Humans and technology

Content and application

Greater Copenhagen has an international research strength on the interaction between people and new technology, which draws on the well-founded Danish design tradition and on an excellent research environment in business anthropology.

Research combines classic methods used in anthropology, sociology, cultural studies and linguistics science and how these perspectives can provide novel in-depth insights into how people perceive new technology and identify new, unrecognized needs among users.

Key environments and star researchers

Research on people and technology at the University of Copenhagen is anchored at the Departments of Sociology, Anthropology and parts of the Faculty of Humanities, including the Department of Media, Cognition and Communication and the Department of Linguistics.

Key research centres include the Centre for Communication and Computing as well as Anthropological Analysis - Center for Applied Anthropology, where researchers focus on the development corporate relations in the field of anthropology. At Copenhagen Business School (CBS), competencies in people and technology are present at the Department of IT Management where they work on IT-management and service design.

Potential for attracting investments

Technology is changing the way people live and work all over the world. Technology firms are increasingly using knowledge and insights into how people experience and employ new technology across different cultures, genders and age groups.

Greater Copenhagen hosts a research strength in developing and applying methods for interpreting user behaviours and identifying unrecognised needs amongst users.

Characteristics of the research area

Research on people and technology focuses on how new technology affects people's daily routines and working lives, as well as how people in different cultures experience and employ these new technologies.

In Greater Copenhagen, the research strength is especially based on methods and perspectives from sociology, anthropology and linguistics, which are used to achieve new insights into how people use new technological products and services, including new methods for decoding changing unacknowledged user needs.

Researchers at both CBS and the University of Copenhagen have been among the pioneers in Europe in the field of "business anthropology". Today, Greater Copenhagen has one of the strongest research environments in Europe within methods for understanding and analysing the interaction between technology and people in new ways that can add considerable value for companies.

International top quality niches

Research into technology and people in Greater Copenhagen is outstanding in the way it links a strong academic foundation in classic anthropological and sociological disciplines with an application-oriented focus on consumers, technology and companies.

The research field has developed close links to several of the region's world-leading companies and clusters, and has strong research competencies in understanding the interplay between technology and people within healthcare and medical technology.

A separate research centre has been established to focus on cultural understanding and the importance of culture in the use of technology, for example internet, smartphones, social media, etc.

Bibliometric key figures

There are no clear bibliometric indicators that clearly reflect Greater Copenhagen's research strengths within business-oriented applications for sociological and anthropological methods and approaches. But the area's comparative strength is reflected in the bibliometric performance of anthropological research,

The indicators are shown in the table below. They shows that just under 900 articles have been published in international journals. The specialisation rate for anthropology is less than 1, meaning that anthropology accounts for a slightly smaller share of total research in Greater Copenhagen relative to the regions of comparison. The region is only 5th for overall output.

On the other hand, the quality of research is high. In terms of the proportion of scientific articles among the 10% most cited in the field, Greater Copenhagen comes 2nd. Generally, co-publication with the corporate sector is limited within anthropology, which applies to all regions of comparison. Although Greater Copenhagen's figure is only 0.6%, this puts the region into 1st place.

Key bibliometric indicators

	Specialisation	Output ranking (No. articles)	Highly cited article ranking (%).	Co-publication ranking (%)
Antropology	0,90	5 (872)	2 (20,1%)	1 (0,6%)

Period: 2005 -2015. Regions of comparison: Amsterdam, Berlin, Dublin, Geneva-Lausanne, Hamburg, Helsinki, Munich, Oslo and Stockholm/Uppsala.

Specialisation is an expression of the size of a field of research compared to all research production at University of Copenhagen, the Technical University of Denmark (DTU) and CBS compared with its size in the regions of comparison. A specialisation level 1 indicates that Greater Copenhagen is on level with the regions of comparison. Specialisation of >1 indicates that Greater Copenhagen is more specialised in the field of research than the regions of comparison.

Output ranking measures Greater Copenhagen's position in the field concerned among the regions of comparison in terms of article production (with the absolute numbers of articles in brackets).

Highly cited article ranking indicates Greater Copenhagen's placing in the regions of comparison for the proportion of articles in the field of research in Copenhagen that are among the 10% most cited worldwide (percentage in brackets).

Finally, co-publication ranking indicates Greater Copenhagen's rank among the regions of comparison for the proportion of articles in the field published jointly with the business sector (percentage of overall article production in Greater Copenhagen in brackets).

Key arguments for the research area's prospects for attracting investments

Tech-companies worldwide are increasingly investing in order to gain a greater understanding of end-users, and understand how different cultures influence the adaptation of new technologies

At the same time, the ability to decode new user needs, not yet acknowledged by the users, is increasingly being used to provide important input in the innovation processes adopted by many companies.

Generally, Denmark has a strong international profile in combining an understanding of users, technology and design. And the University of Copenhagen was among the first universities in Europe at the beginning of the 2000s to demonstrate an interest in developing Business Anthropology as a new field of research.

Today, Greater Copenhagen has a large pool of talented graduates in the research field, as well as a number of strong research environments within the humanities and social sciences at the University of Copenhagen as well as in the Department of IT Management at CBS.

Star researchers and major scientific breakthroughs
In 2016, the Carlsberg Foundation awarded a grant of DKK 11m for the major project - "The Peoples' Internet" (PIN). It focuses on how users in China, USA and Europe use the internet in the context of individual citizens' lives and daily routines. The PIN project employs in-depth fieldwork to reveal the details of how different cultures make use of the most important infrastructure in the 21st century. The project is based at the Department of Media, Cognition and Communication under the stewardship of Prof. Klaus Bruhn Jensen.

Also the Faculty of Humanities investigates the significance of digital media in day-to-day lives and society. At the Department of Media, Cognition and

Communication, Associate Professor Stine Lomborg is engaged in the project - Exercising with the Smartphone - which addresses how smartphones can support healthy lifestyles. She also studies the use of the social media such as Facebook. In the same department, Associate Professor Anne Mette Thorhauge investigates computer gaming, communication and cultural expression as well as digital communication in organisations.

The Department of Anthropology has a special team of researchers investigating Business and Organisation Anthropology. This team is coordinated by Karen Lisa Salamon, a leading researcher in business anthropology.

The Royal School of Library and Information Science (RSLIS) has a wide range of skills in developing information systems that can support learning. Their work on Information and Technology is led by Prof. Morten Hertzum, whose research focuses on the interaction between people and technologies, including the usability and user-friendliness of IT systems.

Significant talent pool

Greater Copenhagen has a large concentration of talent within the research field: graduates and PhDs taught and trained in business anthropology, design, technology and cultural understanding.

Every year, 50-60 students complete their Master's programmes in anthropology, around a third of whom will have completed courses in the business applications of anthropological and sociological methods. For example, the Department of Anthropology at the University of Copenhagen offers a specialisation in healthcare anthropology, which focuses on how people interact with medical technology, and a specialisation in business and organisational anthropology.

A similar number of students graduate from the related environments at CBS and the Faculty of Humanities at the University of Copenhagen.

Extensive corporate collaborations

Close corporate relations have been established over the past 15 years between the research environments and a whole range of leading Danish companies. Especially in the pharma industry, companies such as Novo and Coloplast have built up competencies in identifying how patients actually use their products in practice, and in identifying unacknowledged needs as part of their innovation processes.

A considerable number of graduates, with backgrounds in sociology and anthropology, have set up their own businesses. Currently, there are numerous small consultancies that advise corporate and public sector players in Denmark on new trends, user needs, design and modelling on the basis of anthropological and sociological methods.

ReD Associates is one of the largest companies in the field. The company advises companies on how to gain a better understanding of customer behaviours and their client list includes such companies as Adidas, Ford and Novo.

In the spring of 2016, a large US consultancy with 200,000 employees, Cognizant, acquired a 49% share of ReD Associates.