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Empowering Technical Customer Services with Intelligent Mobile Applications: A Contingency Theory-Based Approach

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Abstract

In order to improve the efficiency of technical customer services (TCS) business processes, we propose to focus on this information and its provision to service technicians. Based on contingency theory, we suggest increasing the information processing capacities of service technicians. Up to now, methodical and technical support is missing for providing the relevant information to service technicians and for improving their information processing capacities. Consequently we propose an approach for leveraging productivity of TCS by empowering the service technicians. Following a design science approach, we develop a mobile assistant system in order to support an intelligent, mobile access to needed information and an integrated feedback functionality. Furthermore, we suggest that this empowerment based on intelligent mobile applications leads to continuous information management. Our approach supports an empowerment of individual service technicians, leads to an improvement of business culture, and leverages employeesâ motivation and skills.

Keywords: Technical customer services, empowerment, intelligent mobile applications, contingency theory

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Against the backdrop of saturated markets, services have high economic value potential (Rai and Sambamurthy 2006). In industrial enterprises, maintenance and repair services for machines, systems, and assets represent the core activities of technical customer services (TCS) (LaLonde 1976). Often, a single service technician provides these services “on his own” at the customer’s site (Harris 2007). The quality of the service as perceived by customers, however, is a major factor of the success or failure of a service process (Desatnik 1989). Usually, the service technician has to rely on her or his expert skills and on supporting information (e. g., paper based service documentation or media) once she or he is responsible for a specific customer service case. The better her or his skills and the higher the quality of the supporting information is, the better are the results a service technician can achieve. As TCS are economically highly relevant, their technically correct and high quality completion is of uttermost importance (Byrne 1998). On the one hand, the defective maintenance and repair work results in extra costs for the manufacturer for additional services (e. g., warranties, goodwill) that cannot be allocated to the customer. On the other hand, the manufacturer runs the risk of losing important market shares due to customer dissatisfaction. The challenge service technician face is that they have to filter out the correct information for certain maintenance and repair situations from the abundance of information provided by manufacturers (Howell, Sauer and Coad 2005). In practice, however, 60% of TCS failures are due to recurrent errors of service technicians in the workplace and business processes (Pfeifer 2001). This fact supports the assumption, that feedback information is not collected – or if so – not used in a proper way for a holistic process improvement. The purposeful use of feedback information can counteract sustainable (LaMaire and Krishna 1997).

In order to improve the efficiency of TCS business processes, we propose to focus on this information and its provision to service technicians (Levitt et al. 1999). Based on contingency theory (Donaldson 2001), we suggest increasing the information processing capacities of service technicians. Up to now, methodical and technical support is missing for providing the relevant information to service technicians and for improving their information processing capacities. Consequently we propose an approach for leveraging productivity of TCS by empowering the service technicians (Bowen and Lawler 1992). Following a design science approach, we develop a mobile assistant system (Isaac and Leclerq 2006) in order to support an intelligent, mobile access to needed information and an integrated feedback functionality. Furthermore, we suggest that this empowerment based on intelligent mobile applications leads to continuous information management. Our approach supports an empowerment of individual service technicians, leads to an improvement of business culture, and leverages employees’ motivation and skills.

REFERENCES

- Berggren, C. (1980) "Changes in the Rationalization Pattern and Organization of Work within Mass Production in the Swedish Engineering Industry," *Acta Sociologica*, 23 (4), pp 239-260.
- Bowen, D. and Lawler, E (1992) "The empowerment of service workers: what, why, how, and when," *Sloan management review* 33 (3), pp 31-39.
- Byrne, P. (1998) "Customer Service Guidelines: How happier customers can lead to healthier business," *Ministerial Council On Consumer Affairs* (New Zealand).
- Desatnik, R. (1989) "Long live the King," *Quality Progress* 22 (4), pp 24-26.
- Donaldson, L. (2001) *The Contingency Theory of Organizations*. Sage, Thousand Oaks, CA.
- Evans, S., Partidário, P. and Lambert, J. (2007) "Industrialization as a key element of sustainable product-service solutions," *International Journal of Production Research* 45 (18), pp 4225–4246.
- Harris, E. (2007) *Customer Service: A Practical Approach*. 4th ed., Prentice Hall, Upper Saddle River.
- Howell, R., Sauer, H., and Coad, W. (2005) *Principles of heating ventilating and air conditioning*. American Society of Heating, Refrigerating and Air Conditioning Engineers. Atlanta, GA.
- Isaac, H. and Leclercq, A. (2006) "Give me a mobile phone, and I will work harder! Assessing the value of mobile technologies in organizations : an exploratory research," *International Conference on Mobile Business : ICMB 2006*. Los Alamitos, CA.
- LaLonde, B. (1976) *Customer Service: Meaning and Measurement*. National Council of Physical Distribution Management, Chicago.
- LaMaire, R. and Krishna, A. (1997) "On the use of feedback information to increase throughput in multiple access radio systems," *Proceedings of ICUPC 97 - 6th International Conference on Universal Personal Communications*, pp 923-928.
- Levitt, R., Thomson, J., Christiansen, T., Kuntz, J., Jin, Y. and Nass, C.(1999) "Simulating Project Work Processes and Organizations: Toward a Micro-Contingency Theory of Organizational Design," *Management Science* 45 (11), pp 1479-1495.
- Pfeifer, T.(2001) *Qualitätsmanagement – Strategien, Methoden, Techniken*. Carl-Hanser Verlag, München, Wien.
- Rai, A. and Sambamurthy, V. (2006) "Editorial Notes – The Growth of Interest in Service Management: Opportunities for Information Systems Scholars," *Information Systems Research* 17(4), pp 327-331.

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