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Customer complaints as a source of customer-focused process improvement: A constructive case study

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Abstract

Process-based thinking commonly focuses on enhancing the efficiency of processes, while it is often criticized for not paying enough attention to the customer. This paper argues that customer complaint information can be used as a basis for customer-focused process improvement. Thus, it is not enough to make the complaining customer satisfied, but the complaint information should also feed back to the actual processes where the fault causing the complaint arose and where it can be removed. The empirical component of the study includes the development of a novel construction to utilize customer complaints for process improvements, which was implemented in a large Finnish enterprise operating in the wholesale logistics environment. The results show benefits at both operational and strategic levels.

Keywords: customer orientation, process improvement, customer complaints, complaint management, operations management, constructive method

1 INTRODUCTION

The market-oriented philosophy in marketing and management literature has emphasized customer satisfaction and loyalty as sources of performance and profitability (e.g. Deshpandé, Farley and Webster, 1993; Foster, Gupta and Sjoblom, 1996; Jaworski and Kohli, 1993; Knox, 1998; Oakland and Oakland, 1998; Slater and Narver, 1996). However, the customer orientation seldom reaches the operational level of business processes in theory or practice. Process-oriented management teachings such as activity based management (Turney, 1992), total quality management (Creech, 1994; Mizuno, 1992), business process re-engineering (Earl and Khan, 1994), continuous improvement (Davenport, 1993), lean management (Taylor, 1999; Vollmann, Berry and Whybark, 1997) and supply chain management (Shapiro and Heskett, 1985) have traditionally focused on enhancing the efficiency of processes within organizations. While a number of scholars have raised the role of the customer in the improvement of business processes (Jones and Sasser, 1995, Kohli and Jaworski, 1990, Slater and Narver, 1994, 1996), these teachings have also been criticized for being rhetoric and not paying enough genuine attention to the customer (e.g. Wood, 1997). In short, despite their development towards increased customer focus, these 'engineering' approaches essentially concentrate on processes as such and do not appear to provide sufficient support to focus on the issues that are important to the customer.

This paper argues for a customer-focused approach to the improvement of business processes by developing a construction which systematically utilizes customer feedback in form of complaints to achieve process improvements both at strategic and operational levels. The basic idea is that it is not enough to make the complaining customer satisfied, but that the complaint information should feed back to the actual processes where the fault causing the complaint arose and where it can be removed, thus avoiding further similar errors. This thinking is essentially utilizing the ideas of a learning system (Checkland, 2000) and feedback loops that balance the variety between the environment and the operations (Beer, 1985). While complaint management has been addressed in the previous literature (e.g. Boshoff, 1997, 1998; Brown, Cowles and Tuten, 1996; Feinberg, Widdows, Hirsch-Wyncott and Trappey, 1990; Hart, Heskett and Sasser, 1990; Johnston, 1995), Johnston and Mehra (2002) emphasize that further research is required especially with respect to the 'how', that is, how the complaint information could be utilized operationally. Moreover, little research has been devoted so far to investigating how companies can better utilize qualitative customer complaint information. The present paper addresses both of these knowledge gaps.

Empirically, the paper adopts an applied approach based on the constructive case study method. The constructive method concentrates on developing and implementing a new, innovative and theoretically anchored construction (e.g. a model, plan, organization, technology, software or a combination of these) to solve a real-world problem situation (Kasanen, Lukka and Siitonen, 1993; Lukka, 2000, 2003, 2005). The implementation phase is an integral part of this method, as the ideal construction not only makes a theoretical contribution but also solves the practical problem (Lukka, 2000). Thus, in business studies the construction is subjected to the practical test of whether it works in the company or not. The construction developed in the present study includes a database solution for collecting and analysing qualitative customer complaint data in a large Finnish company operating in the wholesale logistics environment. The aim of the construction was to provide a tool for customer-focused process improvement.

The contribution of this paper is two-fold. Firstly, it introduces a novel construction which links customer complaints to the company's processes arguing that complaint information can be effectively used to improve customer focus and operational quality. Secondly, from a managerial point of view, the paper describes a construction that effectively utilizes customer complaint information in support of managerial decision making both at operational and strategic levels aiming towards improved operational quality.

The paper is arranged following the logic of the constructive method. The first section reviews literature relevant to analysing the role of customer complaints as a source of information for the purpose of process improvement. This review summarizes the main literature used in developing the construction. Next, the constructive case study methodology is described and the case company and the developed construction are introduced. Finally, the results of the study are presented and discussed, followed by the conclusions and implications for management and further research.

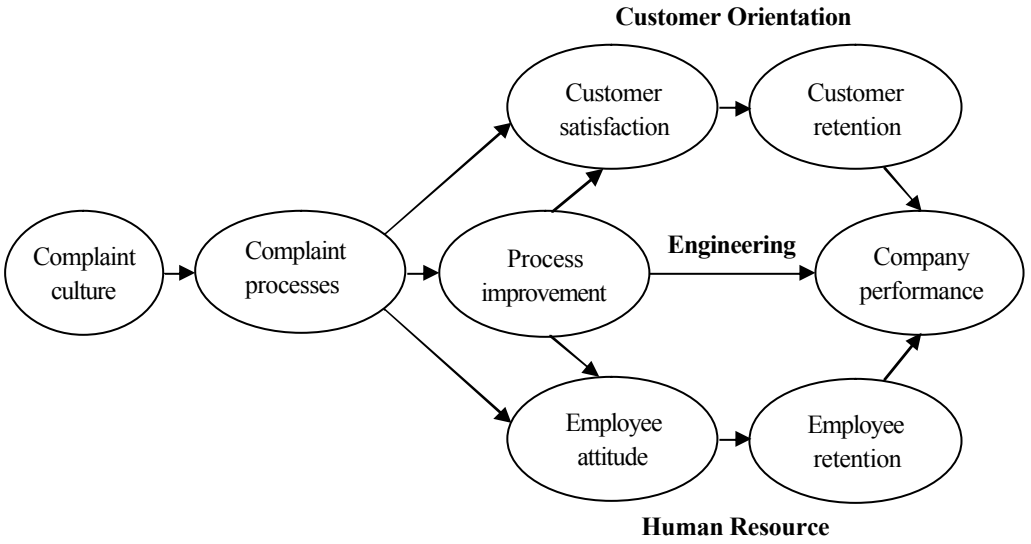
2 CUSTOMER COMPLAINTS AND PROCESS IMPROVEMENT

Extending the market-oriented philosophy to the management of processes would imply that the emphasis should be placed on identifying and improving those processes in the company's value chain that generate the most value to the customer. Such improvements are not just a cost but also an investment in long-term profitable customer relationships (Reichheld and Sasser, 1990). However, errors and unsatisfactory service occur in all businesses given that "mistakes are an unavoidable feature of all human endeavour" (Boshoff, 1997, p. 110). Occasional failures are not necessarily bad. As a matter of fact, most customers accept that things go wrong sometimes and are happy enough as long as the problems are solved and do not occur again (Bitner, Booms and Tetreault, 1990; Feinberg et al., 1990).

Different types of faults can be prioritized on the basis of the cost they cause to the company or its customers (Albright and Roth, 1994; Shank and Govindarajan, 1994). The Japanese quality philosophy distinguishes between random and systematic faults in this context (Mizuno, 1992). Random errors often have relatively simple causes and are thus fairly easy to identify and analyse. They are often 'human' and can therefore usually be corrected by the person responsible for the particular task (Cardy and Dobbins, 1996; EFQM, 1997; Oakland and Oakland, 1998). Systematic errors cause the customer to experience dissatisfaction on a continuous rather than sporadic basis. The reasons causing this type of errors are often multifaceted and removing their causes requires complex analysis (Mizuno, 1992). To correct the problem is therefore a task for the management who have the power to eliminate the causes. Our particular interest in this paper concerns systematic errors as removing such faults in a company's processes demonstrates the greatest potential to improve quality in a way valued by the customer (Berry and Parasuraman, 1997; Clinton and Hsu, 1997; Hammer, 1990).

The identification of systematic faults requires a considerable amount of versatile data (Reichheld and Sasser, 1990). We argue that customer complaints can be a valuable and inexpensive source of information for identifying systematic errors and enabling customer-focused process improvement. The feedback that the customer provides out of their own initiative, such as complaints, is often very direct, concrete and detailed (Reichheld and Sasser, 1990). Thus, compared with data collected by means of customer surveys and panel studies, complaint information provides a more reliable picture of the customer's true opinion. Complaint information has several managerial applications. Johnston (2001) developed and tested a conceptual model demonstrating three routes that link complaint processes with the company's financial performance. We coined these routes as the Customer Orientation, the Human Resource and the Engineering routes (Figure 1).

Figure 1: Three routes linking complaints to performance (based on Johnston 2001)



The Customer Orientation route suggests that complaint processes impact on customer satisfaction, which in turn through its effect on customer retention has an impact on the firm's financial performance. It essentially covers the customer recovery process, that is, making the complaining customer satisfied through an appropriate correction of the error made. Furthermore, Johnston (2001) argued that complaint processes, if made 'staff-friendly', can also have an impact on employee attitudes and to financial performance via employee retention. We call this the Human Resource route. The reasoning behind this route suggests that by making complaint management easier to the employees, allowing a certain degree of human error, and relaying not only the complaints but also the positive feedback received from the customers to the employees, employees are believed to be happier, learn from their mistakes and remain with the company, thus reducing operation and switching costs. Finally, Johnston (2001) suggested that complaint processes should be designed to focus on process improvements that are likely to achieve savings and thus positively impact profitability, which is not necessarily the case if the improvement merely targets customer satisfaction. These elements form the third route in the model, which we coined the Engineering route. According to our understanding, this is the process where the errors causing the complaints are identified, analysed and tracked back to their source. Thereafter the information can be used in aid of decision making in an attempt to improve processes, thus preventing similar errors happening again.

The focus in the following analysis is on the Engineering route. We argue, however, that the three routes are intertwined. Process improvements affect customer satisfaction and retention, as they do employee attitudes and retention. Similarly, process improvement should be based on information about the factors that have a positive impact on customer satisfaction and employee attitudes. The particular emphasis of the following analysis is on utilizing customer complaint information to determine what makes the customer dissatisfied and using this as a basis for process improvement, which in turn aims to avoid the repetition of the errors that gave rise to the complaint in the first place. So far little research has been aimed at finding tangible methods to analyse and derive operational benefits from customer complaints. The following section presents a construction that was implemented in a large Finnish company as a solution for analysing complaint information and tracking back complaints to the processes within the organization where the fault causing the complaint occurred. This is followed by a discussion of the results achieved through the implementation at both the operational and strategic levels.

3 METHOD AND DATA

The constructive case study method

The constructive method is a specialized form of case study, which concentrates on developing a new, innovative construction to solve practical, real-life problems Lukka, 2003, 2005). Lukka (2000) characterizes construction as an abstract concept which has a nearly infinite number of possible realizations. Examples include different models, diagrams, plans, organizational structures, commercial products and information systems. A particular characteristic of constructions is that they are not discovered but invented. The construction developed in the present study is a novel, practically relevant method of systemizing the utilization of customer complaint information for processes improvement.

In addition to building a theoretically anchored construction, the implementation of the developed construction is at the core of the method. Therefore, unlike for example in action research, the researcher does not attempt to be an observing bystander but works actively and explicitly on the project in order to make it work in practice (Lukka, 2005). A constructive study is experimental by its nature. Following the pragmatic philosophy of science, the constructive method believes that one can make a contribution to theory through a profound analysis of what works and what does not work in practice (Lukka, 2000). The ideal results from a constructive case study combine both the solution to the practical problem and a contribution to theory. The theoretical contribution can take the form of an entirely new theory but more often constructive studies demonstrate, test or develop existing theory (Keating, 1995; Lukka, 2000, 2005).

The present study was carried out in three phases. The pre-study phase and the development of the construction took place mostly during 1999-2001, whilst the implementation of the construction in the case company followed in 2001-2002. Analysis and monitoring of the continuing implementation of the construction has continued ever since and the construction is still in use at the case company at the moment of writing this paper (August 2007). The relatively long period between the initial implementation in the case company and this analysis, strengthens the validity the construction and findings, as the construction has been not only initially successful, but stood against the test of time in ever changing world. The strong intervention required by the constructive case study method was

enabled by the main project researcher's position as a project manager responsible for the development of the customer feedback system, and his previous experience with the company. The credible organizational role of the main researcher allowed him to collect a wealth of data by means of observation, participation and interaction with various staff members in meetings, informal discussions and email dialogues. The researcher made extensive notes over the course of the implementation process, which were used as a basis for the present analysis. The following sections present the case company and the theoretical construct, followed by a presentation and discussion of the results of the study.

The case

The case company 'HouseTech Corp' (pseudonym) is one of the major agents in the technical wholesale in Northern Europe. It generates an annual turnover of around one billion euros, has approximately 2500 employees and maintains operations in eight countries in Northern Europe. As is typical in the wholesale business, logistics has a central role in HouseTech Corp's operations. Its role in the value chain is to act as an intermediary between the manufacturers and their customers. The present study was conducted in HouseTech Corp's central distribution centre in Finland. This unit maintains a product range of nearly 30 000 items and delivers approximately six million order lines per annum. Its clientele includes electrical, heating, plumbing, ventilation, air conditioning and refrigeration contractors, industrial companies, power plants, public organizations and retailers. The central distribution centre delivers goods with the help of transport partners directly to business or public sector customers or the customers can choose to collect the goods from the central warehouse. Moreover, the company operates a chain of 'express stores' where local small businesses can purchase and collect a limited selection of items without prior order.

This study deals with the *customer delivery process*. The customer delivery process is a combination of the physical movement of goods and information. Quality in this operation means, from the customer point of view, that the ordered goods reach the right place undamaged and at the right time. Due to the nature of the technical wholesale business, the majority of complaints relate to actual 'physical' shortcomings in the delivery process rather than emotional perceptions of service quality. In other words, the complaints relate to situations where the products ordered have reached the customer late, in a faulty condition, in insufficient quantities, or the correct products have not reached the customer at all. These sorts of problems are common in all high volume warehousing operations. Most customers tend to complain about this kind of shortcomings because the operations management system automatically invoices all the goods that have left the warehouse. HouseTech Corp had and still has a back office function to handle complaints that cannot be immediately and informally solved by the sales clerk. While sales clerks input most of the complaints into the system, further processing and the correction of errors is dealt with by the back office complaint handlers.

The need for the project on which this paper is based arose because the logistics management was concerned about the increasing number of complaints and the associated costs. The preliminary analysis of the logistics management concluded that the quality management projects already undertaken – including a quality system covering all functions in accordance with the ISO9000 standard and self-assessments in accordance with the criteria provided by the European Foundation for Quality Management – did not seem to focus on the issues that the customers complained about. At the operational level, the complaint handlers were not satisfied with the IT system and had concerns over the quality of the complaints process. The complaint handlers are operational problem-solvers whose task is to solve the problem for the customer, make the appropriate corrections in the warehousing and invoicing systems as well as find out who is responsible for the direct cost associated with the error, whenever this is humanly possible. Complaints handlers did not have a managerial perspective to their work, but a lot of tacit knowledge on what caused the problems in the first place. Since the complaint data was neither systematically collected nor analysed and the complaint handlers merely focused on correcting individual delivery errors, the complaint information and the complaint handlers' tacit knowledge did not reach the managerial level. An effective method and respective working procedures were required to address this problem.

The logistics director of HouseTech Corp had a strong belief in the benefits of using customer data, but no clear vision as to how one should go about realizing the benefits. At the time, there was no known off-the-shelf software or other solution available for the problem situation at hand. This is why the company decided to have a research-based solution developed to solve the problem. The aim was to provide a solution to the question of how to use the complaints information in order to improve quality in the processes causing the complaints in the first place. As the precise objectives of the project could not be clearly defined, the project was given plenty of room for innovation. The research process could be characterized as heuristic. As the objectives were not clear, the best means of getting there could not

be 'programmed' and planned in advance (e.g. Moustakis, 1990). Moreover, numerous small problems had to be solved during the course of the project as they emerged, and many of these solutions needed to be approved by a number of people in the organization, which slowed down the process. Against this backdrop, it was necessary to choose a method where the problems, disturbances and unexpected difficulties could be tackled heuristically as they appear (Wisner and Kuorinka, 1988), and the constructive methodology appeared appropriate and flexible enough for this purpose.

The construction

To function as the technical core of the construction, a database solution was created based on standard relational databases and the SQL protocol. The user interfaces were custom-developed, and although the system was built on standard database elements, the application itself was new and not available off-the-shelf at the time. The user interface for the input of data into the system was created around the job description of the complaint handlers. This was done because the complaint handlers were the ones holding the most information in each individual case and it was recognized that it would be beneficial to capture some of their knowledge to support managerial decision making. In the new system, a qualitative description of what went wrong from both the customer's and the sales clerk's perspective was made available to the complaint handler. A new task for the complaint handler became to link the complaint to the company's process and activity descriptions in the database system. Furthermore, since complaint handlers obviously find out what happened and why as well as how the complaint was solved, the new system required them to record their own description of these elements too. All of the complaint related details, although recorded mainly for the needs of the complaint handler, were stored in the data warehouse. All the details, including the qualitative customer comments, could be easily accessed should someone wish to look deeper into the individual complaints later on.

The following information was put together for each customer feedback event:

- Complaint information from the customer, what has happened and the customer's perception as to why this has happened.
- Sales clerk's immediate reaction (e.g. calling the customer to find out what happened exactly), possible corrective action and interpretation of the event.
- Order data.
- Complaint handler's description and analysis of the complaint's causes and effects, and a description of the corrective actions taken.
- Link to activities and agents identified to have been part of the cause for the complaint.

The system recorded both negative and positive customer feedback in a similar manner. As much as 17 % of the feedback was positive. These customers could be described as particularly delighted about the service, given that they made the effort to specifically relay their satisfaction back to the organization. The rest of the feedback consisted of complaints, which can be classified roughly into errors caused by workers or local poor working methods (40 %), poor internal processes (10 %) and poor external processes (50 %, e.g. deliveries by the transport partners).

However, the real novelty of the construction does not lie in its technical structure, user interfaces or what data is recorded, but in its managerial aspects. Three contributions of the construction should be particularly emphasized in this context. First, the new system classifies the errors that have caused the customer complaint for the purposes of further analysis and aid in managerial decision making. Second, the system allows the management to trace back the complaint and the respective error to the procedures, individuals, vehicles, partners (transport companies) or machines responsible for the error within the whole delivery process. Thus, with the help of the new system, the management can aim process improvement actions to those processes that really matter to the customer. Third, the new system allows the company to combine the complaint data with other information already available in the company. The procedures and activities that the complaints are now linked to were already accurately defined in the company and used by its activity-based cost accounting system. As the whole company utilizes the same data warehouse, the construction now also links complaints directly with cost accounting, and provides qualitative data for the uses of management accounting. The following section discusses the impact of the construction at operational and strategic levels as it was implemented in HouseTech Corp.

4 RESULTS

Operational level – compl aint handlers

The implementation of the construction had several positive effects at the operational level of complaint handling. As an immediate effect of utilizing the new construction, the complaint handlers perceived the recording, analysing and reporting of complaints data to have become easier, making their work easier and more motivating.

> "The best thing in the new system is that customer feedback, with all associated order data, prints out automatically in our office. Just by reading one paper or screenful, I can now get a whole picture of the complaint, and start doing my job without the need to search for more information from the computer systems or telephone around the company and bother other people with simple questions. The system makes our work considerably easier and faster. Another great thing in the new system is the feeling one gets while recording one's own actions into the database, that the work we do is not wasted – someone is going to use the information later on. Feels like the bosses have finally realized how important work we are doing!"(A complaint handler, April 2002)

Therefore, in terms of the conceptual model (Figure 1), the process improvement in fact feeds back to the employee attitudes component in the Human Resource route which, the model predicts, contributes to performance via employee retention.

Moreover, the average working time used for handling each complaint was measured to have reduced by approximately 15 % (or eight minutes) due to the new construction. The measurement was conducted by recording the working time used on the different phases of the customer complaint process during one week each in June 1998 and November 2004 by means of work-time clocking and time-logs recorded by the new IT system itself. This result is a direct measure of success in terms of improving the effectiveness and efficiency in the process of complaint handling. Although no direct cost savings were made through staff redundancy, the direct time saving, for its part, made it possible to keep staff numbers constant despite growth in operations volume.

Operational level – warehouse management

The warehouse management (the lowest level of operational management) found the information created by the construction a very useful tool. With the implementation of the construction, these managers started to review the complaint data systematically and continuously, whereas previously their knowledge about complaints was based on sporadic discussions with the complaint handlers. They could now better monitor the performance in terms of the number of complaints tracked back to their area of responsibility. The following quote from one of the warehouse operations managers illustrates this:

> "We have had the custom of going through the errors with employees every week. Occasionally, there were unpleasant situations where complaint handlers had marked an error as caused by a particular employee, but the employee himself denied responsibility. And who would want to take the responsibility for errors as they are linked to the productivity bonus and therefore to the worker's pay check. We as supervisors must be able to prove the error and its link to the specific employee in a reliable manner if required, but previously without the system it was quite difficult. The new system enables us to print out every complaint with the associated data that shows extensively the cause for the error, who made it and what sort of hassle the error caused. An extensive and well documented description gives less room for guesswork and speculation, a thing that my workers have started to appreciate. Our work becomes much easier; we can take action backed by facts instead of guessing and shooting from the hip."(A warehouse operations manager, August 2002)

Furthermore, the new system enabled warehouse managers to effectively analyse the reasons behind each complaint and combine this information with their own detailed operational knowledge. Thus, the system provided warehouse management with factual information backing their decisions to change working methods, relocate employees or initiate training. For example, when an employee was identified as the cause for a systematic fault, the warehouse management initiated discussions with the respective employee regarding the problem. In some cases this was enough, if the fault was caused for instance by unintended carelessness on part of the employee. In others, the reason could be traced back to faulty equipment, a local working method or a plain misunderstanding. Where the underlying cause

was identified as shortage of skill, the warehouse manager could rotate the employee to other duties more suitable to their skills or initiate further training.

Moreover, as positive feedback was recorded in a similar manner as complaints, the warehouse management adopted the habit of reviewing also this information and giving feedback to employees on their successful efforts that had led to customer delight. This was perceived to have very positive effects to employee satisfaction and thus employee attitudes in terms of Figure 1.

> "We do help some "begging" customers occasionally to get their stuff delivered next day, although they have actually ordered too late in the afternoon to get next day delivery. It felt quite nice that my boss [Transport Manager] actually said that the customer had thanked us because I was still able to get his goods into the truck. Never thanked me for that sort of thing before. It seemed to be important for the customer to get the ordered pipes next day, so I did a little extra work, because of the hassle the customer would have otherwise had at his construction site." (A transport co-ordinator, August 2002)

Strategic level

At the strategic level, the logistics management became more interested in utilizing customer complaint information with the implementation of the construction and started to review and analyse complaint data regularly, on a monthly and annual basis.

> "Analysing the data seems to become more and more interesting as the size of the database grows. The database now has five months' data, and it's becoming quite interesting to play with the data in Access, and see whether anything new comes out. I can hardly wait until we can start looking at the data on an annual basis, when I expect we can better see the spread of different error types and can evaluate their cost effects and use that for improving our operations." (Logistics Manager, August 2002)

> "I have always believed that customer information is a key for achieving a new kind of, even strategic competitive advantage. However, I often wondered what is the relevant information we ought to get from the customer, and how we should go about getting that information. These customer satisfaction questionnaires we send out seem, from the perspective of improving logistics, rather useless. With regard to this new customer feedback construction, I was not convinced at the beginning that complaints information is a sensible source of customer information. I didn't believe that it generates enough data for a reliable and systematic analysis. However, as it seems now, our large volumes cause a large number of complaints, even though they are relatively few proportionally [given the total volume]. A careful handling of customer feedback creates a surprising amount of useful and interesting data." (Director of Logistics, November 2002)

By investigating and analysing the data in the long run, the top logistics management could identify trends and larger issues in the delivery process. This led to a further investigation concerning the potential for redesigning parts of the delivery process. For example, the logistics management initiated discussions with the transport partners aiming to reduce the number of errors occurring when goods are transported from the warehouse to the customer's premises.

> "I meet with all our transport partners once a month to evaluate and go through current issues and ponder about how to develop operations and cooperation. Before the latest meeting with one of the transporters, I filtered out from the system all the errors that, according to the system, they had caused and sent them the list a couple of days beforehand. It was quite a confusion and surprise for both of us, as we both claimed that we were innocent and that the other party was solely responsible for the mistakes. However, the uniform reporting of errors created an intensive and productive dialogue. Already during the first meeting we found a problem spot in the delivery process, which we obviously decided to fix as quickly as possible. I am going to do the same thing with all of our transport partners." (Transport Manager, October 2002)

Numerous small changes in the warehouse operations were implemented during the observed period. As the construction continues to be in use, more will be done every month. In principle these changes, if correctly implemented, should lead to better operations, improvement in quality and reduction in the number of complaints. While it was not within the scope of this study to measure the

effects in absolute numbers, the management reported clear improvements on those occasions where changes were made based on the construction.

> "Yes, the system is still actively used. It now forms an integrated part of our customer contact handling in the customer service centre." (Business Planning Manager, May 2006)

5 CONCLUSION

This paper addressed the issue of utilizing customer complaint information as a source for customer-focused process improvement, which was argued to direct process improvements to those activities that generate most value to the customer. A previous study by Johnston (2001) had shown that a well-handled customer complaint process positively correlates with process improvements (the Engineering route), customer satisfaction (the Customer Orientation route), employee attitudes (the Human Resource route) and, ultimately, company performance (Figure 1). However, the literature acknowledged that the problem of 'how' to achieve process improvements by utilizing customer complaints remained largely unsolved (Johnston and Mehra, 2002). The present paper set out to address this problem by creating a novel construction that – along the lines suggested by process-oriented management teachings (see e.g. Albright and Roth, 1994; Berry and Parasuraman, 1997; Mizuno, 1992; Reichheld and Sasser, 1990) – recorded qualitative customer complaint information together with the complaint handler's interpretation, and allowed these to be processed systematically and linked to the rest of the company's information system. Hence, both the complaint itself and the complaint handler's tacit knowledge became usable as a managerial tool both at operational and strategic levels. The study thus demonstrated the usability of various process management teachings and their compatibility with customer-focused thinking when correctly employed.

The construction was implemented in a large Finnish technical wholesale enterprise and the implementation was studied as part of the constructive case study research method (e.g. Lukka, 2000, 2005). The results attained through the implementation clearly demonstrate that it is possible to achieve business process improvements by utilizing customer complaint data, thus supporting the argumentation in previous research which has raised the role of customer information in the improvement of business processes (e.g. Jones and Sasser, 1995, Kohli and Jaworski, 1990, Slater and Narver, 1994, 1996). Moreover, in terms of the Customer Orientation, Engineering and Human Resource routes depicted in Figure 1, the results of the case study showed that these are intertwined rather than independent of each other. The process improvements achieved became manifest and had managerial implications on three distinguishable levels of organization.

Firstly, by making the complaint-handling process more effective and staff-friendly, the construction showed a direct impact on the time and costs associated with handling the complaints. The complaint handlers also felt that their contribution to the company was finally recognized and their work became more valued by the management. Thus, in terms of the model in Figure 1, the Engineering route also impacted the Human Resource route via the process improvement having an effect on employee attitudes.

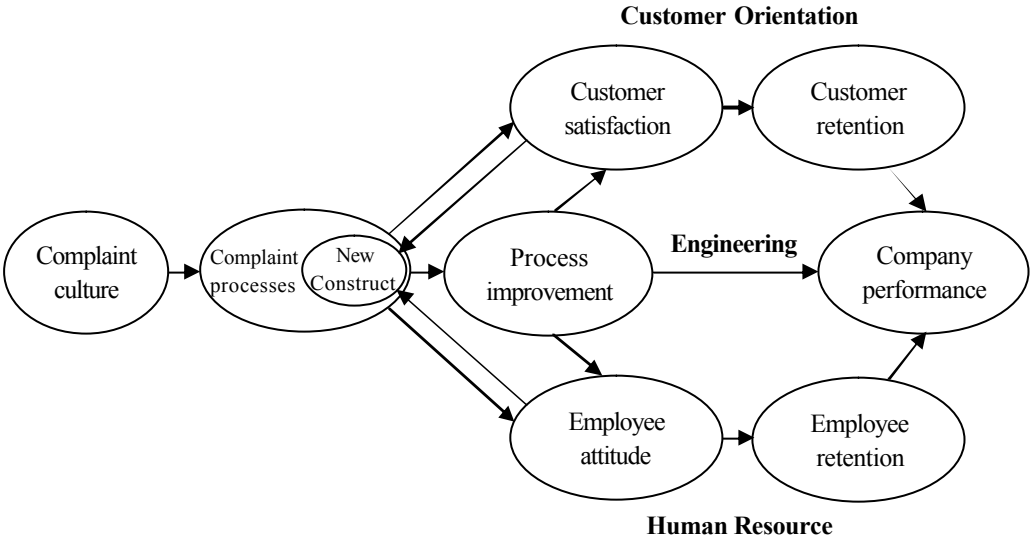
Secondly, enabling the operations management to track back each complaint to its source improved the management's ability to monitor performance and intervene to remove a problem if required. The customer complaint data was actively used to make minor adjustments and improvements within processes. These adjustments decreased the number of errors made and had a direct impact on costs, thus 'engineering' the processes and the Engineering route continuously to become more efficient.

Thirdly, the feedback data was also utilized in aid of strategic decision making regarding the long term development of warehouse operations and the network of transport partnerships. This had a direct impact on the Engineering route. Arguably the construction also improves customer satisfaction and thus the Customer Orientation route, although this was not explicitly demonstrated in our case. The developed construction did not really change the way the company deals with an individual customer recovery, with the exception of adding the possibility to give feedback via internet. However, as the customers complain and respective process improvements are made, customers do not experience similar errors in the future, which will reflect on their satisfaction in the longer term.

Based on the results of the case study, we propose extending the original model adopted from Johnston (2001) as illustrated in Figure 2. Thus, we propose that process improvements may also have indirect effects on company performance by positively impacting employee attitudes and customer satisfaction. The increased customer satisfaction and improved employee attitudes, in turn, are likely to have a positive impact on enhanced utilization of the customer complaint system and subsequent process improvement, thus creating a positive loop in the long run. The extended model could serve as

a foundation for future research on this topic. For example, the constructs in the model could be operationalized and studied utilizing structural equation modelling in order to examine the impact of the different routes to company performance. This is where the limits of the present study become apparent: we do not have any hard, quantitative data to measure the effectiveness or efficiencies gained via the construction numerically. The scope of the study was set to describe a construction, a means by which customer complaints can be linked to processes. The developed construction helps to identify the weak points or the points of failure within a company's existing processes and provides a tool for the management to identify and analyse these points. Measuring the actual effects of such process improvements remains a task for future research.

Figure 2: Process improvement as a central component of complaint management



A further limitation is imposed by the sectoral context of the study, which was set in the technical wholesale logistics environment and concentrated on the process of delivering the product from the shelves of the warehouse to the business customer. The complaints in this environment often relate to 'physical' faults, rather than the 'feeling' of service quality. The developed construction should be further developed to tackle 'softer' faults more common in true service industries. Further research on the applicability of this type of construction in other companies and other type of business environments would confirm its broader usability. However, in principle the constructive methodology does not require multiple cases due to its pragmatic nature. The fact that the construction was successfully implemented and still in use is relatively strong evidence that the construction works and is useful for managerial purposes. Finally, it is useful to point out that the construction is not 'automated' and that it cannot be taken out of its context, especially the company's organizational culture. The fact that the construction worked in HouseTech Corp was heavily dependent on the company already practicing process and quality management, and on the management of the company being committed to the project.

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