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"TeleService" a customer-oriented and efficient service?

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Abstract

Competition has become more fierce due to the rising globalisation of business markets. This especially affects the machine manufacturers. An FIR study [1] showed that by now approximately 75% of the machine manufacturers are working in a saturated or even degenerating market. New company strategies and aims have to be found in order to ensure a companies competitiveness. Of main importance is the delivery of product attendant services.

In classic service concepts a large amount of product attendant services are provided by local establishments in the countries of sale, local co-operation partners or world-wide acting service personnel. These concepts bear a great financial, organisational and legal risk within them, which smaller and medium sized enterprises (SME) are not prepared to take. Therefore alternative service methods have to be developed.

A constantly increasing number of innovative machine manufacturers are already using the new information and communication technology (Video-Head-Sets, Desktop-Video-Conferencing-Systems, Application-Sharing, White-Boarding, etc.) more effectively in the field of machine related services. These IT based services reaching over large distances are commonly referred to as TeleServices.

Keywords: TeleService; Service; Maintenance; Information technology

Abbreviations: DIN, Deutsche Industrie Norm; FIR, Research Institute for Operations Management; GPRS, General Packet Radio Service; GSM, Global System for Mobile Communications; HSCSD, High Speed Circuit Switched Data; ISDN, Integrated Services Digital Network; SME, Small and Medium Enterprises; TELEC, Tele-Engineering-Consult; VDMA, Verband Deutscher Maschinen- und Anlagenbau

1. Introduction

1.1. Service a competition factor

A highly important business area of the machine manufactures are services in the after-sales-phase [2]. This not only includes warranty cases but also repairs and most of all maintenance. Customers these days do not only expect a very high quality product from the manufactures but also a very high quality and effective service. In view of these special circumstances and developments the importance of service is constantly rising. This makes service a measure with which competitors can be differentiated. In many business branches services often have a greater influence on the decision to buy a product than the price or even the function have. The following requirements have to be fulfilled if a company wants to achieve customer satisfaction with its services:

- global service availability,
- low costs,
- quick response time,
- high quality.

All in all the rising international competition forces machine manufactures to supply a world wide high quality service network if they want to stay competitive. This not only applies to large manufacturers but also to SMEs. Especially SMEs encounter many problems and take high risks as they do not dispose over the necessary financial means for foreign branches, co-operation partners or adequate service personnel. Classic service concepts only fulfil the mentioned requirements partially. New concepts and methods have to be developed to meet the required demands. One basic approach which considers these requirements is TeleService.

1.2. Definition of TeleService

So far there is no straight forward definition for the term TeleService. Most companies who offer information and communication technology supported services automati-

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cally identify and define these as TeleServices. This leads to a wide range of definitions and causes a general uncertainty about the term and respectively the word TeleService.

A universally accepted definition has to be found to avoid misunderstandings. The following criteria which have to be fulfilled were formulated to simplify the definition of TeleService [3]:

- *Geographical distance*. The service has to be provided over a spatial distance. This means that the service has to be provided by a technician who is spatially separated from the customer.
- *Use of information technology*. The use of information and communication technology is of need when carrying out a service (e.g.: the use of ISDN or modem to transfer process- or control-data).
- *Industrial service*. The carried out services have to be in the field of industrial services. Industrial services are for instance maintenance, diagnostics and repairs.

1.3. Development of TeleService

Already in 1975 the American machine-tool-manufacturer Kearney and Trecker [4] used a specially designed data-transfer-system to reduce the high travelling costs in the service department. In those days the rather poor transfer speed, bad quality of data transfer and the all in all poor communication infrastructure prevented an all-round implementation.

The computerised transfer of control-data came in the mid-1980s, which is still in use today. Besides the analog telephone network came a new employment of a modern technology digital network (ISDN) in Europe. For instance the machine-tool-manufacturer INDEX designed and engineered his controllers in such a way that they can communicate over ISDN. The INDEX service technicians have the possibility to get a view into the control-data of the customers machine (on customers request) parallel to the verbal communication with the service technician of the customer [5]. This maximises the obtainable information and minimises the required time.

With the increasing implementation of ISDN came an increasing number of companies which started to use the telephone network for data transfer (e.g.: Video-Conferencing, etc.). For instance the company Dieffenbacher already uses ISDN for its TeleService and if this is not possible or accessible transfers its data via satellite. Altogether the rapid developments in the telecommunication industry allow the realisation and implementation of visionary TeleService concepts which seemed impossible just a couple of years ago. This especially applies to the mobile communication market, which is now concentrating its developments on data transfer.

These standards and developments will make a considerable contribution and enable the manufacturer to offer a global, high quality and low cost TeleService.

A TeleService sector which is going to become more significant in the future will be preventive maintenance. This service reduces the number of machine breakdowns respectively standstill time and is therefore very important as costs can be reduced considerably. This statement is confirmed by the newest FIR/VDMA survey [6] in which machine manufactures see the highest potential in the preventive maintenance sector.

1.4. TeleService products

Machine manufactures are already using a number of concepts and technical methods to offer their customers TeleServices. Analogic to the multitude of concepts and technical methods realising TeleServices their are also a number of terms for TeleService products. Therefore according to the DIN Norm 31051 for maintenance a systematic definition of TeleServices had to be found respectively defined (Fig. 1). In particular it was considered to split the maintenance in the following three main areas: inspection, service and restoration.

The offered service spectrum reaches — depending on the implemented and accessible technology — from a simple software installation via modem up to a service technician guided repair via Video-Conferencing.

The most extensive dissemination lies in the field of software-maintenance and updates, followed by the online placement of information (e.g.: repair-instructions) on the Internet or virtual private networks, etc. Also widely spread is the error diagnosis via machine-controller login. This enables the service technician to evaluate and analyse the received data in the companies base. Momentarily this kind of remote diagnosis is still seldomly combined with video support.

1.5. Benefits of TeleService

To illustrate the benefits of TeleService it is advisable to split the potential users into the following groups:

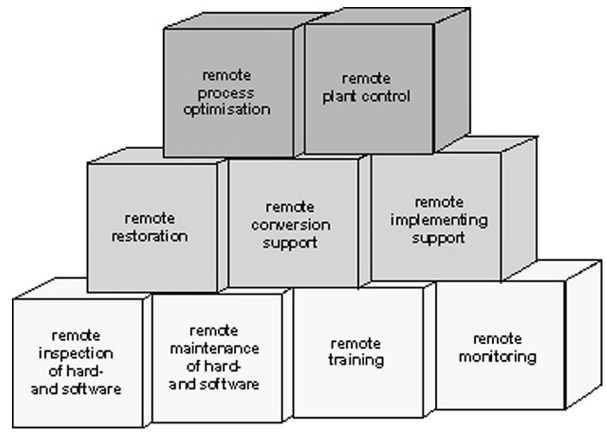

Fig. 1. TeleServices.