better equipped to adapt to new needs. Over the years, surveys consistently demonstrate that innovative companies cultivate more loyal customers.

The Swedish Innovation Index 2022 includes responses from 15,000 customers who ranked 75 companies and organisations in ten industries based on their innovativeness and how attractive these innovations are perceived.



Exploring the phygital customer experience

In recent years, researchers at CTF have been creating new knowledge on customer experiences, digitalization, phygital commerce, and how physical and digital components converge to create better seamless customer experiences.

Within the, now completed, research project *Discern* (Digital services and customer experiences), CTF has collaborated with various partners within the retail industry. The research has targeted how customer experience, service infusion and digitalization work together and change what firms offer to their customers and how they do business.

“The core of this type of research is to understand customer behaviors in physical stores through data,” explains researcher Poja Shams. “The goal is to bridge the physical and digital worlds, not only to quantify customer behavior over time but also to explore new business models tailored for the digitalized store.”

In one study, Poja Shams teamed up with the companies Thingsquare and Elgiganten to, with the help of IoT (Internet of things), measure how much consumers approach and interact with different products in the store, and to test the effectiveness of balloons as a marketing tool.

“Our research provides an objective insight into real-time customer behaviors,” says Poja Shams. “By offering this understanding of customer interactions, we open up new opportunities to customise and enhance customer experiences in physical retail.”

Technological advancements make it possible to collect data over time, providing a clearer picture of how various factors in the store environment influence customers. With the help of machine learning, this information can be transformed into a tool for both researchers and retailers to enhance customer experiences and control over the store environment, he argues.

“In an era where e-commerce poses increasing competition, this type of research becomes more significant. Insights gained can be used to design innovative experiences and services that cater to the specific needs and preferences of customers in store environments. This not only means improving the existing customer experience but also exploring new ways to engage customers, thus creating a more dynamic and interactive shopping environment.”

Through the phygital transformation, retailers can develop strategies that are both data-driven and customer-centric to maintain relevance and competitiveness in an increasingly digitalized world. This research paves the way for a new era in commerce, where the physical and digital environments intertwine to create a more holistic and satisfying customer experience, according to Poja Shams.

“Through our collaboration with CTF, we have been able to explore customer behavior on a deeper level. It has been essential in developing our understanding of the customer experience at Elgiganten. By combining our industry experience with CTF’s expertise in research and technology, we have been able to discover new aspects of customer behavior.

Samuel E Fhaily, store manager at Elgiganten



From disposable to reusable the transition to sustainable takeaway

In the pursuit of sustainable takeaway practices, CTF researchers have conducted research and been showcasing how a rotation system employing reusable cups and plates can contribute to improved sustainability, reduced littering, and lower costs for waste management.

Starting 1 January 2024, restaurants, cafés, and other establishments serving food or beverage to more than 150 people per day in Sweden must offer customers the option of takeaway in reusable cups, plates and containers instead of disposable ones, aligning with EU efforts to minimise single-use plastic consumption.

The project *Retake* tackled the challenge faced by restaurants, cafés, and event organisers in meeting this legislative requirement. During 2023, a rotation system with reusable containers for food and beverages were tested during events such as the Gothenburg Horse Show, Almedalsveckan, and Göteborgs Kulturkalas.

“We observed and talked to event attendees and food trucks on-site to gain a user perspective on how the system was perceived, how customers can be encouraged to choose sustainable options and what influences their choices,” says Lars Witell, professor of Business Administration at CTF. “This knowledge is crucial for designing services and business models, encouraging customers to choose the sustainable alternative, and facilitating collaborative value creation among different actors in this new ecosystem of sustainable takeaways.”

Key conclusions from the research emphasise that for the intended environmental effects to be achieved in a financially sustainable way, a substantial number of customers must choose reusable takeaways, and the borrowed items must be efficiently returned. Creating attractive solutions and establishing easily accessible return stations are key activities in encouraging customers to make environmentally friendly choices. Educating both employees and customers on the workings of reusable takeaways is essential for successful implementation. Engaging customers in reducing paper and plastic waste requires a well-designed rotation system and consideration of whether a deposit system with fees for unreturned items is necessary.

Learn more about the work within *Retake* in the fifth episode of CTF’s seminar series *Värdeskapande samtal* with Lars Witell, CTF, Calill Odqvist Jagusch, CEO and owner, Light My Fire, and Anna Lindvall, project manager, Panter.

Retake was a collaboration between Chalmers Industriteknik, CTF, Panter, Light My Fire, Samhall, Göteborg & Co, Got Event, and Region Gotland, with financial support from Formas, Vinnova, and the Swedish Energy Agency, through the strategic innovation programme RE:Source.

“We are happy to have been a part of *Retake* and for the opportunity to collaborate with CTF. Collective feedback from a neutral party is invaluable to avoid becoming inward-focused and to not overlook important input from both customers and restaurants. The greatest challenge to succeeding with the transition to sustainable take away is likely how different systems can interact without becoming too complicated for the customers. The products used in the systems need to be genuinely circular so it can be recycled when worn out.

Calill Odqvist Jagusch, founder and CEO of Light My Fire



Communication and dissemination activities

Research communication and sharing knowledge is an important part of our activities. Here are some selected examples of activities during the year.

Several research seminars and events were arranged and co-arranged during the year. CTF arranged the seminar series *Värdeskapande samtal* and the sixth edition of the seminar *Tjänsteinnovationsdagen*. CTF co-organised the *18th International Research Symposium on Service Excellence in Management (QUIS18)* hosted by VinUniversity, the *12th Swedish transportation research conference* hosted by KTH Royal Institute of Technology, and the *PRME i5 Program workshop* at the Principles for Responsible Management Education (PRME) Global forum in New York, hosted by Fordham University. The following annual events, the *Sustainability Day* and *Karlstad Business School Day*, were arranged by Karlstad Business School in collaboration with CTF researchers.

CTF researchers participated in several research conferences, for example: *The 8th Naples Forum on Service*, *The 31st Frontiers in Service Conference*, *the International research society for public management conference*, *the Innovation and Product Development Conference (IPDMC)*, *the 2nd International Symposium on Digital Transformation*, *the 16th annual International Conference of Education*, *International Convention of Psychological Science (ICPS)*, and *the 3rd Critical Tourism Studies – Asia Pacific*.

CTF researchers were invited to talk in several public events, for example, Jenny Karlsson, Lars Witell and Klas Hedvall organised activities during *Almedalsveckan* in Visby. Helén Williams talked at *FTI Plastic Day* in Stockholm, and Bo

Edvardsson, Jakob Trischler, and Per Kristensson at *Kvalitetsmässan* in Gothenburg. CTF researchers also contributed to investigations and reports in collaboration with different companies and organisations, for example through the platform *Samhällsnytta AB* in several governmental committees of inquiry.



Anne-Charlotte Paas and Amie Gustafsson participated in the 8th Naples Forum on Service, and the 57th Ama Sheth Foundation doctoral consortium.



Henrik Johansson Rehn at the International Convention of Psychological Science (ICPS).

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CTFse

CTF in media

During 2023, we increased our attention in media compared to previous year. Our research on food waste, sustainability, wellbeing and the Swedish Innovation Index 2022 received the most media space. Here are some selected examples of CTF in media.

- Psykologen: Så lyckas du förändra ditt liv (Expressen)
- Så håller du dina nyårslöften (SR)
- Julen är högsäsong för matsvinn – så blir ditt firande snällare mot klimatet (Skånska dagbladet)
- Nytt samverkansprojekt ska få fler att cykla (Örebro nyheter)
- Black Friday - men hur mår centrumhandeln egentligen? (SR)
- Hon vill bidra till goda vanor (Universitetsläraren)
- Så kan du hantera oro över ekonomin (Aftonbladet)
- Anställdas proaktivitet påverkar shoppingen (Vd-tidningen)
- Filter vid digitala mötestjänster: "Lurar oss själva" (SR)
- Forskare: Vi värdesätter inte maten (Aftonbladet)
- Matsvinn fortfarande ett stort problem (forskning.se)
- Nya trenden: Återbrukat säljs i "vanliga" butiker: "Finns ett behov" (P4 Värmland)
- Innovationsindex: Swebus ökar mest (Vd-tidningen)
- Svenskarna upplever minskat innovationsförmåga efter covid pandemin enligt Svenskt innovationsindex (IT retail)
- Karlstadsforskare Frida Skarin har undersökt hur man lyckas ändra beteenden (SVT)
- Exploring psychological mechanisms of how to maintain changes in lifestyle and behavior (News Medical)
- Bra kundmöte ger nöjda och lojala kunder (Kvalitetsmagasinet)
- Extrapris får svenskar att bjuda på privata data (Aftonbladet)
- Så ska engångsmuggen bort – forskning visar vägen (SR)
- Snart kan du få takeaway-kaffe i returmugg (Vetenskapsradion)



The project Retake received a lot of media attention during the year, learn more about the project on page 18.



Research on how to reduce food waste was amongst the research that received the most media attention during the year.

Education

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

Graduate level

CTF researchers and doctoral students are active in teaching and supervising at different levels. Foremost within Karlstad Business School and in Business Administration, but also in other disciplines such as Psychology, Environmental and Energy Systems, Industrial Management Engineering and Political Science. In 2023, several researchers were involved within teaching and supervising in Business Administration, and had leading roles, for example in the programs *Business and Economics* and *International Business* offered by Karlstad Business School, and as *Head of discipline* and *Director of studies in doctoral education*. Several researchers had course responsibilities, especially at master's level and within the programs *Master in Service management* and *Master in Marketing*. Several researchers were also involved in the program *Master of Science in Industrial Management Engineering and Management*. 36 master's theses in Business Administration and Industrial Engineering and Management were connected to streams of research at CTF.

Within Psychology, CTF researchers were involved in teaching, both at undergraduate level and within the *Master of Science in Psychology Programme*. They took part in developing and teaching the new *Master Programme in Psychology with a focus on the future and Global Survival*. They had leading roles as *Head of discipline* and *Director of studies*. CTF researchers were also involved in teaching within Informatics, Environmental and Energy systems and Political science.

PhD level

21 PhD students in the disciplines Business Administration, Psychology, Political Science, and Industrial Engineering and Management were connected to CTF. Frida Skarin defended her PhD thesis in May. John-Erik Hassel and Henrik Johansson Rehn are half way into their PhD studies. Six of our PhD students are associated with MIT (The Swedish Research School of Management and IT), and participated in MIT-courses and conferences during the year. Petter Falk, PhD student in Political Science, is associated with the WASP-HS graduate school. During the year, the PhD course in *Innovation Management Research 7,5 ECTS* was arranged at Karlstad University, the course is part of the Swedish Network for Advanced Business Studies (SNABS).

Competence development for professionals

CTF researchers are involved in competence development for professionals, foremost within the graduate professional development program *ISE* (read more on the next page) at CTF, but also in collaboration with, for example, Karlstad University's Uppdrags AB commissioned education.

Life long learning for working professionals

CTF significantly expanded its offerings within the graduate professional development programme ISE, catering specifically to working professionals seeking to elevate their skills while concurrently engaged in their careers.

Work in our graduate professional development programme, ISE, continued to progress. Three new courses were launched, alongside various other activities. Researcher Carolina Camén underlines the importance for professionals to continually enhance their skills in line with evolving industry demands.

“At CTF, we contribute to this ongoing development by providing complimentary short courses,” she says. “Our main aim is to enhance the competence of the Swedish business sector while advocating for lifelong learning principles.”

As of now, 17 courses have been developed based on CTF’s research. Professionals are offered the opportunity to develop their competence in service and business development, digitalisation and other areas linked to CTF’s research. Companies and organisations have contributed to course development, as well as through guest lectures and discussion seminars.

“We offer courses continuously throughout the year and are now developing the final courses of our course catalogue”, says Carolina Camén. “In addition to course development, we are constantly working on quality improvements, internal and external collaboration, as well as promoting our courses to reach even more professionals.”

Read more: kau.se/ise



Researchers Maria Åkesson, Linda Bergqvist and Carolina Camén are all involved in the ISE programme.

Eva Olsson, service designer at Telstra, why did you take our course *Tjänstedesign kundbehov, metoder och implementering?*

I wanted to learn more about the concepts, principles, methods, context, and challenges of service design, and to be able to share and discuss ideas and experiences. I also wanted to get more formal education in the field after four years of working as a service designer in Melbourne.



Eva Olsson

What benefit have you gained from the course?

It both confirmed and enhanced my understanding of service design as a practitioner. Key learnings include understanding the evolution of service design, confirming the risks of empathy reliance, emphasising core principles, and recognising valuable academic resources. The interactive sessions and feedback deepened my learning, even across different time zones.

Have you had the opportunity to use the knowledge you have acquired from the course in your work?

I actively apply service design principles, particularly co-creation and involvement. This involves organising problem framing and empathy workshops with my project team and customers, as well as engaging in participant observation during customers’ incident management meetings. These collaborative efforts deepen team understanding,

increase transparency, and enhance engagement with customer findings. Importantly, this approach fosters a sense of collaboration and mutual understanding, making customers feel valued and respected as co-creators of the service.

I highly recommend this course for those seeking to learn or enhance their service design skills. It covers essential topics and principles, offering engaging presentations, exercises, discussions, and feedback that make learning enjoyable. The knowledgeable and flexible lecturers, along with meaningful interactions with fellow students, create an environment that embraces co-creation—a core principle of service design. The course confirmed and enhanced my understanding as a practitioner, sparking curiosity for further university courses.

Henrik Bojö, chief commercial officer at Trapeze/Voyagerr, why did you take the course *Introduction to Servitization*?

It was during my time at Volvo to better support the transformation from being a more purely product-focused company to becoming a leader in sustainable transport and infrastructure solutions.

The transformation Volvo is undergoing requires the company to shift from existing business models, which previously focused primarily on efficient product deliveries, to include more value creation

in the customer's processes. Now, I have continued my professional journey at Trapeze/Voyagerr, where we work to contribute to communities by delivering sustainable mobility for all. The course is equally relevant here. The concept of creating value in the customer's processes remains



the same. We contemplate how, together with the customer, we can design a product/service that simplifies or streamlines their daily activities.

What lessons have you taken from the course?

The realization that the difference between a product and a service is not crucial; it's more about the perspective on value creation. At Voyagerr, we are developing outstanding services that meet various product requirements in public procurements. However, the opportunity to create value for our customers is an ongoing journey where, after an initial implemented delivery, we continually focus on how we can support the customer's processes and enhance the value of the service during use. I also gained the insight that academic research offers many theories and applicable models that can facilitate a common language to collectively create a more service-oriented operation.

Have you had the opportunity to use the knowledge you've acquired in this course in your work?

I use several models from the course to support the dialogue both internally and externally. Your wheel, Tulis model for product vs. process, which describes what serviceification is about and what is required to succeed in servitization work. Something I also use is Ulagas' classification of hybrid offerings to demonstrate why we only solve subsets of customers' problems with too narrow a focus, to name a few examples.

Would you recommend the course to others?

Absolutely! It provides a fantastic foundation for hands-on Servitization, including scientific articles, useful models, and interactions with other course participants and companies through dialogues moderated by service professionals – thank you!

ISE stands for "Improving value creation through service education" and aims to develop and offer flexible courses at advanced level for professionals, in collaboration with businesses and organisations. The graduate professional development program is funded by the Knowledge Foundation until 2025, and led by CTF researchers Carolina Camén and Pernille K. Andersson.





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