SERVICE ROBOTICS IN HEALTHCARE:
A Perspective for Information Systems Researchers?

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What Are Service Robots?

Before we get into what service robotics in healthcare is, let’s first define what service robotics is. Service robotics is the automation of physical and or mental services for humans, the core of which is the interaction with human beings. In the context of healthcare, service robots are of special interest due to their potential to improve patient care and healthcare delivery. Here, we are going to discuss what the current state of robotic healthcare delivery looks like, as well as the potential future of service robotics in healthcare.

In order to inform about and enable hospital information officers to better understand the potential of service robotics in clinical contexts, we have conducted several cross-sectional document studies and field observations in two countries, Norway and Switzerland. This paper reports on the findings from the literature search and review.

Findings – What We Know

Several studies indicate a strong need for staff education, training, and involvement. Exposure to new technology alone does not comprise to a positive attitude towards robotic technology. Studies show a good return-on-investment (ROI) on robot couriers; 12%, with increased delivery stability and decreased delivery time. Prerequisite for achieving this is proper training and acceptance of staff. Measuring the quantitative and qualitative effects of the introduction of service robotics can give conflicting measurements.

Need for Multidisciplinary Research

The intention of this study was to provide a deeper understanding of and motivate researchers for broader investigations in the area of service robotics. Due to an increased need for multidisciplinary and contextually rich research results, we believe that this is of particular importance for this domain.

One has to keep in mind that the design of a service robot might have consequences. On the one hand, a certain design might have a direct effect on attitudes towards the robot itself. On the other hand, the artifact design might lead to less obvious consequences. Our literature review pointed out that also new ethical questions may arise.

"As robots become more "human", or perform as proxies for humans, should they be treated with some respect?" (Shatzer 2013: A posthuman liturgy?)

Future Work

This work is a piece of a bigger project where we interviewed many stakeholders in different countries. Our own future research in this area will primarily focus on better understanding...

...user perceptions, expectations, and intentions towards service robotics use in healthcare organizations.

Specifically, we want to identify a typology of health service robotics users in hospitals.