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**ICT-BASED PRODUCTIVITY IMPROVEMENT
IN THE CONTEXT OF KNOWLEDGE-
INTENSIVE SERVICES**

INTRODUCTION

- **While the significance of knowledge work has been continuously increasing it still represents a particularly challenging context from productivity improvement point of view**
- **The large sum of money spent on information technology (IT) and information system (IS) projects in general.**
- **IT investments in general have often been based on beliefs in the benefits rather than on any sound attempts to measure such benefits**
- **The case study was conducted in TeliaSonera, a medium-sized European teleoperator.**

RESEARCH

- **Research object is a service which makes possible to move a laptop inside the company building with all connections up**
- **First part of the research "ICT, service innovations and productivity"**
- **RQ: How ICT can improve productivity in knowledge-intensive services?**
- **Within the case study productivity impacts of ICT are approached through a performance measurement process that takes into account both tangible and intangible impact elements (Vuolle, 2011). Both qualitative and quantitative data is utilized.**
 - Literature review
 - Interview and meetings
 - Online questionnaire

ICT-based benefits for knowledge work productivity	References
Skipping work tasks <ul style="list-style-type: none"> • Automation • Travelling 	Norton, 1995; Flanagan & Marsh, 2000; Rodríguez Casal et al. 2005
Making tasks faster <ul style="list-style-type: none"> • Searching information • Real Time Communication 	Ahuja et al., 2009; Akkirman, & Harris, 2005; Sigala, 2003; Bearudreau, 2009;
Better access for information <ul style="list-style-type: none"> • Real time information • Sharing knowledge 	Shin, 1999; Flanagan & Marsh, 2000; Ahuja et al., 2009; Gressgård, 20011
Information quality <ul style="list-style-type: none"> • Less errors • Better decisions 	Suwardy et al, 2003; Erne, 2010; Aghazadeh & Seyedian
Employee welfare <ul style="list-style-type: none"> • ICT does not increase work welfare and motivation, but may decrease it if usability is poor 	Kaplan & Aronoff 1996; Kinnie & Arthurs, 1996; Hosie & Sevastos, 2009; Cardinali, 1994

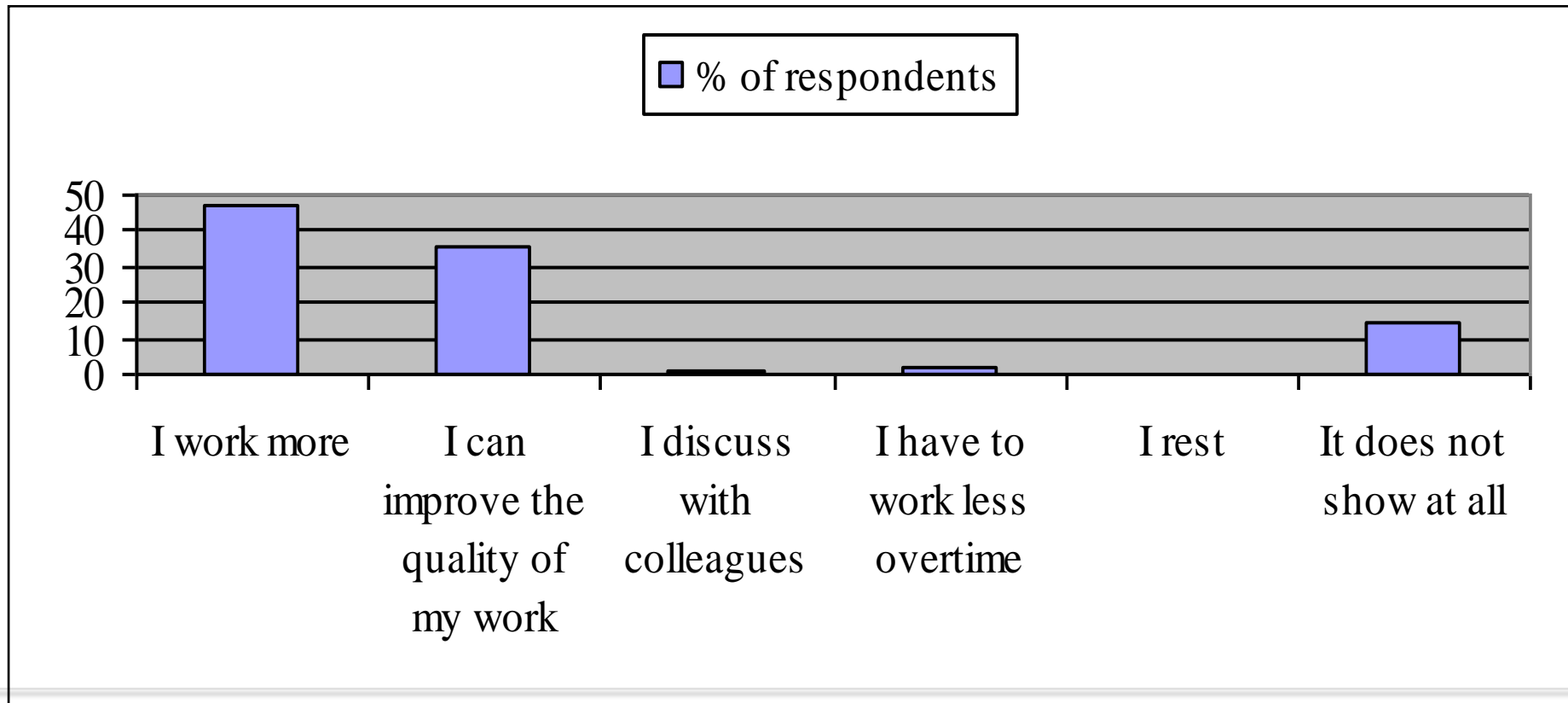
RESULTS

- The web questionnaire was sent to **330** respondents and total of **128** responses were received, which corresponds to **39** percent response ratio.
- How much time is saved?

Mean time saving per one usage time	Mean number of times benefiting from the service in one week	Calculated time saving for one week (objective)	Estimated time saving for one week (subjective)
3 min	6.5 times	19.5 min (= 3 min * 6.5)	30 min

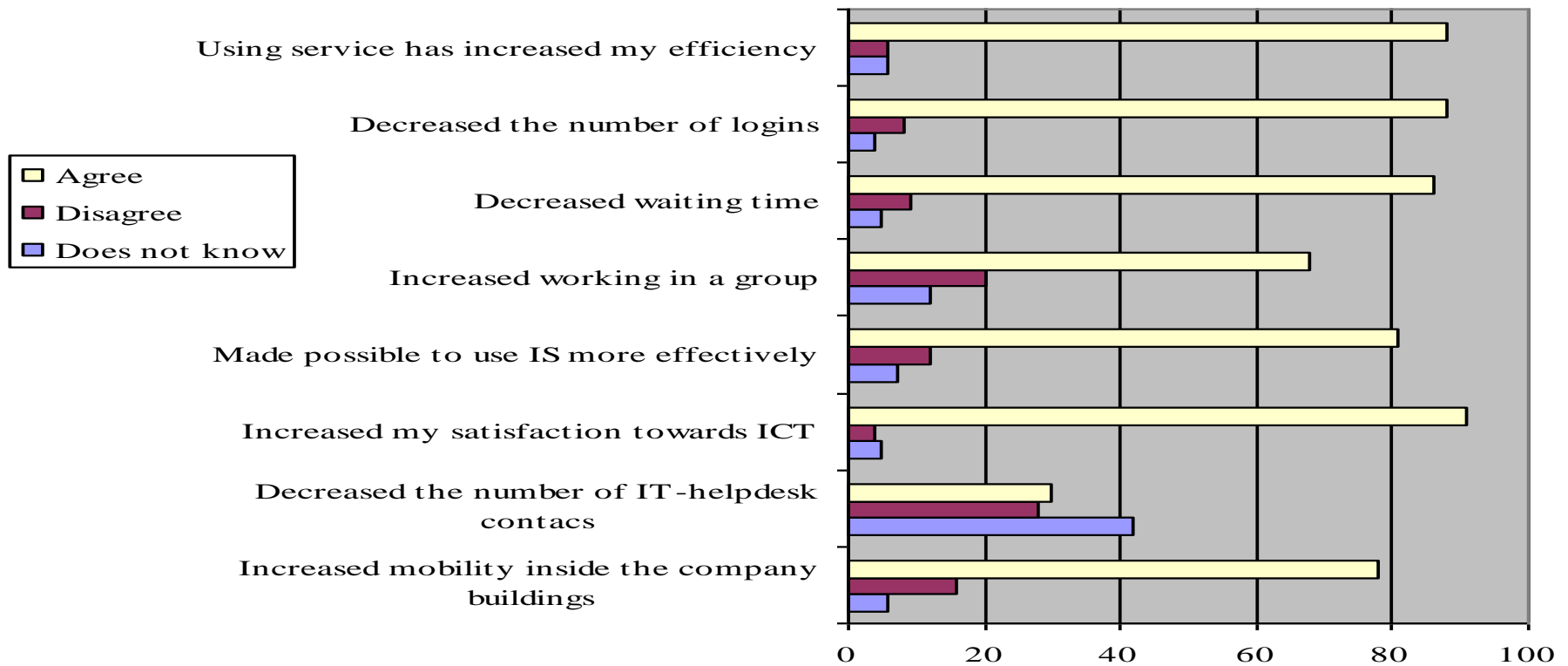
RESULTS

- Utilization of the time saved



RESULTS

- Experienced benefits of the new service



CONCLUSIONS

- **The case study conducted at TeliaSonera showed that the ICT service in question was intended for producing similar benefits to those discussed in the literature.**
- **ICT can facilitate productivity impacts on knowledge work in the following ways:**
 - Eliminate non-value-adding tasks or make them more efficient
 - Improving employee welfare through decreasing dissatisfaction
 - ICT-based productivity benefits are automatic
- **The key issue is analyzing the work practices and locating the potential for productivity improvement. Then, it is possible to identify ICT solutions suitable for the particular issue in question.**