Chapter VIII

The Planned and Materialized Implementation of an Information System

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EXECUTIVE SUMMARY

The object of this case study is a marketing and sales information system in two local offices of a regional telephone company. A unified, advanced client/server system was needed due to the merging of three companies into a bigger regional company, keener competition, and the growing complexity of the services provided. The system is tailor-made to meet the needs of the industry and it was developed by a software vendor in close cooperation with the nationwide alliance of regional telephone companies. This study illustrates the difficulties in simultaneously aligning an organization and implementing a new information system. Views on the skills and competence needed in using the system vary, and lead to the negligence of education and training. The consequent lack of skills and knowledge of some users, especially of those not using the system regularly, create profound problems in the whole work process and in productivity as the first, obvious work practices become the dominant mode of operation bypassing the desired integrated workflow. The findings are discussed and
reflected to concepts of institutionalization, positive reinforcement, and productivity paradox. This case emphasizes the importance of the organizational implementation and adaptation process which ought to begin after the implementation of the technical system.

**BACKGROUND**

It was only in the beginning of the 1990s when the telecommunications sector was deregulated in Finland. Long distance lines (i.e., crossing the local telecommunication areas), which were previously operated by a state-owned company, opened to competition. Deregulation took place simultaneously with the emergence of radio-based telecommunications, most notably with the introduction of the wireless analog NMT and later digital GSM and DCS networks. Radio-based telecommunication is also open to competition. The mobile phone has grasped a significant share of the phone traffic (there are more than 2.3 million mobile phone subscribers in a country of 5 million inhabitants and 2.8 million subscriber lines). As a consequence, the rates of hard-wired long distance calls have fallen by 80% and the rates of local calls by 50% since deregulation. Deregulation has affected the regional teleoperators the least, but as the former licensing of telecommunication areas is deregulated, too, local operators have started to merge.

Currently there are two main telecommunications operators in Finland: Sonera plc (formerly known as the state-owned Telecom Finland) and the Finnet consortium, which is owned by 46 regional telephone companies. There is a third player, owned by Swedish Telia, but as its market share is less than 2%, long-distance and radio-based telecommunication markets have practically a duopoly. Our case company belongs to the Finnet consortium, the market share of which is about 50% of the total telecommunications turnover, 16 billion FIM (about 3 billion USD), and the market is expected to grow to 22 billion FIM by the year 2000.

The nationwide Finnet consortium was established by the regional telephone operators in order to provide seamless long-distance calls for their subscribers and to keep up with the pace of fast rapidly-developing technology. The consortium developed a digital SDH-based backbone network, primarily on optical cabling, for long-distance and mobile-voice calls and data communication.

The regional telephone company, called here Areal Phone Ltd. (AP), implemented a new information system (IS) about one year before this case study. The implementation was not, actually, a free choice, rather the company was driven to changes. The reason for the new IS was simple: AP is the result of a merger of three mutual, local telephone companies.

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<tr>
<th>Table 1. Breakdown of the teleoperators’ market in Finland (Telecommunications Statistics, 1998)</th>
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<td><strong>Regional phone calls</strong> 3.3 billion FIM</td>
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<td><strong>Long distance calls</strong> 4.1 billion FIM</td>
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<tr>
<td><strong>International calls</strong> 1.3 billion FIM</td>
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<tr>
<td><strong>Data communications</strong> 1.8 billion FIM</td>
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<td><strong>Equipment</strong> 4.7 billion FIM</td>
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