TAMPERE POLYTECHNIC

BUSINESS SCHOOL

FINAL THESIS REPORT

**mCreate Care Satisfaction Survey
Case: Nokia Oyj**

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ABSTRACT

mCreate Care Satisfaction Survey was performed for mCreate Care Department of Nokia Oyj during May - June 2005. The objective of the survey was to find out strengths and weak areas of the services of mCreate Care in order to improve and develop the function of services. Research method of the survey was quantitative. Target group of the survey was mCreate Support personnel in DMS organization of Nokia Oyj and size of the target group was 95 persons. The survey included 19 questions. By the due date 22% of target group had answered to the query. Therefore the analysis of the survey is not black-and-white as the answering rate was so low. In the survey installation and upgrade services, emergency support and installation / site visit planning achieved the best satisfaction scores. The Survey also revealed clearly the targets of development in the services of mCreate Care. Response time of Electra cases is not on a satisfactory level at the moment. Also the quality content both in Electra case solutions and Correction Responses of Research & Development department should be improved. Care tools are not either very widely used as information source. Solution base had the worst satisfaction score among tools and it is also very rarely used as 67% of respondents answered that they never use Solution Base. mCreate care should pay more attention to the responsiveness in Electra cases and to the quality content of the cases. Correction Responses should be inspected more strictly by Customer Support Engineers before sending responses to the customer. Also in Change Delivery/ Enhancement Delivery phase Delivery responsibles should not send any corrections to the customers without clear and detailed information about the correction and installation instructions. Research & Development department should be trained in Fault Management Process and be informed about the importance of the Correction Responses of good quality. Tool Usage, especially Solution Base usage should be promoted in mCreate both among mCreate Care personnel and DMS organization and a promotion campaign about Solution Base should be arranged to DMS. Customer Satisfaction Survey should be arranged yearly in order to check if there any changes in development areas.

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1. INTRODUCTION TO THE SURVEY

1.1. The assignment and the starting point

mCreate Care Satisfaction survey was performed for mCreate Care Department of Nokia Oyj. After organizational change 1st of October 2005 the name of mCreate Care Department was changed to CSC Care department, but as the survey was performed before the organizational change, this document contains information about organization names before the change.

The function of mCreate Care Department is to provide technical and maintenance Support for Intelligence Network (= IN, mCreate) Product. The direct customer of mCreate Care department is DMS organization of Nokia Oyj. DMS organization is the first contact point for customers of Nokia Oyj that are network operators all over the world.

Nokia Oyj´s annual internal satisfaction survey "Listening to you" on the end of year 2004 showed, that feedback from customers is quite invisible and the employees of mCreate Care would like to receive more concrete feedback from the customers. The undersigned works as a Customer Support Engineer for mCreate Care department and was assigned to arrange a customer satisfaction survey as her final thesis work in Tampere Polytechnic on spring 2005.

The assignment was the first satisfaction survey that was directed to mCreate responsibles of DMS organization in Nokia Oyj by mCreate Care department.

1.2. The objective of the survey

The objective was to find out strengths as well as weak areas in order to improve and develop mCreate Care's services. Also further development ideas and suggestions were required from DMS personnel in the survey. Before the survey ideas and questions related to the question form were collected directly by employees and managers of mCreate care in order to prepare diversified and objective question form.

2. DEFINITIONS OF SERVICE, CUSTOMER AND CUSTOMER SUPPORT

Before we can analyze effective customer service and a way to customer satisfaction, we should familiarize ourselves with basic definitions of words "service" "customer" and "customer support".

2.1. Service

For most services, three basic characteristics can be identified:
1. Services are processes consisting of activities or a series of activities rather than things.
2. Services are at least to some extent produced and consumed simultaneously.
3. The customer participates in the service production process at least to some extent.

By far the most important characteristic of services is their process nature. Services are processes consisting of a series of activities where a number of different types of resources –people as well as other kinds of resources- are used, often in direct interactions with the customer, so that a solution is found to a customer's problem, Because the customer participates in the process, the process, especially the part in which the customer is participating, becomes part of the solution.
(Grönroos 2000: 47 – 48.)

2.2. Customer

1. A Customer is a human being. Only human beings can make decisions and use products.
2. A customer is a person who has acquired or is considering the acquisition of one of our products. Anyone who is involved in making a decision, from the financial decision maker to the decision influencer to the end user (and often they are one in the same), is a customer (Kincaid 2003: 9.)

2.3. Customer Support

The product support department (which is often and preferably called customer support) focuses on helping customers, answering questions or solving problems with your products and services. Unfortunately, product support is often treated purely as overhead, a cost to be minimized –so support people are measured on how quickly they can "close" (not necessarily solve) an incident. They are seldom measured on how well the incident was resolved or how happy the customer is. (Kincaid 2003: 53.)

Support has a tremendous opportunity to influence the customer experience. It has the opportunity to turn frustrated and angry customers into loyal customers. It also has a tremendous opportunity to gain customer trust and gather information about the

customer. Information gained in the support process may be the most information you can have to improve your understanding of your customers. (Kincaid 2003: 103.)

3. CUSTOMER LOYALITY AND CUSTOMER SATISFACTION FORMATION

3.1 Definition of Customer loyalty

Loyalty is an emotion: it isn't rational. Loyalty occurs when an individual has a vested interest in maintaining a close relationship, usually resulting from a series of positive experiences that have occurred over time. These experiences can be either tangible (product quality, ease of use, prompt and effective service) or intangible (respectful communications, trustworthy company image).
Customer loyalty is behaviour, built on positive experiences and value. This behaviour is buying our products and services, even when that may not appear to be the most rational decision. (Kincaid 2003: 9.)

"Once established, there is a momentum for a customer to remain loyal. All things being equal (or only slightly unequal), the loyal customer continues to buy our products. But if we stop delivering the tangible and intangible positive experiences to customers, their loyalty will be lost and they will surely disappear." (Kincaid 2003: 10.)

"Loyalty is built on relationships developed thought the customer's experiences when he interacts with your company. Of course, so is disloyalty! Loyalty, for our purposes is the likelihood that a current customer will buy from you again, rather than from a competitor, whenever he needs new or additional products that you sell. The value of loyality is well understood. A recent study by Bain and Company showed that when loyalty (customer retention) was increased 5 percent, profits within various industries (both consumer and B2B) increased from a minimum of 18 percent up to a high of 125 percent. The impact of customer loyality on profits hasn't changed, nor has the way loyalty is created through a customer's experiences with our company. Positive experiences build strong loyalty, but so can prompt resolution of negative experiences. In fact, many people believe that reversing a negative experience is the strongest way to ensure loyality (Vavra, 1992.)" (Kincaid 2003: 10.)

3.2. Definition of Customer Satisfaction

It is not enough to fulfil the basic needs and expectations of the customers. In order to achieve loyal and satisfied customers we have to delight our customers continuously and also aim at exceed customers´ expectations.

Noriaki Kano has developed a model for customer satisfaction, where quality dimensions are divided in three groups: basic needs, expected needs and exciting experiences. The basic needs are almost unconsciously expected to be there by the customer. They are so obvious to the customer that he usually would not describe these needs if asked. If dissatisfied with respect to these deeds he will be most

unhappy. We cannot, however, get a satisfied customer by fulfilling only the basic needs. Expected needs are such needs as the customer is aware of and wants to have satisfied but they are not always absolutely necessary. Some of these needs might be an extravagance. The exciting experiences, however, are items the producer has to find out by himself. They are surprises to the customer, who sometimes cannot imagine them. Here we may find opportunities to delight our customers. Of course these surprises may also be services. The degree of customer satisfaction depends on the correlation between the customer's expectations and his experience, but is also influenced by such things as the image of the company. (Bergman 1994: 282-283.)

Sometimes it is possible to change dissatisfaction to excitement. By treating a disappointed customer very well you can win a loyal customer. Here it is important that people in the front line have sufficient knowledge and possibilities to act rapidly and take corrective action when faults occur. (Bergman 2003: 283.)

3.3 The Relationship between Customer Satisfaction and Loyalty

It is not enough to offer the quality of services that keeps customers "just satisfied" as far as repurchasing behavior is concerned; customers have to be offered a service package which makes them very satisfied before they will repurchase. Only the "very satisfied" customers show a high repurchasing rate and a high propensity for positive word of mouth. Firm has to go beyond what normally can be described as good service and acceptable value to create loyalty. The firm must serve the customers in such way that they realize that the firm can be trusted in every respect at all times. (Grönroos 2000: 128-129.)

When reporting results from customer satisfaction and service quality studies, it is extremely important to keep those respondents who report that they are very satisfied apart from those who say that they are simply satisfied. The repurchasing and word of mouth behavior and therefore also the actions required to ensure enduring customer relationships are totally different for these two groups of customers.
(Grönroos 2000: 128.)

Only very satisfied customers will engage in any substantial positive word-of-mouth endorsements and thus become "unpaid" marketing and sales persons for the firm. On the other hand, very unsatisfied customers can be expected to create substantial negative word of mouth and thus become "terrorists" reinforcing negative but not totally unsatisfactory experiences by other customers and scaring away potential new customers. (Grönroos 2000: 129.)

4. SERVICE QUALITY

Too often improving quality is mentioned as an internal goal without any explicit references to what is meant by service quality. To talk about better quality without defining it, how it is perceived by customers, and how it can be improved and enhanced is of limited value. In reality, customers often perceive quality as a much broader concept and, moreover, aspects other than technical ones frequently dominate the quality experience. Within firms, one has to define quality in the same way customers do. It should always be remembered that *what counts is quality as it is perceived by customers.* (Grönroos 2000: 63.)

4.1 How good should quality be?

A question which is often asked is how good should be the optimal quality of a given service? The answer depends on the strategy of the firm and the expectations of the customers for whom its services are intended. These two factors are dependent on each other. (Grönroos 2000: 98.)

In principle there are four possible quality outcomes: underquality (=bad quality), confirmed quality (=acceptable quality), positively confirmed quality (= good quality) and overquality (quality too good to be justifiable). Good quality, of course, requires that experiences at least equal expectations, or exceed expectations; otherwise the quality expectations of customers are not met. Acceptable quality is always required, but if the firm wants to make its customers really happy with its services, acceptable quality may not be enough. Positively confirmed quality should be the objective to aim for. Then we have overquality, which cannot be justified for economic reasons. Moreover, overquality may simply be perceived by the customer to exceed what is really needed, which in turn can even create bad word of mouth. (Grönroos 2000: 99.)

There is an often-mentioned ground rule that customers should get a little bit more than they expect. Acceptable quality (confirmed quality where expectations are met but no more) satisfies a customer but does not necessarily make him feel that this is a relationship with a service provider that must not be broken. It does not make the customer talk about his experiences to friends, neighbours and business associates. Positively confirmed quality when expectations are exceeded to some extent, which is sometimes also called customer delight, may make customers more interested in continuing the relationship with the service provider, and this also creates good word of mouth benefits. The positively surprised customer remembers the experience and often likes to talk about it. (Grönroos 2000: 99.)

4.2. Models for Service quality

One early model for service quality is the one described by Grönroos (1983). This model relates the service experienced by the customer to his expectations. The customer's experience of the service depends on the following two dimensions:

1. *Technical quality*, which is related to the result of the service. This dimension is related to the question "what" has been provided.

2. *Functional quality,* which is related to the way the service has been delivered. This dimension is related to the question "how" has the service been provided. (Bergman & Klefjsö 1994: 269-270.)

Zeithaml et al. (1990) discuss a model explaining causes of customer dissatisfaction. The model is called *The Gap Model".* This model illustrates the path from customer expectations to customer experience.

Gap 1 between customers´ expectations and management's perceptions of those expectations. The Gap consists of the discrepancies which arise because executives do not understand what customers consider to be high quality. Knowing what the customers want and expect is the very first step in delivering service quality. It is also a critical step. To be able to provide services that customers perceive as excellent the firm has to know what customers expect.

Gap 2 between management's perceptions of customers´ expectations and service quality specifications. Known customer expectations cannot be matched or exceeded because of difficulties in responding consistently to customer demands and because of the absence of top management commitment to service quality. Top managers committed to quality must constantly and visibly express their commitment to the troops.

Gap 3 between service quality specifications and service delivery. The difference between service specifications and the actual service delivery is the service-performance gap caused by employees who are unable or unwilling to perform the service at the desired level. It is important to note that contact personnel delivering the service have a pivotal role. Even when service guidelines exist there may be a large variability in employee performance.

Gap 4 between service delivery and external communications to customers about service delivery. This gap appears between what the firm promises about a service and what it actually delivers. Accurate and appropriate company communication is essential to delivering services that customers perceive as high in quality.

Gap 5 between customers´ expectation and perceived service. A good service quality is one which matches or exceeds customer expectations. Judgements of high and low service quality depend on how consumers perceive the actual service performance in the context of what they expected. (Bergman & Klefjsö 1994: 270-274.)

4.3. Measuring Service quality from customer point of view

Quality is perceived through a comparison between expectations and experiences over a number of quality attributes. The best-known and most influential studies are the ones by Leonard Berry and his colleagues related to the development of the SERVQUAL instrument. In the mid-1980s Berry and his colleagues Parasuraman and Zeithaml began to study service quality determinants and how customers evaluate the quality of services. 10 determinants were found to characterize customer's perception of the service

1. *Tangible.* This determinant is related to the appeal of facilities, equipment and material used by a service firm as well as to the appearance of service employees.
2. *Reliability.* This means that the service firm provides its customers with accurate service the first time without making any mistakes and delivers what it has promised to do by the time that has been agreed upon.
3. *Responsiveness.* This means that employees of a service firm are willing to help customers and respond their requests as well as to inform customers when service will be provided, and then give prompt service.
4. *Competence.* This means possessing of the required skills and knowledge to perform the service.
5. *Courtesy.* This refers to the supplier's behaviour, e.g. politeness, consideration and kindness.
6. *Credibility.* This means trustworthiness, believability and honesty of the service provider.
7. *Security.* This means freedom from danger, risk and doubt.
8. *Assurance.* This means that employees´ behaviour will give customers confidence in the firm and the firm makes customers feel safe. It also means that the employees are always courteous and have necessary knowledge to respond to customer's questions.
9. *Access.* This is the ease of making contact with the supplier.
10. *Empathy.* This means that the firm understands customers´ problems and performs in their best interests as well as giving customers individual personal attention and having convenient operating hours.

As a result of a later study the 10 determinants of service quality were decreased to the following five: *tangibility, reliability, responsiveness, assurance and empathy.*

SERVQUAL is an instrument for measuring how customers perceive the quality of a service. This instrument is based on the five determinants above and on a comparison between customers´ expectations of how the service should be performed and their experiences of how the service is rendered. The SERVQUAL scale should be applied carefully and the determinants and attributes of the instrument should always be reassessed in any situation before the instrument is used. Services, as well as markets and cultural environments are different. (Grönroos 2000: 63) (Bergman & Klefjsö 1994: 267.)

Investigations using SERVQUAL have proved that reliability is by far the most important of these dimensions and that tangibles is the least important. The other three dimensions are for many services of approximately the same importance. Similar results have also been obtained from other investigations. (Bergman & Klefjsö1994: 269).

5. SERVICE FAILURES

The real test of the customer orientation of a service provider takes place when a service failure has occurred. Ideally, quality should be high all the time and failures should not occur in the service processes. However, employees make mistakes, systems break down, customers in the service process may cause problems for other customers or a customer may not know how to participate in the process or may change his mind regarding some aspect of the service during the process. As a consequence, the planned service process will not lead to a good result for the customer. Hence, regardless of the reason for a failure, the service provider has to take care of the situation and is responsible for solving the problem in a way that satisfies the customer. (Grönroos 2000: 112-113.)

5.1. Service recovery concept

Service recovery is a concept that was introduced in the service management literature to help firms manage service failures and complaints in a service oriented way. The traditional way of handling service is complaints handling, where customers who have experienced problems are requested to make formal complaints. Those complaints are analyzed by the firm usually in an administrative way. Nowadays it has been noticed, that complaints handling has a significant effect on customers´perception of the service orientation of a service firm or a manufacturer and the complaints handling approach is inherently non-service oriented. Service recovery is a service-oriented approach to managing the same situations that, in an administrative way are managed by complaints handling routines. Service recovery is a process that identifies service failures, effectively resolves customer problems, classifies their root causes and yields data that can be integrated with other measures of performance to assess and improve the service system. (Grönroos 2000: 113-114.)

External efficiency is the main guideline for service recovery. The objective of service recovery is to satisfy customers in spite of a service failure as well as to maintain and improve long-term relationship quality, to retain customers and long-term profitable business rather than short-term cost savings. (Grönroos 2000: 114.)

5.1.1. Guidelines for service recovery

It is the organization's responsibility to spot service failures and other types of mistakes or quality problems. Customers should only have to notify the firm about the situation or make a complaint if the firm has been unable to do so. If formal complaints are required, it should be made as easy as possible for the customer to

complain. Written complaints should be used only when absolutely necessary, for example for legal reasons or when large amounts of money are involved.

The organization should take the initiative to inform the customer about the failure or mistake and, in cases where immediate corrections cannot be made, keep the customer up to date about the progress of rectifying the mistake. The organization should also actively take measures to correct failures and mistakes and not wait until the customer demands action. Corrections should be made as quickly as possible.

The customer should be compensated immediately and, in cases where immediate compensation cannot be given, no unnecessary delays should be allowed. A lost customer has a greater negative effect on long-term profits than an overcompensated, satisfied customer who continues his relationship with the firm and and probably also contributes to favourable word of mouth communication.

Emotional reactions, such as anxiety and frustration, which customers often feel because of a service failure or some other mistake, must also be managed. Such emotions should probably be attended to first. Apologizing is important, but is not enough in most situations. Customers must also be compensated for losses they feel they have suffered and the failure must be dealt with.

To make full use of the potential of successful recovery, a systematic service recovery system should be developed. In such a system empowered employees such as customer contacts, customer-oriented supervisors and managers as support persons, are in a central position. (Grönroos 2000: 114 – 115.)

5.2. Handling customer complaints

Because customers are the final arbiters of quality, it is essential for the company to maintain some sort of dialogue with them and to listen to what they say. It must be also remembered that for every customer who is dissatisfied and complaints, there are many more who are equally dissatisfied yet, for reasons best known to themselves, say nothing. The customer complaints should be seen as something of an iceberg. The visible tip, revealed by complaints does little to convey the mass which lies below the surface. With an iceberg it is estimated that about seven eights is invisible. What might it be for complaints? (Leppard & Molyneux 1994: 64 – 65.)

The reason it is so important that all employees learn to deal with difficult and dissatisfied customers is that the ability to do so is one more factor that separates world-class companies from mediocre companies. Employees in world-class companies view dissatisfied customers as potential loyal, repeat customers. (Goetsch & Davis 2004: 193.)

The three most important words to remember when dealing with a dissatisfied customer are: listen, listen and listen. Acknowledge the customer and listen attentively to her complaint. Provide validation for the customer, share her urgency to get the problem solved and treat her with respect. (Goetsch & Davis 2004: 193).

Although it is important to treat the customer with respect, you do not want to simply accept his complaint at face value. Once you have all the necessary details, tell the customer you will look into the problem right away and get back to him. Tell him exactly when you will contact him and then make sure you keep this promise. We recommend that companies teach their employees to promise small and deliver big when dealing with customer complaints. If you think you can get back to the customer by 2:30 P.M. today, tell him you will call back by 3:30 P.M and then call him at 2.30 P.M. the customer will think you have bettered your promise. Many people make the mistake of promising big but delivering small. This just makes the customer more dissatisfied. Investigate thoroughly, verifying all facts and claims. When attempting to solve problems, it is important to act on facts rather than on unverified claims or assumptions. (Goetsch & Davis 2004: 193 – 194.)

When you are sure you have identified the source of the problem, solve it. If it turns out that the fault lies with the customer, take an objective look at whether your company could have done anything to make the transaction easier or more convenient for the customer. Regardless of what is found during the investigation, act on the facts to solve the problem and do so as promptly as possible. The faster you solve a customer's problem, the greater your change of winning her over. In this step, the company should go the extra mile to ensure customer satisfaction. (Goetsch & Davis 2004: 194.)

One of the reasons people take their business elsewhere rather than investing the time and trouble to complain is that many have experienced a lack of follow-through when they have complained in the past. Not knowing the outcome of a complaint is actually worse than knowing that nothing happened. People like to know. Consequently, when dealing with dissatisfied customers, it is critical to keep them in the loop. If the problem has been solved, tell the customer. If it will take a couple days to solve the problem, tell him that and give him an estimated completion date. If you have gotten the ball rolling on a fix for the problem but you are not sure when the solution will be finalized, tell him that. Then provide periodic updates. (Goetsch & Davis 2004: 194.)

After you and the customer have discussed thoroughly the solution to be adopted, the eventual results may not turn out as planned. Consequently, it is important to follow up with the customer after the solution is in place to make sure that it worked as planned. (Goetsch & Davis 2004: 194.)

6. SOME STEPS TO IMPROVE CUSTOMER SERVICE

6.1 Improving internal Satisfaction

As important as external customers are it is essential to understand that there are also internal customers. Internal customers are employees who depend on each other to get their work done. Part of satisfying external customers is tending to the morale, attitudes and perspectives of the employees who interact with them. In other words, part of ensuring external customer satisfaction is ensuring internal customer satisfaction. (Goetsch & Davis 2004: 246.)

Employees tend to treat customers the way they are treated by management. Therefore, internal customer satisfaction must be a high priority. Low morale among employees can undermine a company's best efforts to ensure customer satisfaction. Employees are intuitively perceptive. They quickly notice any discrepancy between the company's expectations of them and its treatment of them. The rationale for establishing and maintaining internal customer satisfaction is this: in the long run, a company cannot maintain external customer satisfaction unless it also maintains internal customer satisfaction. (Goetsch & Davis 2004: 246.)

Mihály Csíkszentmihályi, professor in psychology in Chigago has developed a theory of "optimal experiences". He has tried to determine factors, which are active when people feel a high degree of satisfaction. The state of optimal experience is called flow by Csíkszentmihályi and is explained as an ordered structure of the unconscious mind. The theory is based on a large number of interviews with people in ordinary activities. All types of people were interviewed, operators in mass productions and professors, housewives and teenagers, Americans and Koreans and so on. Csíkszentmihály found that at least one, and often all, of the following components were present in the interviewees´ descriptions of highly satisfactory situations:

- a challenge which it is possible to tackle
- concentration
- clear goals
- immediate feedback
- a deep and natural commitment, free of day-to-day concerns and frustrations
- disappearance of self absorption
- loss of ordinary feeling for time; minutes can feel like hours and hours like minutes

((Bergman 1994: 294.)

Job satisfaction is the foundation upon which productivity growth can be built. Consequently, it is an important element in motivating employees. Supervisors have a key role to play in enhancing the job satisfaction of their direct reports. Factors related to job satisfaction include wages, benefits, working conditions, co worked relationships, the supervisor-employee relationship, potential for advancement, potential for development, new challenges and competition.
(Goetsch & Davis 2004: 253.)

6.2. Benchmarking

6.2.1. What is Benchmarking

To successfully undertake benchmarking, one company must be willing to learn from another. Benchmarking is the process of comparing and measuring an organization's operations or its internal processes against those of a best-in-class performer from inside or outside its industry. Benchmarking involves finding the secrets for success for any given function or process so that a company can learn from the information –

and improve on it. It helps a company narrow the gap between itself and the best-in-class performers without having to reinvent the wheel. Benchmarking compares how product is engineered, manufactured, constructed, distributed and supported. (Goetsch & Davis 2004: 97 – 98.)

Benchmarking was developed by the Xerox Corporation in the USA during the late 1970´s and early 1980s. Initially the process was used to examine the manufacturing costs of selected products. The operating performance and product features of competing copying machines were compared, together with a critical analysis of their construction, manufacturing processes and component parts. The company found to its horror that some competing machines could be sold for less than it took Xerox to make them. This analysis forced the company to adopt benchmarks used by their competitors and to work to radically new standards which were hitherto beyond their "mind-set". Such was the success of this approach that it was gradually refined and applied to other areas of the business. (Leppard & Molyneux 1994: 42.)

6.2.2. Basic benchmarking process

Step 1: Identifying the subject area
Because the benchmarking technique can be applied to virtually any aspect of the business, it is necessary to think about which particular focal point should be the subject of attention. Clearly, the ultimate choice should be an area which is critical to the company's future success and as a result yields the prospect of a high "payback". Product and services can be particularly fertile subject areas, since the outputs of the organization have the greatest impact on its competitive position. Equally the activities which go into the product surround, such as service, shipment, order processing and so on, can be valuable topics to put under the microscope, since they also constitute organizational outputs. (Leppard & Molyneux 1994: 42 – 43.)

Step 2: Identify "benchmark" companies
When the subject area has been identified, it becomes possible to begin to identify the organizations against whom it is meaningful to make comparisons. Those which immediately spring to mind are likely to be main competitors or the market leaders in one's particular sphere of business. While it is right to select some companies which fall into these categories, it is not enough to rely solely on comparisons with them alone. Benchmarking sets out to strive for excellence, therefore companies which are renowned for superior performance in the relevant subject area, even if they are not in the same line of business, will also need to figure in the comparative framework. (Leppard & Molyneux 1994: 43 – 44.)

Step 3: Collect comparative data
There are no hard and fast rules regarding the way the data should be collected, because the subject area will obviously influence the nature of the information required and the best ways of collecting it. A vast array of researching techniques are available to be used either singly or combination. Selecting the most appropriate methods can be a challenge for the bench marker: everything which follows is based on the comparative data which are uncovered at this stage. (Leppard & Molyneux 1994: 44.)

Step 4: Determine the performance gap
The data have to be analyzed so that the company's performance can be evaluated against the practices of the benchmark companies. Not only will the company be required to identify its relative strengths and weaknesses, but also to understand why it is either better or worse and by how much. At this analysis stage one can capitalize on the quality of the earlier data collection. The more objective the measures used, the more accurately the performance gap can be defined.
(Leppard & Molyneux 1994: 44.)

Step 5: Establish improvement targets
Taking into account where performance is today and where it needs to be in the future enables improvement targets to be set. . (Leppard & Molyneux 1994: 45.)

Step 6: Establish functional objectives and plans
The nettle of change ultimately has to be grasped by the various functional departments which have a part to play in the improvement scenario. It invariably helps to gain commitment to the changes if the departments in question are involved in the planning process. In this way those who will actually have to make the future "come alive" can bring to the change process all of their relevant experience and technical skills. (Leppard & Molyneux 1994: 45.)

Step 7: Implement plans and monitor progress
The time for planning comes to an end and all the preparation is converted into action. Progress should be monitored in order to check that improvements are proceeding in an orderly way. Also, the background to the subject area should be monitored so that any key changes in operating practices brought about by, for instance a new application of computer technology, can be picked up.
(Leppard & Molyneux 1994: 45.)

Step 8: Fine-tune the change programme
From time to time the monitoring process will indicate that the pace of change is losing momentum, or that day-to-day problems are deflecting the initiative from its original target. In these circumstances some corrective fine-tuning will be required to get everything back on track. (Leppard & Molyneux 1994: 45.)

Step 9: Institutionalize the improvements
As benefits begin to appear from the unfolding of the benchmarking process they should be woven into the fabric of the organization. For example if new individual performance standards become established in a particular activity, then these standards should be seen to drive the recruitment, rewards and promotion processes that prevail. Because benchmarking process is a continuous process of measuring against the best, in reality it requires the highest level of commitment form top management and staff alike. Success will only be achieved by hard work. However, organizational behavior can sometimes be rather like the equation from Newtonian physics which asserts that for every action there is an equal and opposite reaction. Thus resistance to change can be expected at various levels and only underpins the fact that management must pursue benchmarking with a wholehearted determination. It must also be remembered that logical and analytical though the process is, it is still subservient to the professional judgment of those who use it. In this sense

benchmarking is a servant of top management, not its master. As a technique for delivering organizational improvement its effectiveness is therefore largely dependent upon the skill, ingenuity and tenacity of its users.
(Leppard & Molyneux 1994: 45 – 46.)

6.3. Questionnaires

6.3.1. Why to carry out the survey

The whole purpose of measuring customer satisfaction is to manage customer satisfaction. Customer satisfaction scores are highly related to customer loyalty and repeat buying behavior. The customer data is used for decision support. Specially it is used to answer the key questions: What are our strengths according to customer perceptions? What are our weaknesses so we can improve? (Kessler 2003: 57.)

The assumption with customer satisfaction surveys is that they are also proactive. Proactive means that the organization reaches out to customers to measure their satisfaction instead of waiting for the customers to comment. Proactive also means that the organization attempts to get a fair representation of its target customers so that the results can be generalized to the rest of the population. (Kessler 2003: 4.)

6.3.2. Design factors for questionnaires

Questionnaires can be effective tools for collecting customer information, but only if they are properly designed and used. There are a number of factors that should be considered when designing a questionnaire. A design process that fails to accommodate these factors is likely to produce a questionnaire that yields invalid customer information. (Goetsch & Davis 2004: 80.)

Effective customer questionnaires are designed to help companies identify information of three types (1) performance quality, (2) customer preferences and (3) comparison analysis. What questionnaires cannot do, however, is explain *why* customers think or feel the way they do in these areas. This "why limitation" is important to note, because it represents a fundamental weakness of the questionnaire method of data collection. When the question to be asked of customers is "why", focus groups and interviews are more effective methods. All of this is to say that when it is important to understand why a customer responds in a given way, the questionnaire is the wrong tool to use. If it is important to know only "what" information such as customer preferences, however, a well-designed questionnaire can be an effective tool. (Goetsch & Davis 2004: 81.)

Respondent bias describes the condition that exists when an individual's responses to questionnaire items are influenced by factors unrelated to the product of service in question. Respondent bias can have either a favorable or an unfavorable leaning. Both

leanings are equally undesirable. The following is a list of factors that might introduce respondent bias in a questionnaire.

1. *Wording in the questionnaire's instructions* that is suggestive or leading can have an effect on respondents' answers.

2. *Length of the questionnaire* is also important factor. Customers faced with the prospect of completing a long complex instrument might resent the intrusion on their time and as a result, give unfavorably biased answers. Every effort should be made in the design of the questionnaire to keep it short.

3. *Timing of the questionnaire.* The best time to email or mail a questionnaire to customers is when the product or service in question is still fresh in their minds. Waiting too long can introduce "memory bias"; a condition that occurs when customers skew their answers either because they simply don't remember accurately or out of frustration at not remembering. "Intrusion bias" occurs when the customer receives a questionnaire at a particularly intrusive time, such as over the weekend or on a holiday. It is recommended that questionnaires be sent to arrive on a Monday or Tuesday and never on holidays.

4. *Uncontrollable biases.* Biases in the first three categories can be at least partially controlled. Biases in this category cannot be controlled. Some common sources of uncontrollable bias are as follows:

- A respondent once had a bad experience with an employee in your company or with your company's products and services.
- Someone the respondent knows had a bad experience with an employee, product or service of your company and talked to the respondent.
- A respondent read or heard something negative about your company or its products or services.
- A respondent resents being asked to complete a questionnaire no matter how well designed it may be.

(Goetsch & Davis 2004: 81 – 83.)

Construct validity and sample validity should be considered and accommodated when designing a questionnaire. A questionnaire has construct validity when it actually measures what it is intended to measure –this concept applies both to the questionnaire as a whole and to each individual item. Construct validity is determined primarily by the wording of the question and the measurement method provided for responding to the question. Determining validity is an inexact science; the most effective way is to convene a focus group of customers and pilot test each questionnaire item. Participants complete each item one at time and discuss with the facilitator their opinions concerning its validity. The more representative of the overall customer base this focus group is, the more valid the questionnaire is likely to be.

A valid sample of a company's customer base is one that represents all segments of the overall base. For example, if a company's products are used throughout the United States, a sample taken only from the Northeast would not be a valid sample. When deciding who should receive questionnaires, a company has only two proper choices: (1) send the questionnaire to all customers or (2) select a representative sample of the overall customer base. (Goetsch & Davis 2004: 84 – 85.)

Meaningfulness is another factor that can enhance or limit the usefulness of the questionnaire method of data collection, depending on how efficiently it is accommodated in the design of the instrument. Responses to questionnaire items indicate the respondent's preferences, but what about the meaningfulness of those

preferences? Sometimes what company thinks is important may be less important to the customer. A company can waste a lot of time and resources making improvements to attributes that do not matter to the customer, when that time and those resources could be directed at making improvements to higher-priority attributes. (Goetsch & Davis 2004: 85.)

Reliability of a questionnaire is a function of the effectiveness of its design and the validity of the samples. A reliable questionnaire is one that asks the right questions of the right people in the right way at the right time – not an easy accomplishment. (Goetsch & Davis 2004: 87.)

6.4. Training

Training is an organized, systematic series of activities designed to continually enhance the performance of employees and, in turn, the company. Training is geared toward the development of specific knowledge and skills that have direct application on the job. The need for training results from the demands on companies to be productive and competitive. (Goetsch & Davis 2004: 160 – 161.)

6.4.1. Internal training

It has always been important to have well-trained, highly skilled employees. In the age of global competition, it is more important than ever. Poorly trained employees cannot deliver quality customer service. For a company to succeed in a competitive global market place, every employee must be prepared to contribute ideas for improving performance. The best way to develop this capability is through constant training and retraining. (Goetsch & Davis 2004: 160 – 161.)

Companies can carry out training needs assessments at the company, department, unit, team or individual levels. Assessing training needs at the departmental level or below is not difficult. Supervisors work closely enough with their direct reports to see their capabilities firsthand. Observation is one method supervisors can use to assess training needs. A more structured way of assessing training needs is to ask employees to evaluate their needs in terms of their job knowledge and skills. Employees know the tasks they must perform every day and they know which tasks they do well, which they do not do well and which they cannot do at all. The most structured approach companies can use is the job-task analysis, in which a job is analyzed thoroughly, and the knowledge, skills, and attitudes needed to perform it are recorded. (Goetsch & Davis 2004: 161-162.)

The next step in providing training for employees is to write training objectives; objectives that specify in behavioral terms what skills are to be gained from the training program. To be stated in behavioral terms, training objectives must explain what the employee should be able to do after completing the training. Behavioral objectives contain action verbs. The more clearly training objectives are written, the more efficiently they can be used to plan training. (Goetsch & Davis 2004: 164.)

Companies provide training in several different ways. These falls into one of the following broad categories: internal approaches, external approaches and partnership approaches. Internal approaches involve providing training on site in company facilities. These approaches include one-on-one mentoring, computer-based training, media-based instruction and group instruction. External approaches involve enrolling employees in offsite programs or activities provided by colleges, universities, professional organizations and private training companies. Partnership trainings combine some of the characteristics of the preceding two approaches. In recent years, community colleges, universities and technical schools have begun actively to pursue partnerships with employers, through which they provide customized training. These customized trainings provided by external institutes have become very common. Some colleges have built extensive networks of alliances with business, industry and government employers. (Goetsch & Davis 2004: 165-166.)

6.4.2. Customer training

One of the most common reasons for consumer product failure is improper use by the customer. As many as one-third of all customer complaints result from improper use. This is why customer education is important. Customer education includes shaping customer expectations, providing user support and marketing. To be satisfied with a product, customers need to know what to expect from it. (Goetsch & Davis 2004: 173-174.)

Customer expectations are shaped by the promotional literature used in marketing the product and by the user support materials provided with the product. Accurate customer expectations can also be promoted by customer-service representatives. These employees should be adept at providing one-on-one training to customers, in person or by telephone. (Goetsch & Davis 2004: 173-174.)

User support can be provided through user manuals, on-site technical assistance or training provided at a company facility. Providing user support is an excellent way to train customers in the proper use of a product. To take full advantage of this opportunity, a company must provide readable user manuals, train its technical representatives to be customer trainers and give customers immediate access to additional help through a user- support telephone number. User support can turn a new customer into a satisfied, knowledgeable, loyal customer. (Goetsch & Davis 2004: 174.)

Customer training can also help market and product. The philosophy that joins customer training and marketing can be stated as follows. "You would not buy a car if you did not know how to drive one". (Goetsch & Davis 2004:174.)

7. THE METHOD OF DOING THE SURVEY

7.1. Research method

Research method was quantitative, because the aim of the survey was to measure and evaluate the functioning of mCreate Care's services. Target group of the survey was mCreate personnel of DMS organization in Nokia Oyj and the size of the target group was 95 persons.

Before the survey was published, the question form was inspected within mCreate Care department. The inspection group consisted of a couple of team members in Maintenance Support and Technical Support groups. Some modifications were made in the inspection: wording was changed in a few questions and also some new questions were added and some questions were removed. Finally the question form was inspected also by Quality Manager and Care Manager of mCreate Department.

E-mail about the survey was sent to the target group on 9th May 2005. E-mail included information about the validity period of the survey (valid until 10th of June 2005) and anonymous processing of answers. It was emphasized that all responses in the survey will be kept anonymous and identities of respondents will not be revealed. It was also stated that the results of the survey will be published also to the target group.

Survey form itself was created in Web site Builder´s Toolbox tool and e-mail about the survey included URL link to the survey.

The survey included 19 questions. The most of the questions were multiple-choice questions with ordinal scale, but in addition there were also a couple questions with free text field, because further written comments about the service level and development ideas were desirable.

Two e-mail reminders about the validity time of the survey were sent to the target group before the due date of the survey.

7.2. The technique of analysis

All responses were directed via URL link to Lotus Notes Tool and by the due date 21 responses were received. It means that 22% of the target group had answered to the query. Therefore the analysis of the survey is not black-and-white as the answering rate was very low.

Responses were manually inserted to mathematical statistics tool SPSS (SPSS 13.0 for Windows) and the entire analysis was created with that tool.

8. THE RESULTS OF THE SURVEY

8.1. Background information of the respondents

Working experience and Electra Role were the collected background information of the target group.

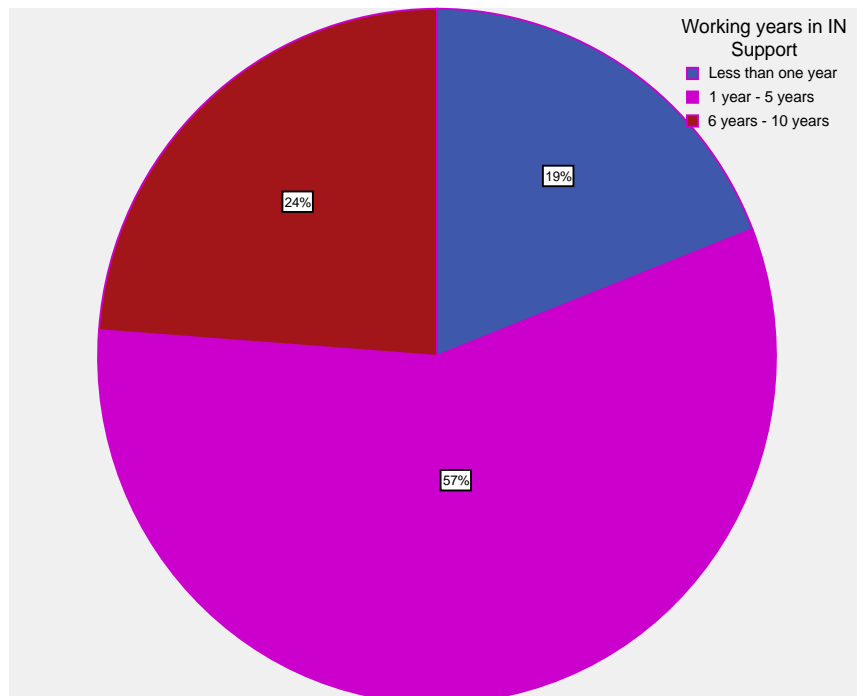### 8.1.1. Working years in IN Support

Chart 1   Working years in IN Support

The most of the respondents (57 %) had worked for IN (=mCreate) Support for 1 year – 5 years. 24 % had worked for 6 years – 10 years and 19 % were newcomers as their work experience was less than one year.

8.1.2. Electra role

The most of the respondents were either Tier 2 Active Agent or Contact Agent in their Electra tool role (altogether 67 %). 14 % were Case Owners, and 5 % were Key Users. 10 % of respondents were Service Managers and 5 % replied that they do not use Electra.
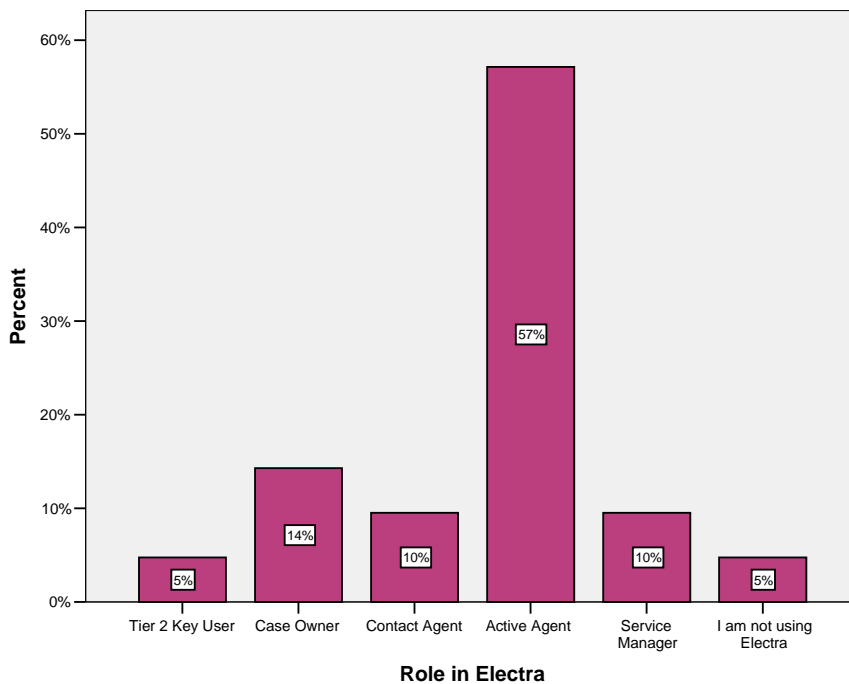
Chart 2   Role in Electra

Both Active Agent and Contact Agent give technical input to the Electra case. Active Agent is the person who is the 'primary' engineer troubleshooting the request in a specific support tier. Contact Agent is the responsible person for technical customer contact during request resolution. He handles technical questions, provides understanding of customer's network configuration and co-ordinates resolution delivery. By default, the Active Agent of Tier 2 will also act in Contact Agent role unless the Service Managers request to have a specific Contact Agent due to language or security restrictions.

The Service Manager is responsible for the interface between Nokia and the customer. He ensures that delivery of support services falls within the scope of customer's service agreement. Service Manager takes care of management escalation of cases which do not meet service agreement response times. One of his / her most

important responsibilities is also the overall reporting and management of service performance.

Case Owner monitors and communicates progress of cases against response time targets and collects customer satisfaction feedback. He / She is responsible for ensuring case is properly resolved and closed. Case Owner is nominated for each customer.

Tier 2 Key User provides help in the usage of Electra tool in Tier 2. He / She is responsible of giving Electra tool training and guidance to the end users. If there are any problem situations with Electra tool, Key User is the first contact point of Electra users. Sometimes Tier 2 Key User and Case Owner might be the same person.

8.2. Results

8.2.1. Electra work in Tier 3
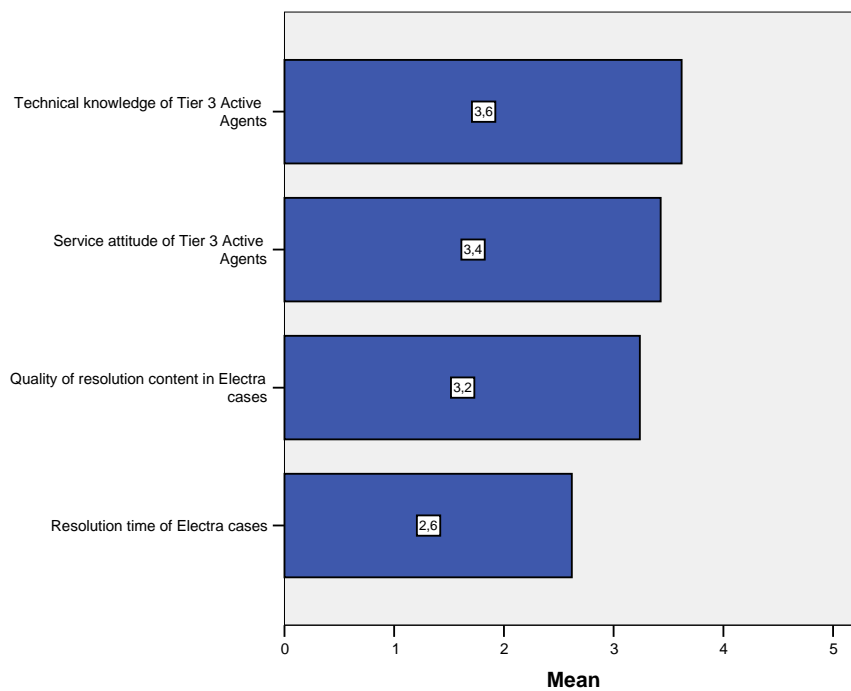
Chart 3   Electra work in Tier 3

Mean values of respondents' opinions about Tier 3 Electra work are represented in Chart 3 above. The range is from 1 (low) to 5 (Excellent).

The overall satisfaction score of Tier 3 Electra work was 3.2. The best grade was achieved in Technical knowledge (3.6). Resolution time of the Electra cases was the least satisfying as the satisfaction score was only 2.6. Both service attitude and quality of resolution content achieved satisfaction scores that were near the average. Score of service attitude was 3.4 and score of resolution content quality was 3.2.
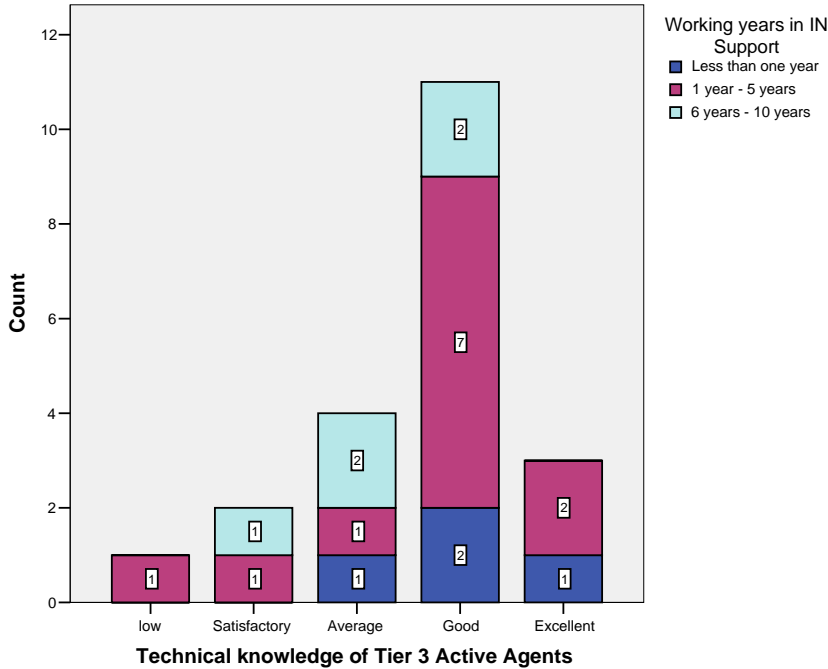

Chart 4   Technical knowledge of Tier 3 Active Agents

14 respondents (or 66 %) thought technical knowledge is either good or excellent. Three respondents (or 15 %) thought technical knowledge is below the average; either low or satisfactory. Four respondents (or 19 %) thought technical knowledge level is on the average.

The result was quite expected in this area. There had been a couple recruitments during the recent year in Technical Support team and meanwhile some very experienced employees had left the team. However, it can be predicted that the satisfaction of this area will get better, because the work experience within the group is increasing all the time.

Chart 4 shows that Tier 2 newcomers were a little more satisfied with technical knowledge than experienced respondents, but there was not very significant statistical difference in that area.
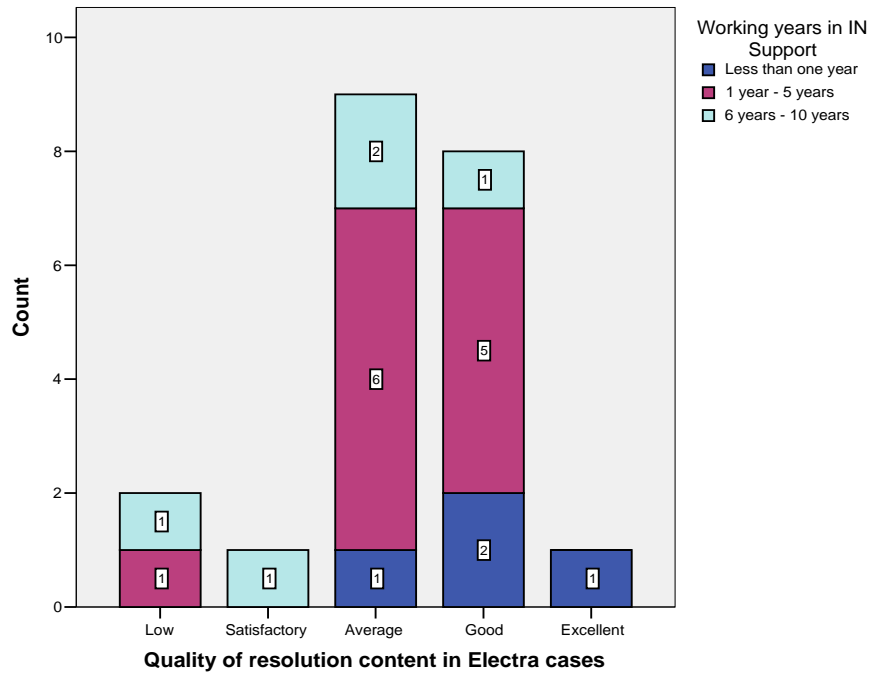
Chart 5   Quality of resolution content in Electra cases

Chart 5 represents that nine respondents (or 43 %) thought that quality of resolution content is either good or excellent. Three respondents (or 15 %) thought that resolution quality is below the average; either low or satisfactory. Nine respondents (or 43 %) thought that the Technical knowledge level is on the average.

Experienced respondents were less satisfied with the quality; only one of them responded that quality is good. By contrast newcomers gave at least average score to the quality.

Further written comments about quality were also collected in the survey and several comments were received. The respondents wished more clear and understandable answers and resolutions from Tier 3 Active Agents. It was pointed out that all configuration changes have to be explained and there should be more detailed information available about the software corrections. Tier 2 engineers do not receive enough information about corrections and often they are forced to guess what has been corrected. There was also a comment that Active Agent should carefully familiarize with the case before asking troubleshooting related questions from Tier 2: in case history of Electra case there might be a lot of useful information that Active Agent should familiarize himself before contacting lower tier and starting deeper investigations.
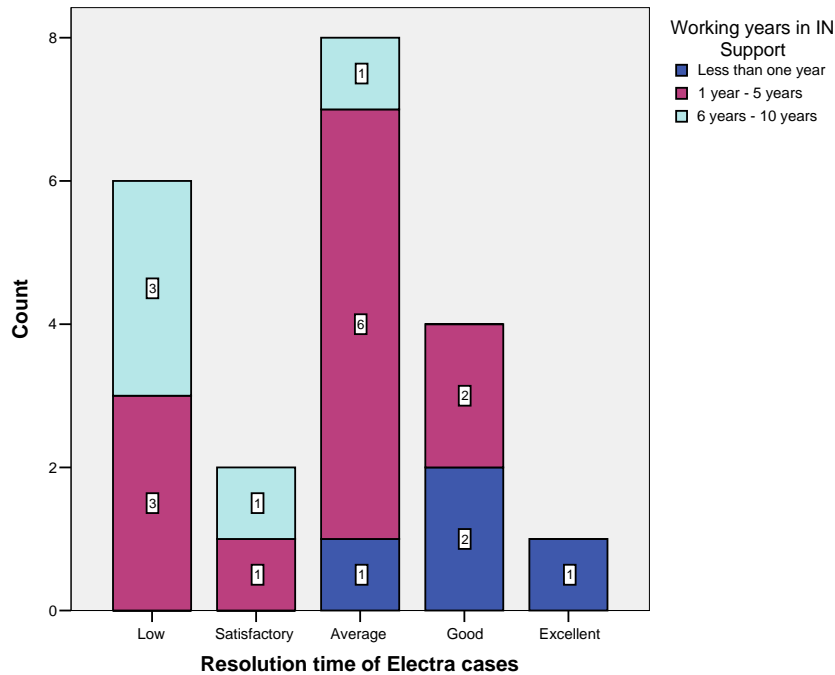
Chart 6   Resolution time of Electra cases

Eight respondents (or 39 %) thought that resolution time of Electra cases is either low or satisfactory. Only five respondents (or 24 %) thought that resolution time is above the average. Eight respondents (or 38 %) answered that resolution time is on the average. There is a lot of improvement work to do in this area, because quite huge amount of respondents were dissatisfied with resolution time. However, the result was not surprising. Due to the huge work load in Technical Support team some prioritization had been made concerning the tasks of Technical Support team. Besides that there had been labor shortage in the team and there had not been enough available engineers to perform completely team's all assignments.

Most experienced respondents were much more unsatisfied than newcomers. Newcomers had given at least average scores to resolution time, but experts had given a lot of criticism to that area. Only one of them thought that resolution time is on the average, others thought that it is either low or satisfactory.

In free text field there was a comment that there should be more available Active Agents investigating Electra cases. It had been noticed also by respondents, that lack of employee recourses was causing delays in resolution times of Electra cases.

There were also some suggestions by respondents how to speed up resolution time of cases. Regular status updates to cases and more interaction between tiers and customers were wished. It was mentioned, that cases should be monitored more frequently to be able to review all updates that are inserted to Electra by Tier 2.
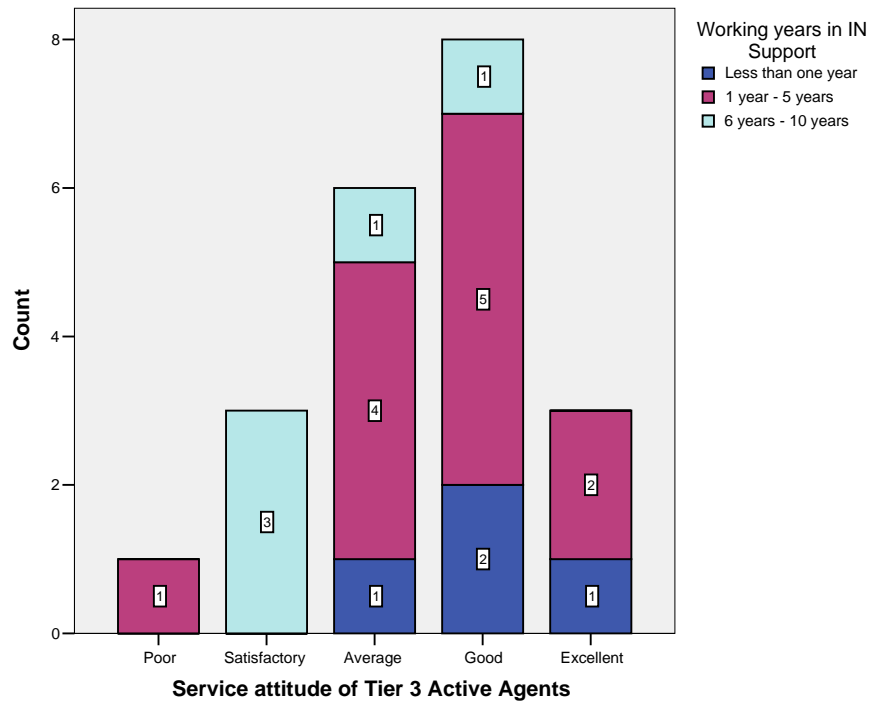
Chart 6   Service attitude of Tier 3 Active Agents

Four respondents (or 19 %) thought service attitude of Tier 3 Active Agents is either low or satisfactory. 11 respondents (or 52 %) thought service attitude is above the average. Six respondents (or 29 %) answered that service attitude is on the average.

The average score for this area was 3.4.

There was only one comment in free text field related to this area: "Stop assuming that all customers are stupid". Possibly it means that the respondent thought Tier 3 Active Agent / Agents had shown contempt for him. He was possibly the one who gave low (1) grade to this area.

Respondents who had worked over 5 years for IN Support were again less satisfied than respondents who had worked for IN less than one year.
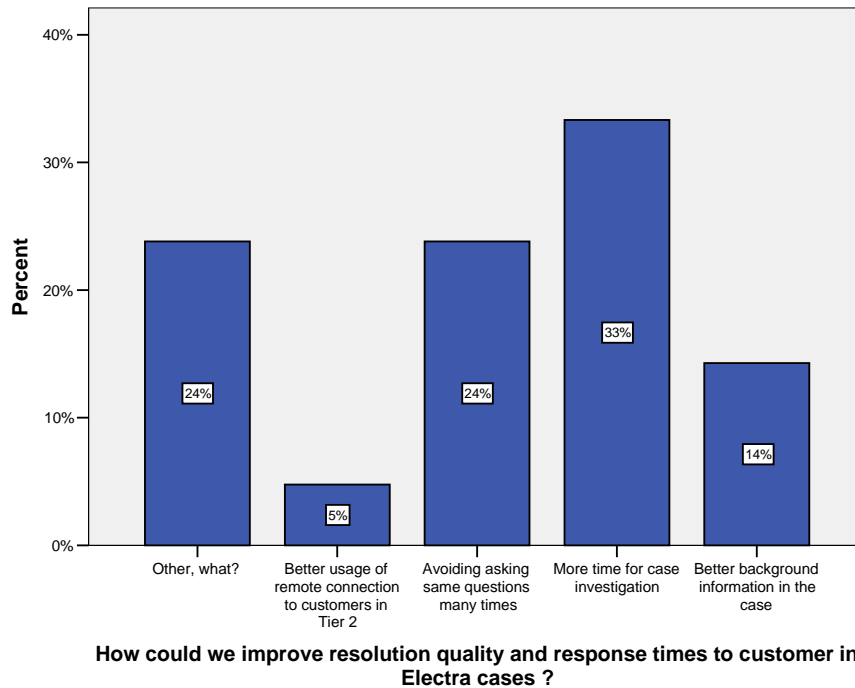
How could we improve resolution quality and response times to customer in Electra cases ?

Chart 7   Improving quality and response times in Electra cases

Question "How could we improve resolution quality and response times to customer in Electra cases" was bilateral. The target group was directed to think how Tier 2 and 3 could together improve the quality of Electra cases. Chart 7 shows the fact that there should be more time for case investigation both in Tier 2 and Tier 3, as 33 % of respondents had that opinion. 24 % thought that same questions are asked many times and that should be avoided. 14 % thought that there should be better background information in the case before case investigation can start. 5 % answered that better usage of remote connection would be the solution to the problem.

There were also some suggestions how to improve quality and response times. One respondent mentioned the importance of background. He also wished more accurate answers and assigning Active Agent immediately after case escalation to Tier 3.

One respondent suggested that the local DMS engineer could be contacted by phone before the investigation starts. That would help gathering all the necessary information for Tier 3 troubleshooting work.

One respondent stated that right questions should be asked in order Tier 2 could provide right answers immediately. That would help speed up the case investigation.

8.2.2. *Customer Support Engineers´work*

Customer Support Engineers have the maintenance and helpdesk coordination responsibility in mCreate Care. They take care of fault correction coordination and they provide information to the customer about software corrections; about the content of the correction and correction delivery schedule. Content of correction plan and response is first produced by Research & Development department. Customer Support Engineers´ responsibility is to inspect the content of correction plans and responses before they are delivered to the customer. Customer Support Engineers also take care of the case coordination with 3rd party software and have Key User responsibilities in tools.

Service attitude of Customer Support Engineers and quality of given information of corrections were the questions that were posed to the target group in the survey.
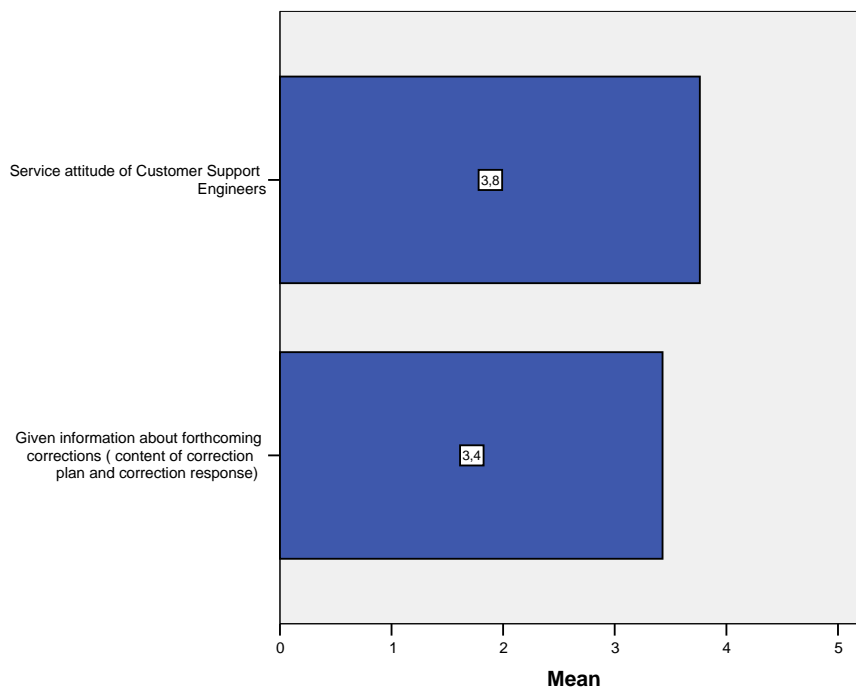

Chart 8   Customer Support Engineers´ work

Satisfaction score of service attitude of Customer Support Engineers was 3.8.
Satisfaction score of content of correction plan and correction response was 3.4.
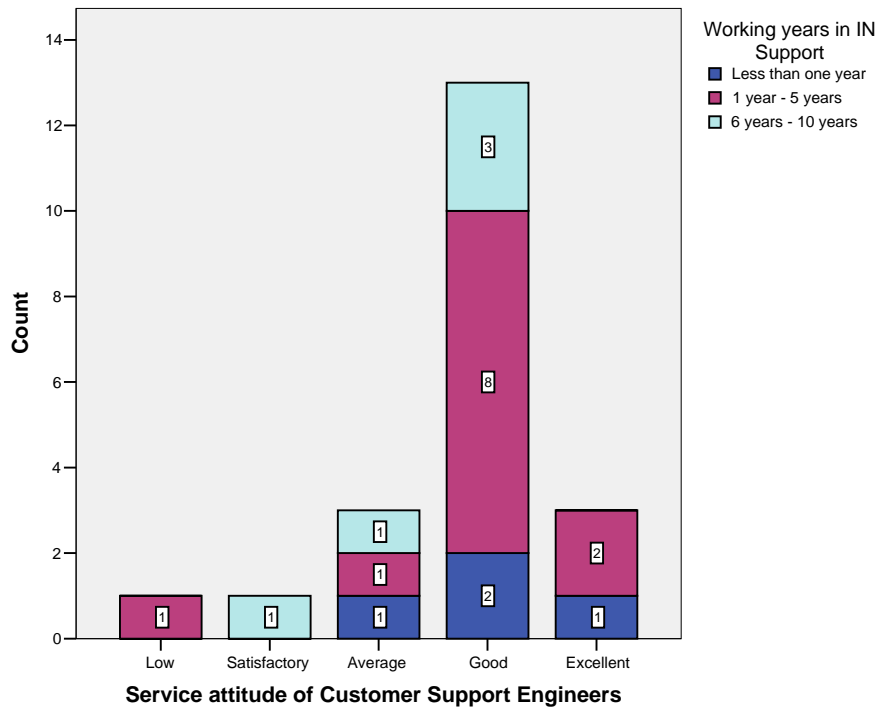
Chart 9   Service attitude of Customer Support Engineers

16 respondents (or 76 %) thought the service attitude of Customer Support Engineers is either good or excellent. Three respondents (or 14 %) had neutral opinion about the issue as they gave average (3) grade. One respondent (or 5 %) thought that service attitude was low (1) and one respondent (or 5 %) thought that it is satisfactory.

This area achieved quite good results as the satisfaction score was very near the score 4 (good). However, there is still something to be improved in this area as two respondents were not satisfied to Customer Support Engineers´ service attitude.

When additional comments and improvement proposals were asked, only three comments were received in this area. Those comments were not even related directly to Customer Support Engineers´ work: one respondent required more intimate technical knowledge from Customer Support Engineers, one was complaining about the slowness of Electra tool and one told that management escalation had been improved. It came to mind, that the responsibilities of Customer Support Engineers are not possibly very clear to the respondents as their comments were quite far from Customer Support Engineers´ real work.
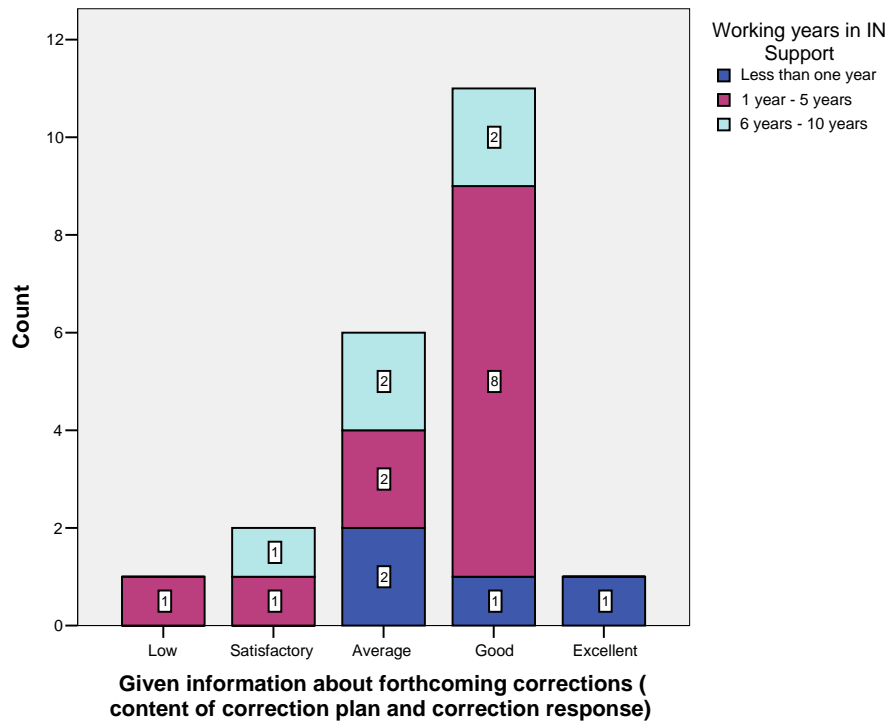
Chart 10   Content of Correction Plan and Correction Response

Satisfaction score was 3.4 in question "Given information about forthcoming corrections". 12 respondents (or 57 %) thought that the quality of correction plan is good or excellent. Six respondents (or 29 %) had neutral opinion as they answered "average" (3). Three respondents (or 15 %) thought that the quality is low or satisfactory.

Again the most experienced respondents (working years 6 – 10 years) were more critical than less experienced respondents. However, the difference between the answers of experienced and less experienced respondents was not so remarkable than in some Electra related questions earlier.

Earlier in the question "comments and improvement proposals concerning Tier 3 Electra work" there were a couple of comments about the lacking information of the corrections. Those comments are more related to this question area about forthcoming corrections. Tier 2 engineers do not always get the complete information about the content of the correction and often there is just the number or the name of Change Note in Correction Plan and response fields.
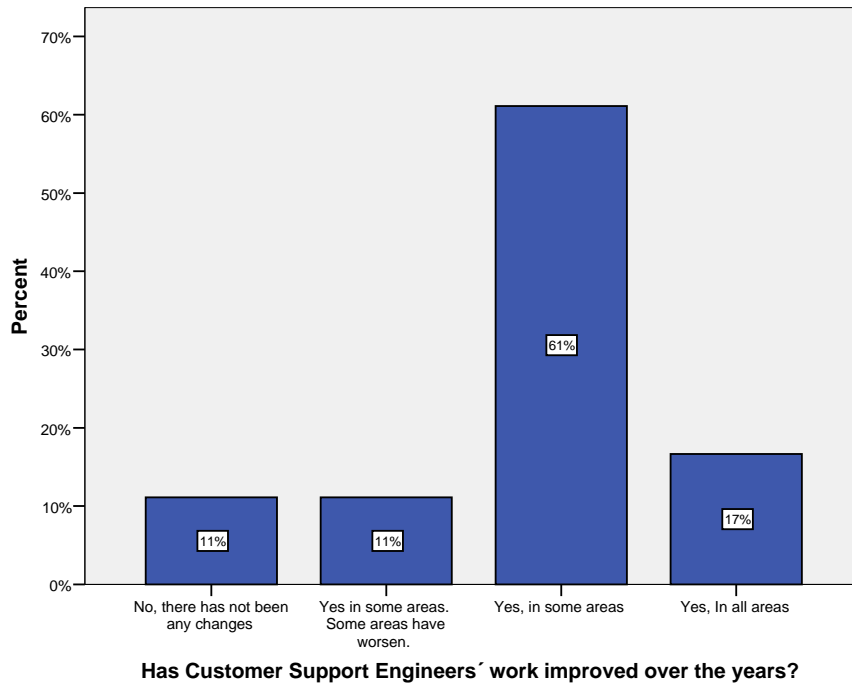
Chart 11   Customer Support Engineers´ work trend over the years

The last question related to Customer Support Engineers work area is presented in chart 11: "Has Customer Support Engineers´ work improved over the years". Overall opinion about work trend of Customer Support Engineers work is positive, because 78 % of respondents thought that there had been improvement in Customer Support Engineers´ work. 11 % of respondents thought that there had not been any changes. 11 % responded that there had been improvement in some areas, but some areas had become worse. Unfortunately respondents did not give any feedback about which areas are nowadays worse than before.

Despite of the reduced resources in Maintenance Support group the respondents gave very positive feedback to Customer Support Engineers´ work area.

8.2.3 Technical Support Engineers´ work

Technical Support Engineers´ work consist of installation and upgrade services for customers, emergency support and Tier 3 troubleshooting work in Electra tool. Electra part is handled earlier in this survey in chapter 8.2.1. Electra work is located in a separated chapter, because both Customer Support Engineers and Technical Support Engineers act in the role of Tier 3 Active Agent.

In the survey there was also a question area about the service level of HP´s installations, because the aim was to compare with Nokia´s internal installation service to external installation service by HP. HP takes care of HP OC Platform Software installations, which is relevant part of mCreate IN product.
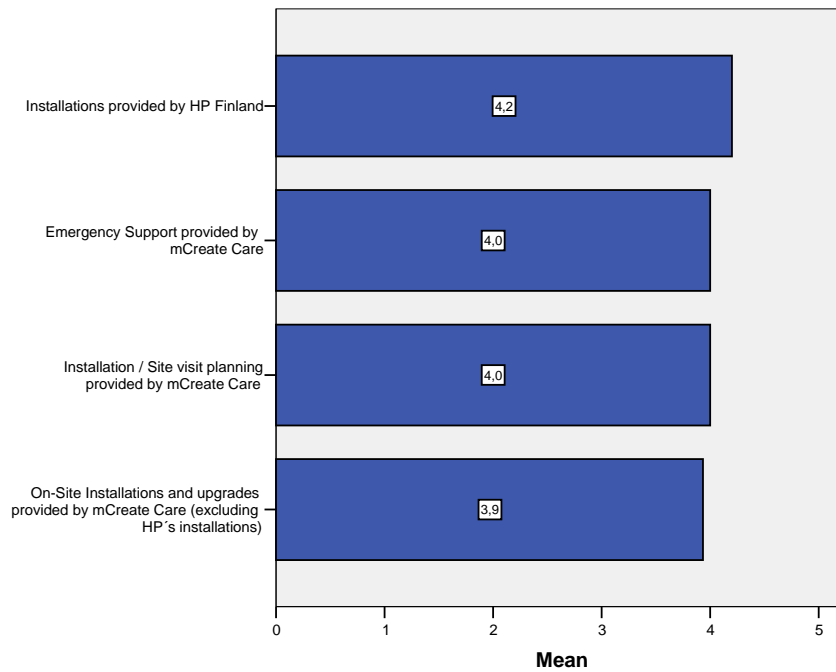
Chart 12   Technical Support Engineers´ work

The overall satisfaction score of Technical Support Engineers work was 3.97. An installation service provided by HP Finland is excluded from that score.
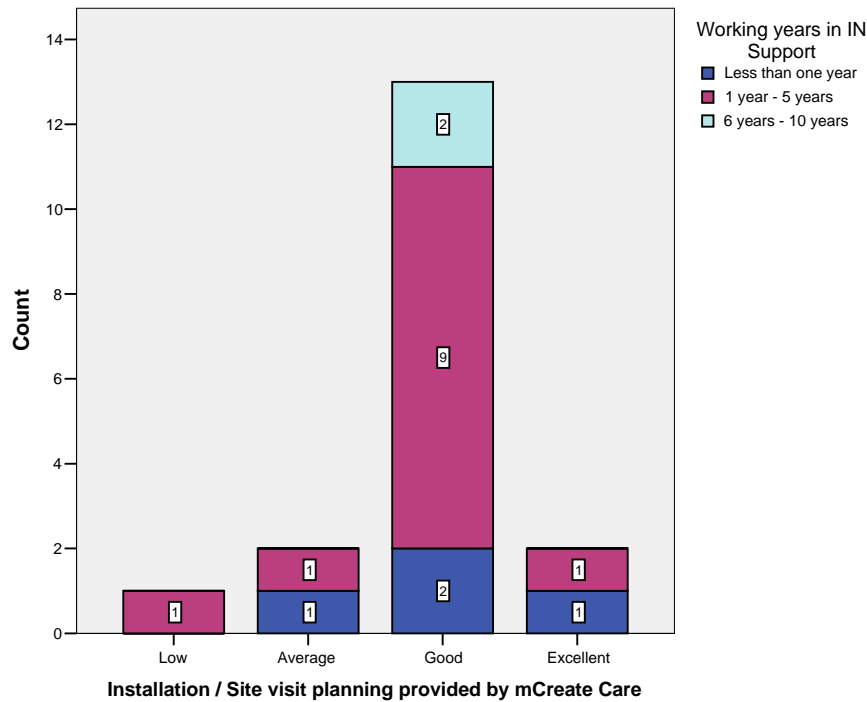
Chart 13   Installation / Site visit planning provided by mCreate Care

Installation and Site visit planning ensures that there are right people doing right operations in right time. The service consists of scheduling of installation operations to customers´ sites and it is including installations both by mCreate Care and HP Finland.

Satisfaction score of installation / site visit planning was 4.0, so the planning service achieved good results. 15 respondents (or 83 %) thought that the level of service is either good or excellent. 2 respondents (or 11 %) had neutral opinion about the service and one respondent (or 5 %) was not happy about installation / site visit planning at all as he gave low (1) response. Any satisfactory (2) responses were not received.
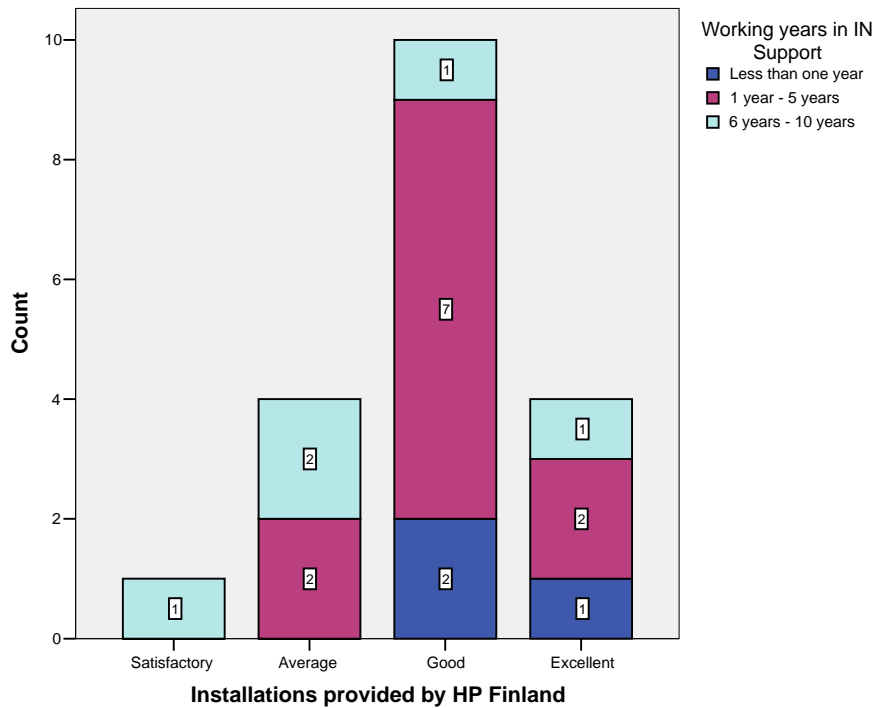
Chart 14   Installations provided by HP Finland

The satisfaction score of HP Finland's installations was 4.2. It was the best score that was achieved in the survey; the respondents seemed to be very satisfied with the service. The amount of excellent (=5) responses was relatively high as 21 % thought that installation service provided by HP Finland was excellent. 74 % thought that the service level is above the average; good or excellent. 21 % of respondents had neutral opinion about the installations and 5 % declared that HP´s service is satisfactory (=2). None low (=1) answers were not received.

HP Finland installation service achieved slightly better score that mCreate Care installation service. The result was caused because of higher amount of excellent (=5) responses, but on the other hand mCreate Care can be satisfied with the fact that any low (=1) or satisfactory (=2) responses were not declared for their service.
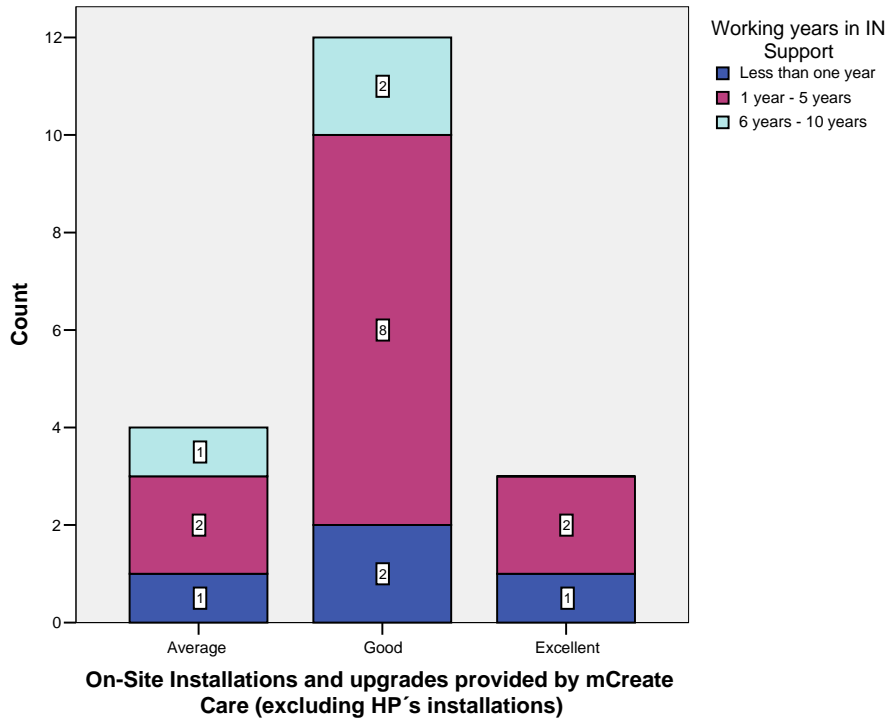
Chart 15   On-Site Installations and upgrades provided by mCreate Care

Satisfaction score of mCreate Care installations and upgrades was 3.9. 15 respondents (or 79 %) thought that the level of mCreate Care installations is either good or excellent. 4 respondents (or 21 %) thought that the service level is on the average. It is noteworthy, that there were not any low (1) or satisfactory (2) responses to this question so the target group seemed to be relatively satisfied about installation and upgrades provided by mCreate Care.

Some comments in free text field were also received to this area. It was pointed out, that there should be better testing after installation activities and the testing should cover all the basic functionalities. It was also emphasized, that thorough preparation before any site activities is important.
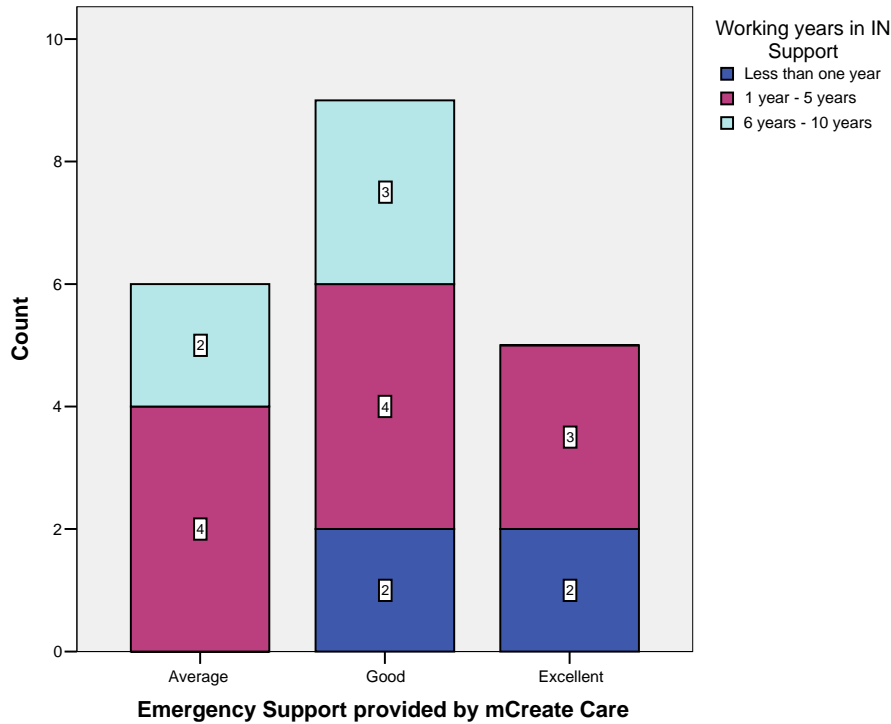
Chart 16   Emergency Support provided by mCreate Care

Emergency Support or 24 x 7 Service duty list consists of both Care engineers and a few R&D engineers.

Satisfaction score of Emergency Support was 4.0. The target group did not give any low or satisfactory responses either to this item, so the satisfaction of this service was also very high. Nine respondents (or 45 %) thought that emergency support is good and five respondents (25 %) thought that it is excellent. Six respondents (30 %) answered that the service is on the average level.

One comment in free text field was received. An anonymous person claimed that the service level of the emergency is quite unpredictable and it is dependent on the person who is in emergency duty. Most of the time the quality of this service is excellent but sometimes unnecessary questions and needless actions are asked by the person in emergency duty.

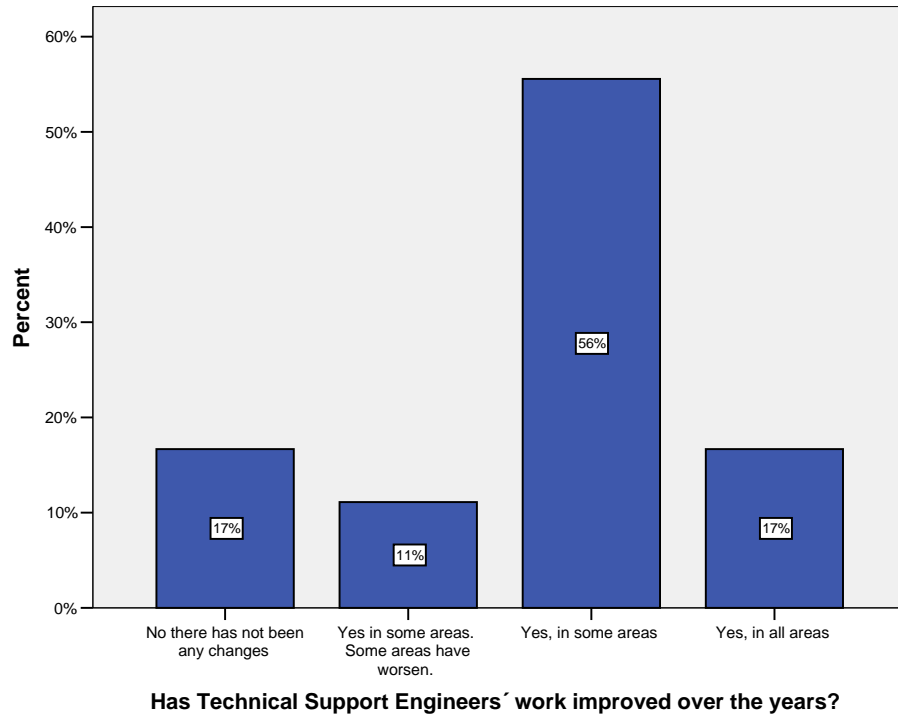**Has Technical Support Engineers´ work improved over the years?**

Chart 17   Technical Support Engineers work trend over the years

73 % of respondents thought that there had been improvement in Technical Support Engineers work area. 17 % responded that there had not been any changes and 11 % declared that there had been improvement in some areas but some areas have worsened. Respondents did not give any explanation about the worsening.

The result was very good taking into consideration the fact that several new employees had started to work in the team while couple experienced employees had left the team.

8.2.4. Tools and eCare

Care tools; eNact, Nols and Kruse were observed in this section. Furthermore, opinions about the information flow between DMS and mCreate Care were also asked and targets of development were collected from both items.

In Chart 18 satisfaction scores of Care tools are presented. The overall satisfaction score of this area was 3.1 and the range was from 1 (low) to excellent (5).
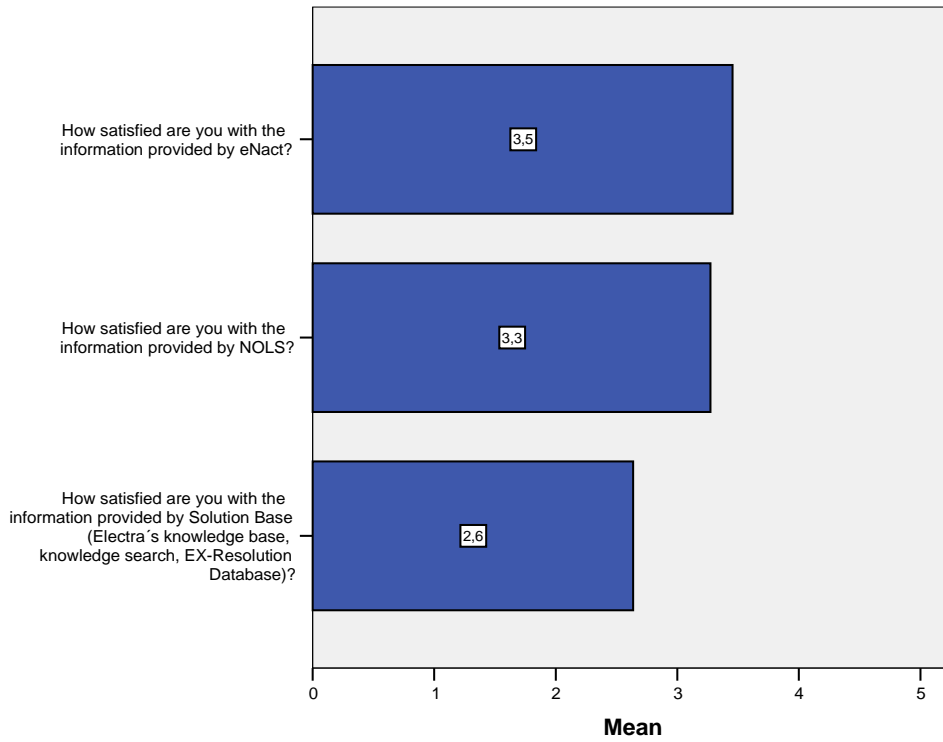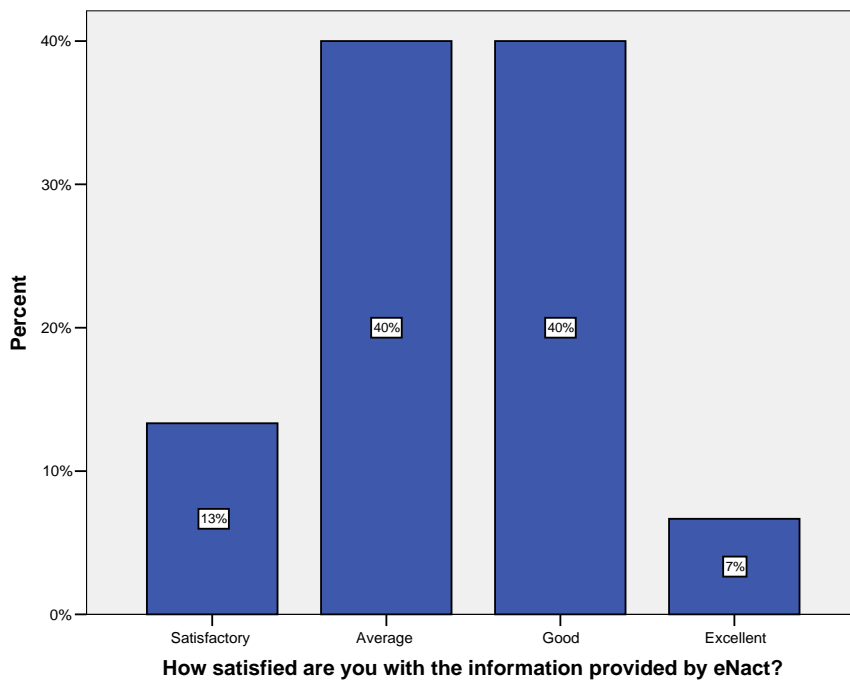
Chart 18   Satisfaction scores of tools

Chart 19   eNact

eNact is a discussion forum in Intranet, where both Tier 2 and Tier 3 can simultaneously have a conversation about technical problems. Besides technical discussion eNact is also used as an information channel between Product Line and DMS organization. eNact is not a Nokia wide tool as it is in use only in a few Product Lines in Nokia Oyj.

The satisfaction score of eNact was 3.5. It achieved the best grade among the tools. None of the respondents gave low (1) grade about the tool. 47 % of respondents thought that information provided by eNact is above the average; good or excellent. 40 % thought that information is on the average. 13 % gave satisfactory (2) grade to eNact tool.

There was one free text field comment concerning the content of eNact. An anonymous respondent wished that eNact should include more information about the known software problems and also non-standard activities in CN installations.

How satisfied are you with the information provided by Solution Base (Electra´s knowledge base, knowledge search, EX-Resolution Database)?
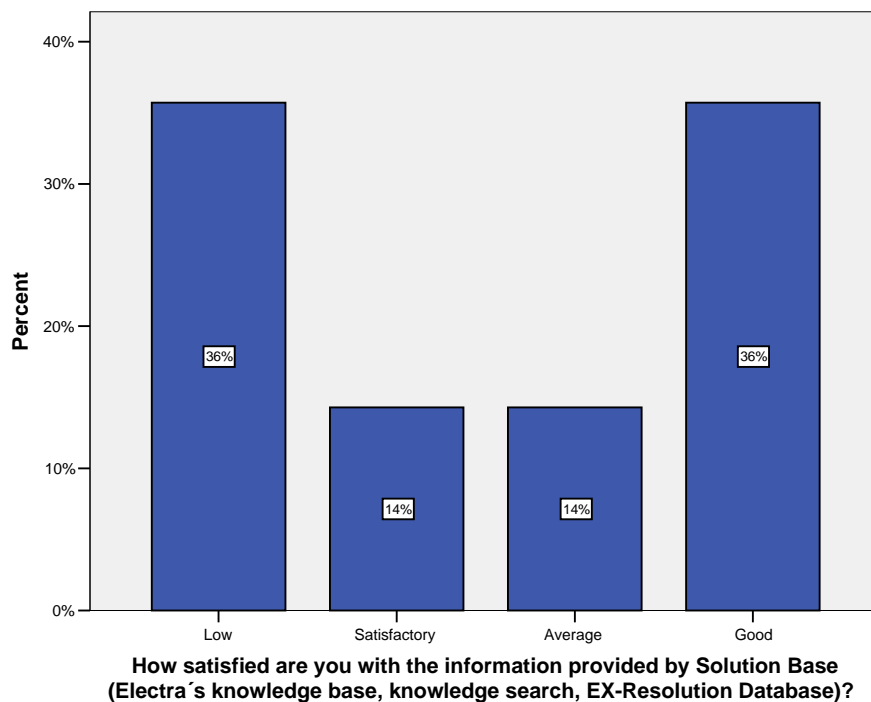
Chart 20   Solution Base

Solution Base or Kruse is a tool for knowledge re-use. From there the user is able to find solutions to technical problems that have been detected in software. Tier 2 Active Agents use Solution Base via Electra tool. Solutions are inserted to Solution Base by other Electra users. Whenever the problem is detected, cases in Solution Base should be checked first before starting deeper investigations of the software. If the Solution Base is properly utilized, it is saving a lot time in case solving process.

NOLS and Solution Base are general web-based Nokia tools that are used by all Care organizations in Nokia Oyj and also by customers who have purchased rights.

In the survey the satisfaction score of Solution Base was 2.6. The score was quite low and it was below the average score. Even 36 % of respondents answered that the information provided by Solution Base is low (1). 14 % gave satisfactory (2) score and 14 % gave average (3) score. Only 36 % of respondents had an opinion that information grade of Solution Base is good.

There were two written comments about Solution Base. One respondent claimed that Solution Base is poor, but he did not give more explanation to that statement. The other respondent complained about the usability of Solution Base. He said that Electra tool is so slow, that he simply does not bother using it as a solution tool.

NOLS is a distribution channel that takes care of delivering software releases, corrections and features to the customer. Also Technical Notes and customer documentation are found in NOLS. The customer is also able to check updates of Electra cases and insert also new information about its own active cases via NOLS.

Satisfaction score of NOLS was 3.3 in this survey (Chart 18, satisfaction scores of tools). One written comment was received about NOLS. One respondent claimed that Change Notes in NOLS are listed in a strange way and they should be listed for example by a date.
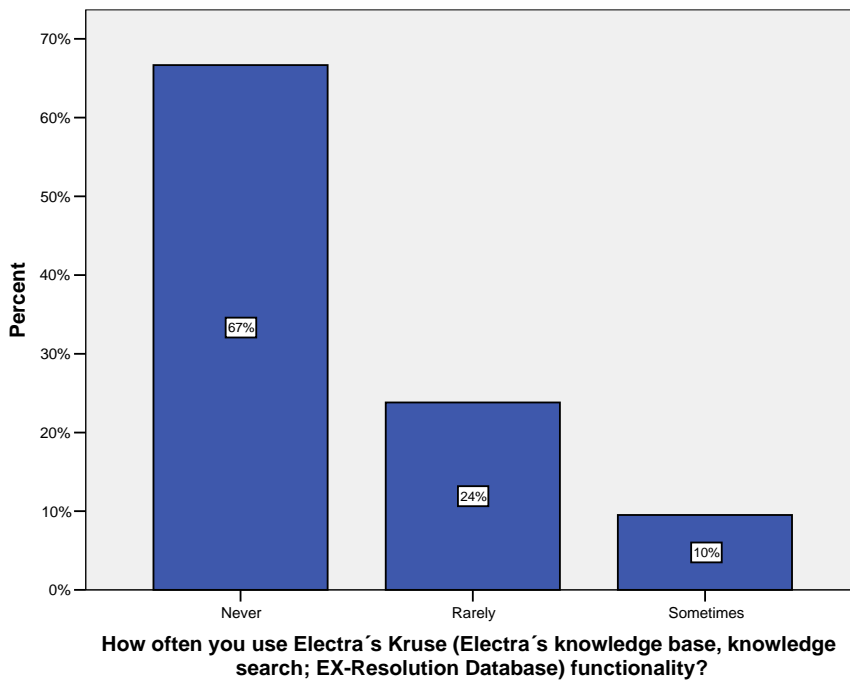

Chart 21   Usage of Kruse

There was also a question about how often Electra´s Kruse functionality is used. 67 % of respondents said that they never use Kruse. 24 % said they use Kruse rarely and 10 % said they use Kruse sometimes. Nobody answered "often" to this question.
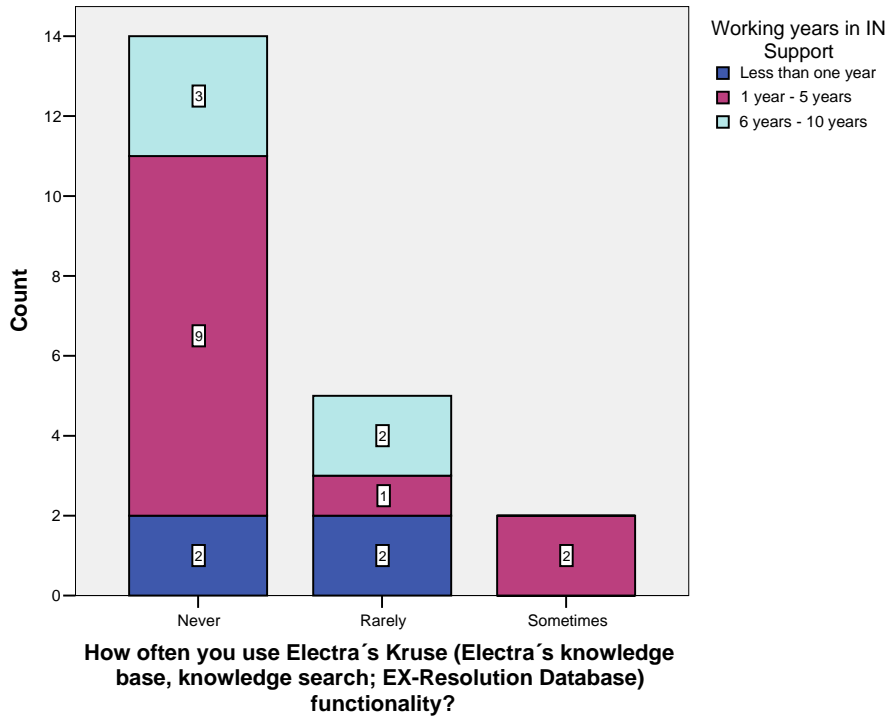
Chart 22   Usage of Kruse – working years in IN Support

There was not any difference in usage of Kruse when working experience was examined as a variable (Chart 22, usage of Kruse – working years in IN Support). Both newcomers and experienced staff had same kind of attitude to Kruse usage. On the other hand this was quite surprising result; newcomers would have a lot of professional profit of Kruse usage as they could learn a lot of new things about the IN software by using Kruse.

There was also a question "How would we increase the amount of Kruse cases?" One respondent suggested that there should be information to the users how to add cases to Kruse. The other suggested giving incentive or recognition to those who can record several cases to Solution Base. There was also a suggestion to assign someone from Product Line to record cases to Solution Base and a suggestion to record all possible cases.
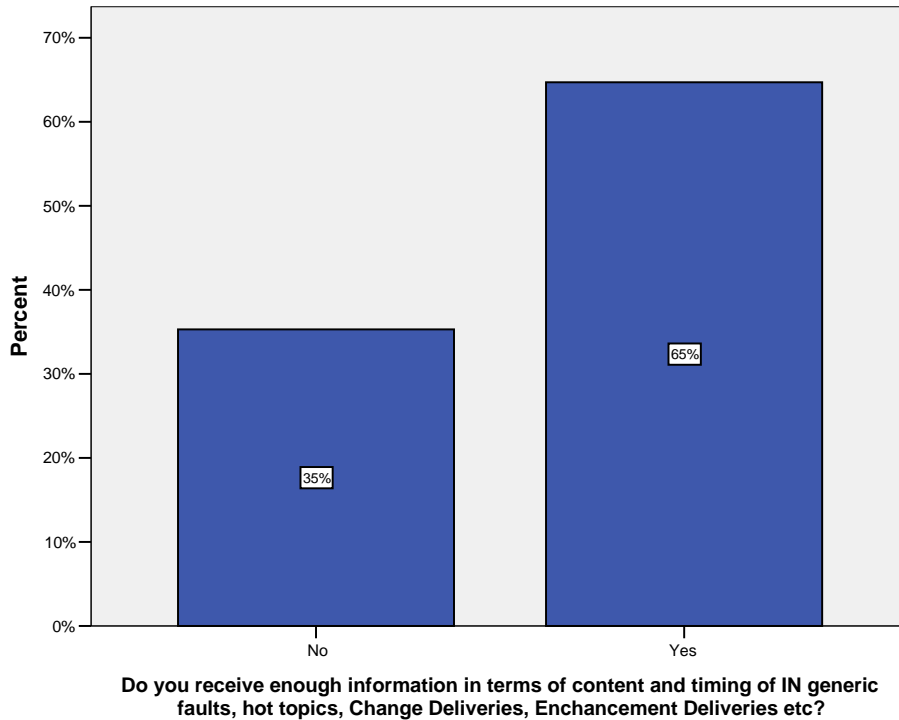
Do you receive enough information in terms of content and timing of IN generic faults, hot topics, Change Deliveries, Enchancement Deliveries etc?

Chart 23 Information flow from Product Line to DMS

A question "Do you receive enough information in terms of content and timing of IN generic faults, hot topics, Change Deliveries, Enhancement Deliveries etc?" provided following results: 35 % told that they do not receive enough information and 65 % said they do receive enough information.

The following question was "If you do not receive enough information how would you like to improve the communication and information sharing between DMS and mCreate Care? What kind of information you would like to receive and how often?" In earlier sections of the survey there were some comments about lacking information about Change Notes. This matter came up again in this "tools and eCare" section as there were again complaints about missing information of delivered Change Notes. It was emphasized that Urgent Corrections, Technical Notes and Change Notes must include the information about the changes in software.

It was also suggested that Product Line should deliver preventative information to DMS like problems with Change Notes at other customer sites and installation / upgrade hints. One respondent wrote that information that is also relevant to all customers is not always widely distributed.

Status of PDC: s (new feature requests) should be more informative: status reports of all PDC: s by Product Line was a suggestion by two respondents.

eNact was also promoted to be a general information channel between Product Line and DMS. Some respondents would like to receive information about hot topics via eNact, like information about practical experiences in Change Note installations and information what to be careful about. One respondent wished to have a small report in eNact for each Change Note that is released.

9. CONCLUSIONS OF THE SURVEY

9.1. Conclusions

Installation and upgrade services, Emergency Support and Installation / Site Visit planning were "the winners" in the survey as those areas achieved the best satisfaction scores (score between 3.9 and 4.2 in all areas). DMS seem to be very satisfied in that area of services.

Electra work area revealed some development areas in mCreate Care. Resolution time of Electra cases was only 2.6. It seems that mCreate Care is not able to solve cases in a moderate time frame, customers demand more prompt answers and solutions. Care department should also pay attention to quality of resolution content (score 3.2) as there have been complaints that Electra cases do not provide enough information to customers. Service attitude (3.4) and Technical Knowledge (3.6) areas should also be improved. Tier 2 Active Agents / DMS are the main customers for mCreate Care, even if they work for Nokia. Internal customers should be treated in the same way than external customers. Technical knowledge is naturally improving simultaneously when newcomers are becoming more experienced workers.

Service attitude of customer support engineers was quite good (3.8). However, also this area could be improved as well as given information about forthcoming corrections (3.4). Customer Support Engineers should pay more attention to the content of correction plan and correction response. It is not enough to inform only the correction schedule in correction plan or correction response as the customer does not receive any concrete information about the correction in that kind of responses. Customer Support Engineers should more carefully inspect correction plans and responses and demand more informative responses from Research and Development department.

Care tools are not very widely used as information source. Solution base had the worst satisfaction score among tools (2.6). It was also very rarely used as 67% of respondents told that they never use Solution Base! eNact had the best satisfaction score among tools (3.5). However, the unpopularity of Solution base is still a mystery as the respondents did not tell very many reasons why they do not use Solution base. Only one respondent claimed about the usability of Solution Base and claimed about the slowness of the tool.

9.2. Suggestions

9.2.1. Internal training

In order to offer the service with best quality, employees of Care department should also be highly competent in their compentence area. Therefore internal training should be arranged for the areas that received most worst scores in this satisfaction survey.

Managers of care department should emphasize the importance of good customer service to employees as well as the importance of quality in resolution contents. All complaints from customer about service and quality should be informed to employees in order to develope that area. Naturally all the good feedback concerning Electra work should also be published. Communication about the fluency of Electra work should not be only a conversation between customers and managers.

Compentence of technical knowledge area should be advanced in trainings. All employees should attend in all internal trainings related to mCreate product. Internal survey about training needs could be arranged and possibly additional trainings could be organized after analyze of the survey.

It was stated earlier, that customer support engineers should pay more attention to the content of correction plan and correction response. But what is more important, engineers from Research and Development department should also be traineed in that area. They should be emphasized how important it is to inform the customer all the details of the correction. Internal Fault Management training for R&D engineers was actually arranged on the beginning of February 2006. The undersigned gave trainings about Pronto tool (tool for managing faults and their corrections by R&D) and in the training the importance of good customer plan and response were emphasized.

9.2.2. New launch of Solution base tool

Solution Base is not very widely used among the customers of mCreate. Possibly Solution Base should achieve more interest after a promotion campaign. In workshops between customer and Care department Solution Base tool should be emphasized and customer should be informed about the wide information content of Solution Base. The same information could be stated in Care's web page, eNact tool and also a separate e-mail advertisement could be sent to the customers. Accesses to Solution Base tool could also be granted more freely. At the moment only care department employees are able to access directly to the tool as DMS / Tier 2 Active agents do not have direct access to the tool: they are able to access Solution base via Electra tool. Because there was a complain about the slowness of Electra´s search function, direct accesses to the Solution base should be considered.

9.2.3. Improving information flow between Product Line and DMS

Information about content and timing of IN generic faults, hot topics, Change Deliveries and Enhancement Deliveries is quite incoherent at the moment. All that information should be in the same place, which is easily accessible for everyone. Possibly there could be an own web page, which would contain all the important information from Product Line to DMS. This web page could also be updated regularly with information of hot topics and if there are any changes in content and timing of CD (Change Delivery) / ED (Enhancement Delivery) deliveries.

Especially content of CD / ED deliveries should be emphasized. CD documentation should be checked very carefully before the CD / ED delivery. The delivery should contain detailed information about the corrections and also step-by step installation instructions. The content of each CD/ED delivery could also be published in web page.

9.2.4. Follow-up

Customer Satisfaction Survey should be arranged yearly in order to check is there any changes in development areas. As there is already a ready form for the survey, the same form could be utilizied and same score model should be used in order to compare the results.

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APPENDIX 1: mCreate Care Satisfaction Survey form

BACKGROUND QUESTIONS

How long time have you worked for IN Support?*
-- Choose: --

In which role you are using Electra?*
-- Choose: --

GENERAL ELECTRA WORK IN TIER 3

1. Technical knowledge of Tier 3 Active Agents*
- 5 Excellent
- 4 Good
- 3 Average
- 2 Satisfactory
- 1 Low
- 0 I do not use Electra

2. Resolution time of Electra cases*
- 5 Excellent
- 4 Good
- 3 Average
- 2 Satisfactory
- 1 Low
- 0 I do not use Electra

3. Quality of resolution content in Electra cases*
- 5 Excellent
- 4 Good
- 3 Average
- 2 Satisfactory
- 1 Low
- 0 I do not use Electra

4. Service attitude of Tier 3 Active Agents*
- ○ 5 Excellent
- ○ 4 Good
- ○ 3 Average
- ○ 2 Satisfactory
- ○ 1 Low
- ○ 0 I do not use Electra

5. How could we improve resolution quality and response times to customer in Electra cases ?*
- ○ Better background information in the case
- ○ More time for case investigation
- ○ Avoiding asking same questions many times
- ○ Better usage of remote connection to customers in Tier 2
- ○ Other what?

Comments and improvement proposals concerning Tier 3 Electra Work

6. Service attitude of Customer Support Engineers*
- ○ 5 Excellent
- ○ 4 Good
- ○ 3 Average
- ○ 2 Satisfactory
- ○ 1 Low
- ○ 0 I do not have opinion

7. Given information about forthcoming corrections (content of correction plan and correction response)*
- ○ 5 Excellent
- ○ 4 Good
- ○ 3 Average
- ○ 2 Satisfactory
- ○ 1 Low
- ○ 0 I do not have opinion

8. Has Customer Support Engineers´ work improved over the years?*
- ○ Yes in all areas
- ○ Yes in some areas
- ○ Yes in some areas. Some areas have worsen. (please comment to free text field)
- ○ No there has not been any changes
- ○ Everything is worse than before (please comment to free text field)
- ○ I am a newcomer in IN: can not answer to this question

Comments and improvement proposals concerning Customer Support Engineers´ work area

9. Installation / Site visit planning provided by mCreate Care*
- 5 Excellent
- 4 Good
- 3 Average
- 2 Satisfactory
- 1 Low
- 0 I do not have opinion

10. On-Site Installations and upgrades provided by mCreate Care (excluding HP´s installations)
*
- 5 Excellent
- 4 Good
- 3 Average
- 2 Satisfactory
- 1 Low
- 0 I do not have opinion

11. Installations provided by HP Finland*
- 5 Excellent
- 4 Good
- 3 Average
- 2 Satisfactory
- 1 Low
- 0 I do not have opinion

12. Emergency Support provided by mCreate Care*
- 5 Excellent
- 4 Good
- 3 Average
- 2 Satisfactory
- 1 Low
- 0 I do not have opinion

13. Has Technical Support Engineers´ work improved over the years?*
- Yes in all areas
- Yes in some areas
- Yes in some areas. Some areas have worsen. (please comment to free text field)
- No there has not been any changes
- Everything is worse than before (please comment to free text field)
- I am a newcomer in IN: can not answer to this question

Comments and improvement proposals concerning Technical Support Engineers´ work area

TOOLS AND eCARE

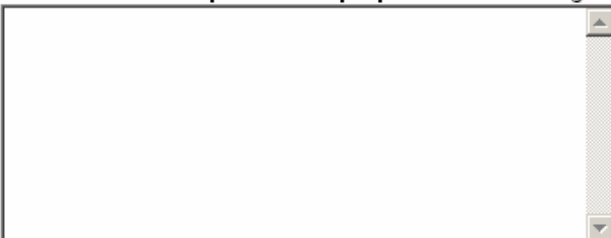**14. How satisfied are you with the information provided by eNact?***
- ○ 5 Excellent
- ○ 4 Good
- ○ 3 Average
- ○ 2 Satisfactory
- ○ 1 Low
- ○ 0 I do not have opinion

15. How satisfied are you with the information provided by NOLS?*
- ○ 5 Excellent
- ○ 4 Good
- ○ 3 Average
- ○ 2 Satisfactory
- ○ 1 Low
- ○ 0 I do not have opinion

16. How satisfied are you with the information provided by Solution Base (Electra´s knowledge base, knowledge search, EX-Resolution Database)?*
- ○ 5 Excellent
- ○ 4 Good
- ○ 3 Average
- ○ 2 Satisfactory
- ○ 1 Low
- ○ 0 I do not have opinion

Comments and improvement proposals concerning Solution Base, eNact and NOLS

17. How often you use Electra´s Kruse (Electra´s knowledge base, knowledge search; EX-Resolution Database) functionality?*
- ○ Weekly
- ○ Sometimes
- ○ Rarely
- ○ Never

18. There area 69 active cases in Kruse at the moment. How would we increase the amount of Kruse cases?

19. Do you receive enough information in terms of content and timing of IN generic faults, hot topics, Change Deliveries, Enchancement Deliveries etc? *

○ Yes

○ No

○ I do not have opinion

19b If you do not receive enough information how would you like to improve the communication and information sharing between DMS and mCreate Care?

19c What kind of information you would like to receive and how often?

APPENDIX 2: Definitions of terms

Term	Definition
IN	Intelligence Network
DMS	Delivery and Maintenance Services. Support organization in Nokia Oyj
Tier 2	Support team for a group of products. Support team consists of named experts in DMS organization.
Tier 3	Product Line Support. Tier 3 is populated by the Product Line Technical Support Function
R&D	Research and Development department
TN	Technical Note. Document type of correction. The document consists of information set of configuration changes that must be implemented by the customer.
Kruse	Solution Base. Tool for knowledge re-use
NOLS	Nokia Online Services. Enables users to view and download new software releases and Change Deliveries, including software and related documentation.
eNact	Technical discussion forum in Intranet
Electra	Support tool of Care. Electra platform includes functions such as Recording request, E-reporting, troubleshooting, and tracking & monitoring.
CD	Change Delivery. A Change Delivery is a software or hardware correction with related documentation.
Urgent Correction	Software correction with very high priority. The correction delivery is scheduled before generic mass CD delivery.
PDC	Product Decision Card. New feature Request
HP OC	Hewlett Packard Open Call SW