

# **Towards Customer Centric Physical and Virtual Environment – Platform for Services**

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## **ABSTRACT / SUMMARY**

The development of ICT facilitates the worldwide service industry. Society is changing from industrial structures to dynamic value networks, and this has an impact on the activities and structures of private and public sector organizations. Organizations have both virtual and physical action environments. The question is how these action environments and services can support the core business. The traditional way of organizing processes and facilities have changed. Service science is indeed needed. This paper describes how a multidisciplinary research group from the Helsinki University of Technology functions in order to face the challenges of service science.

## **INTRODUCTION**

Information and communications technology (ICT) is a key driver in changing society and industry. ICT companies account for around ten percent of all businesses in Finland and for more than half of the country's research and development activities. Innovation and R&D have a huge meaning for companies in the information and communications sector. Finland has attained a pioneering position as a developer of ICT and is also a leading ICT applier. In telecommunications the fastest growth is in activities related to mobility and broadband, while basic telephony continues to diminish. The service provision sector, too, is expected to grow rapidly. [1]

But there are two important issues to work further:

1. Firstly as Paul Horn (2005) says: “ there's a shortage of skills at the intersection of business and IT. As companies build more efficient IT systems, streamline operations, and embrace the Internet through wholesales changes in business processes, a huge opportunity exists. Nonetheless, little or no focused efforts are preparing

people for this new environment or to even to thoroughly understand it.” [2]

2. Secondly ICT sector offers us a virtual environment. It should be approached hand in hand with the physical environment. Both these are the means for interaction. [3]

These two corner stones are essential for services science, which would merge technology with an understanding of business processes and organization, a combination of recognizing a company's pain points and the tools that can be applied to correct them. To thrive in this environment, an IT-services expert will need to understand how that capability can be delivered in an efficient and profitable way, how the services should be designed, and how to measure their effectiveness. [2]

## **PHYSICAL AND VIRTUAL WORK ENVIRONMENT – PLATFORM SUPPORTED BY SERVICES**

New work and business cultures, along with ICT-driven working methods, have become a fundamental development trend for increasing productivity and for making profitable business. The success of individuals and the work community is based on effective knowledge management and the long-term increase of professional expertise.

To improve Finland's competitiveness and productivity the Information Society Council suggests that developing work culture is chosen as the priority target. In this the focus areas are:

1. Work community's culture of working together;
2. Efficient utilization of ICT and know-how that influences productivity;
3. Work processes and process methods; and

4. Innovativeness, self-renewal and the capacity of organizations and their management to foresee.

The former challenges presented by Markkula (2006) can be supported both by virtual and physical work environments and services. [4]The Japanese philosopher Nishida has identified the Ba concept as a physical, spiritual and virtual meeting place. At the same time Nonaka (e.g. Nonaka, I., Reinmoeller, P & Senoo, D 2000) has, with his colleagues, examined the meaning of the meeting place (Ba) and found that Ba enables the discovery, sharing, refining and reproduction of something new. [5]

The Finnish researcher Katariina Raji (2000, 2003) has identified the orientations of knowledge as orientations of the specialist, processes, client and researcher. These together formed the original framework of a Well Life Center as a meeting place for welfare specialists, welfare production and development processes, welfare clients and welfare researchers as one example in practice. [6,7] Nenonen (2005) has investigated different office solutions in the context of knowledge sharing processes. [8] Likewise, service solutions are important and Tuomela (2005) presents a model of Network Service Solutions in his dissertation. [9]

## **FSR-GROUP**

A service is a provider/client interaction that creates and captures value. The construction and real estate industry is on its way to apply more service orientation to its core business processes. Customer centric thinking is influencing little by little the operational, tactical and strategic levels in organisations, which traditionally have been building orientated instead of user focused.

It is a justified fact, that provider and client coordinate their work (co-production) and in the process, both create and capture value (transformation). Services typically require an assessment, during which provider and client come to understand one another's capabilities and goals. Such understanding poses a challenge in technically orientated businesses, even though its value is significant. The challenge is in modeling this– not only from one perspective but from multidisciplinary perspective.

Because the huge challenges in the field of customer-orientated real estate industry, a new research group “Facility Services Research (FRS)” was founded in the Laboratory of Construction Economics and Management (CEM) in Helsinki University of Technology at the beginning of the new millennium. It operates in close collaboration with the facility service industry as well as with other research units in Finland and abroad.

The research group specializes in the research of the customer orientated construction and facility service businesses within four focus areas:

1. Facility services management
2. Construction management
3. Life-cycle technologies and management, and
4. Workplace management.

Within these four focus areas CEM Facility Services Research addresses three as important perceived dimensions: Procurement, Customer Relationship Management and Performance Measurement.

### 1. Procurement

In a long-lasting business relationship a contract works as the basis for co-operation. However, the target of procurement is not to make contracts but to achieve a satisfactory co-operation by using contracts. A contract works not only as a means of financial exchange but also as a tool in business process control, value production, risk management and communications.

### 2. Customer Relationship Management

Customer Relationship Management refers to the management of vertical business relationships between suppliers and customers. This area also includes other aspects of the relationship such as the networking of service providers to generate a more extensive service selection, or the feedback process for continuous improvement and customer driven product design.

### 3. Performance Measurement

Performance measurement research projects aim at developing state-of-the-art methods for measuring performance in both construction and real estate industries. The research service covers all major performance measurement needs during the life cycle of facilities.

The group pursues the further development of the domestic construction and facility industry as well as the international competitiveness of the companies in this business sector.

As stated, facility services management is one of key research areas. Within this area our research focuses on service procurement, organizational buying behavior, inter-organizational relationships, performance management and service contracting.

In the construction management research area, the research interests cover the different phases of the construction process. The focus is on procurement and contracting, customer relationship and performance

measurement. The construction process must become an integrated process to deliver quality, value for money and satisfaction for all participants. The process itself must be designed to achieve these goals.

The life cycle technologies and management research team focuses on the construction, real estate as well as the service industries. It studies the short and long term impacts of technical systems both in companies and more widely in society. The research introduces new scientific concepts and models and tests them in practice in co-operation with companies and other organizations. The research covers all major aspects of life cycle performance including the economic, environmental and social dimensions. The research team has long tradition both in developing life cycle assessment methods and design tools, as well as in presenting life cycle-based business models. During the last years there has also been a focus on the sustainability management of companies.

Workplace Management research and development focus on the connection between the work environment and an organization's performance. The focal areas are the physical, social, and virtual workplace, the productive use of the workplace for knowledge work, and the development of workplace management services in real estate businesses.

The research projects are constantly including industry partners to ensure that the results and solutions produced can be accepted by and are useful for all parties involved in service creation. Besides research CEM Facility Service Research is acting as forerunner in developing bachelor, master and postgraduate curriculums in educational institutions. The competencies for future professionals are developed from an academic perspective, but beyond that in close dialogue with company representatives.

## CONCLUSIONS

The intention to develop service science grows from the changes, which the ICT development has brought with it. The success factor for service science lies in its multidisciplinary approach. The development of services as an industry and profession are essential for future development. New knowledge is created quickly when significant links and bridges are built over the traditional discipline borders. CEM Facilities Services Research Group is one institution in Finland working towards this direction. The starting point is the physical work environment but it ends up to questions around services and virtual environments. The national success in ICT industry in Finland is one driver towards the service science direction. But as important is the international network and knowledge sharing globally.

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