

**UNIVERSITY OF TWENTE.**

**Implementing a more efficient and effective multi-channel  
communications strategy at a Support department**

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## Introduction

Globally more and more companies operate in the service industry. 98% of the world's biggest companies have a service desk and this service desk carries out the most important role in determining the level of customer satisfaction (Cheong, Kim, & So, 2008). Yet contact center managers struggle to meet their clients' expectations on response time and channel use. This research takes a first step in tackling this problem, by analyzing the communication channels used, comparing their efficiency and effectiveness, and analyzing how these might influence channel choice. The goal is to provide contact center managers with guidelines on customer satisfaction drivers and guidelines on managing efficiency and effectiveness. This is important because by keeping client contact efficient, high service levels remain affordable, and thus, available.

A question at a Support department can have several causes: the functionality of a program may be unclear, there might be a bug in the software, or new functionality may be required. These causes can be interesting to investigate, as a reduction in bugs in the software would decrease the number of questions at Support and reduces the time spent on explaining a workaround. However, this research focuses on the solution offered by Support, the communication channel chosen to convey the response, and whether clients are satisfied by the solution offered.

This research examines customer support channels at a Dutch company that produces software to help support departments with the registration of questions, problems, changes, etc. Available support channels and promising unused channels are researched and compared, clients' perceptions of support via these channels are determined, and a literature review on efficient support is conducted. The goal is to present contact center managers with guidelines on channel use, efficiency, and effectiveness, to optimize the performance of a support department.

The company at which this research is held is in the unique position that it not only has a helpdesk, but also produces the software used to register questions at the helpdesk for thousands of companies. Many communication channels are used to test the software and support the company's clients. This means the company influences a large part of the market because channels integrated in the product are likely to be used by clients. Insights gained by this research are likely to be shared in the field by consultants visiting clients and by sharing the results with respondents to the research.

The research starts with a general description of the company, the problem, and a literature review exploring this problem in the first chapter. Chapter two focuses on the required knowledge, describing research questions and the required sample, measurements, and research design. The next four chapters focus on the four research questions from the second chapter. In the seventh and final chapter the findings are summarized and the conclusions of the research are presented together with a reflection on the researches relevance and recommendations for future research.

At this point I would like to thank Remco Schimmel, Patrick Mackaaij, Jeroen Boks, Celeste Wilderom, Marijn van Manen, Jetty van Ginkel, my colleagues at TOPdesk, and the anonymous respondents to the survey for their feedback, interest, time, and cooperation. Without their time and support this research would not have been possible.

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### ***List of abbreviations***

B2B	Business to business
B2C	Business to consumer
(e)CRM	(electronic) Customer relationship management
FTR	First Time Resolution, also known as First Time Right
KPI	Key Performance Indicator
NPS	Net Promoter Score
SaaS	Software as a Service
SST	Self-service technology
SSD	Self-Service Desk; the name of the SST package offered by TOPdesk

### ***List of concepts***

Channel	A means or agency of communication
Concern	To trouble, worry, or disquiet
Effective	Adequate to accomplish a purpose
Efficient	Accomplishment of a job with a minimum expenditure of time and effort
Need	Something deemed necessary
Satisfaction	Fulfilling all demands or requirements
Skill	The ability to do something well
Want	To feel a desire for; wish for

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### ***List of mentioned communication channels***

<b>Channel</b>	<b>Description</b>
<b>Telephone</b>	A telecommunications device that transmits and receives sounds. This can be supplemented by software to transmit video, to see what the caller sees.
<b>E-mail</b>	A method of exchanging digital text messages and electronic documents.
<b>Self-Service Desk</b>	A structured form to gather information related to a question, and a possibility to review previous questions. Replies are made using another channel.
<b>(Help &amp; Support) Website</b>	A set of related pages on the internet where clients can search and find manuals, quick start guides and Frequently Asked Questions.
<b>Manual</b>	A document intended to give assistance to people using a particular system.
<b>Forum</b>	An online discussion site where clients can hold conversations in the form of posted messages.
<b>Chat</b>	A real-time direct transmission of text-based messages from sender to receiver.
<b>Status Page</b>	A website that shows information on the availability of other web services.
<b>Google+ *</b>	A social network that allows users to share messages with groups (called circles).
<b>Facebook *</b>	A social network that allows users to share messages with friends.
<b>LinkedIn *</b>	A social network that allows users to share messages with working professionals.
<b>Expert system</b>	A computer system designed to emulate the decision-making ability of a human expert, for instance used to answer questions similar to previously answered ones.
<b>Video</b>	A sequence of still images representing scenes in motion. In a support context, videos are used to show a series of actions.
<b>Twitter</b>	A service that enables its users to send and read short text-based messages.
<b>* Social Media</b>	An online service that focuses on facilitating social relations among people.

## Management summary

This research aims to answer the question: *How can the Support department at TOPdesk most efficiently answer its client's questions without decreasing customer satisfaction?*

To answer the question, the current communication channels at the Support department were analyzed on efficiency and effectiveness. Although each channel has its merits for some kind of question, in general it can be stated that the website, manual, and forum are most efficient as they require no effort from the operator. Regarding satisfaction, the Self-Service Desk (SSD) and telephone score highest. This high score for the SSD is promising, as this channel enables operators to distribute questions according to skill and preference, and allows the operator to search similar questions and copy their answer.

As a link between operator skill and effectiveness was likely, the skill level of operators was determined and its relation with satisfaction was determined. It was found that for all channels skill levels of both technical and behavioral skill were high, as are satisfaction scores. There is a strong link between skill and satisfaction, showing the importance of operator training. Channels without personal contact are seen by clients as less efficient, as fewer questions are answered in the first response. As a probable cause, the difficulty of finding information is mentioned repeatedly.

The channels used by clients were analyzed, as was their motivation for using those channels. The channels offered by the company are used most by clients, and the channel use indicates a preference for personal contact and effectiveness. This suggests that if the effectiveness of efficient channels is increased, their use increases. When using a channel, clients want complete and speedy answers, indicating the use of a channel can be increased by reducing the channel's processing time.

From the channels seen as promising additions to what is currently offered, chat and a status page are seen by clients as both quick and efficient. However, a status page is only useful for a limited number of clients and both channels are not used frequently. Adding these channels will require a campaign to make clients aware of this new possibility, preferably combined with an overview of the other channels currently offered, as clients repeatedly mention being unaware of a channel.

The addition of new channels may increase the workload of managers and negatively influence organizational performance due to possible overlap and required oversight. However, these drawbacks are mitigated when the new communication channels are integrated with current channels, as operators only need to focus on the integrating tool, instead of the different channels. If new channels are well integrated with the old, they provide an opportunity to distinguish from the competition.

There are several options to increase the efficiency of a Support department, but the requirement that customer satisfaction does not decrease limits the possibilities to two options. First, the use of the SSD should be promoted. This can be done by decreasing the processing time of questions, for instance by assigning operators to this specific channel. The other option to increase efficiency is to increase the use of the website, manual, forum, and other channels where clients answer their own questions. This can be done by creating an integrated search function that presents results from all these channels. To prevent clients from having to switch to a new channel, this would initially require forwarding search queries, search results, and login credentials between channels. To make this search portal a success, it should be included in the company's product, ensuring good design and continuous feedback and improvements.

The length of the survey, a possible selection bias, and developments during the research are determined to have little influence on the findings, confirming their validity. New developments are likely to influence a similar research in the future, so it is important that these changes are taken into account when the results of future surveys are compared to this study.

It might be useful to research whether clients purchasing user training submit fewer questions to the Support department, and whether clients should be encouraged to attend a training more often, for instance by reducing training costs. If the proposed search function does not boost the forum usage enough, the company should consider other measures to increase its use, like a promotion campaign or rewarding clients that help other clients, as the forum provides clients with satisfactory answers and requires little operator effort. Last but not least, the possibilities for improving the relevance of search results should be investigated, as many clients mention this as a point of improvement and clients should feel encouraged to find answers by themselves.

# Chapter 1: problem description and relevant research

## ***Company description***

TOPdesk is a Dutch producer of service management software, founded in 1993. Over the past years, TOPdesk has evolved into a well-known player in the service management field. Today, the company is a global organization with five international branches and more than 400 employees (Boks, 2011).

As an independent and privately owned company, TOPdesk has funded its expansion by its own means and assets. TOPdesks software helps other organizations to efficiently and effectively streamline their service processes. This software is a generic, standard application that can be employed in a variety of settings including IT support, facilities management, Human Resources, Shared Service Centers, client support and call centers. The common factor in all these supporting organizations is the processing of calls and requests from clients, employees and members.

The internal working culture values initiative, ambition and diversity of opinion. Bureaucratic procedures at TOPdesk are kept at a minimum; instead employees enjoy the freedom to explore their ideas in a supportive environment. In 2009 TOPdesk was awarded the title 'best employer for young parents' by Intermediair, mainly because of the flexible working arrangements the company offers to all employees.

TOPdesks software is available in various versions for different organizations and as Software as a Service (SaaS), a solution where the entire service is hosted by TOPdesk. Besides its software, TOPdesk offers consultancy services, training programs, maintenance, helpdesk support and several promotional outlets like a website, a magazine and a symposium.

The company turnover of over 20 million Euros a year is almost equally distributed between income from license fees, income from consultancy, and support & maintenance contracts, of which about 80% is generated in The Netherlands (Boks, 2011). These revenue streams are typical for enterprise software vendors. (N. Ramasubbu, S. Mithas, & M. Krishnan, 2008a); (Kevin J. Delaney, 2004).

## ***Problem description***

At the TOPdesk support department over 40 support specialists strive to fulfill the company mission to 'help our clients satisfy their clients'. The departments handles about 3500 incidents each month, answering the phone within 9 seconds and resolving 75% of all questions within a day (Boks, 2012). However, as the company grows in clients these numbers become more and more difficult to achieve.

In 2008, the support department grew by 30% to decrease the number of incidents per employee. However, from 2009 until now, the department has seen an increase in incidents per employee each year. This despite the continuing growth of the department (van Manen & Boks, 2012). The increase in incidents per employee, and the resulting increase in workload may increase the response time of support employees, but may also decrease employee morale, productivity and retention rate (Swanson, 2009) a potentially crippling development for a department dependent on the knowledge of its employees.

To counter this potential threat, TOPdesk has not only increased the pace at which new support employees are hired, but also launched several initiatives aimed at decreasing the number of incidents per client: Next to the manuals that were already distributed amongst clients, TOPdesk launched a website with supporting documentation and a community for clients to discuss questions and find more information. With these measures in place, the increase in customer questions per employee slowed, but is still increasing.

Not only is there an increasing amount of questions to be handled by the support department, they also need to monitor new channels by which clients are able to communicate with the company. Many companies experiment with support via communities (50%), social media (33%) and (mobile-) apps (25%) (Bor, 2011). As the number of questions from clients and the variety of customer contact methods increases, it becomes increasingly difficult to manage a support department.

TOPdesk is not alone in its efforts to increase the efficiency of the support department. In a branch wide research, increasing efficiency is named as the most important focal point for contact center managers (Bor, 2011). This paper aims to explore the use of communication channels for support purposes,

analyzing the drivers of satisfaction with a communication channel and provides guidelines on customer experience management and service strategy design to decrease the pressure on a support department.

### **Literature review**

The previous part of this chapter described how many support department managers struggle to keep their department efficient and effective and how communication channels are part of this problem. The next part will describe what other researchers have found about these subjects, how they are linked to a company's performance, and what is written about the relevance of the problem. At the end of this chapter, recommendations from other research are summarized and translated into a list of required information for continuing this research.

#### **Communication channels**

In search of efficiency, Self-Service-Technologies (SSTs) are used by companies to reduce operating costs by shifting part of the service process activities to customers (Ancarani, 2005; Davis, Spohrer, & Maglio, 2011). Cheng, Tsao, Tsai, and Tu (2007) proved that the addition of an online channel improves the financial performance of a firm because of increased lifetime value from customers and enhanced competitive advantages, like higher market coverage and lower transaction costs.

Multiple channels not only present companies with the opportunity to distance themselves from competitors, they may also increase the workload of managers and negatively influence organizational performance (Valos, Polonsky, Geursen, & Zutshi, 2010) as more channels require more oversight and might overlap with existing channels.

Neslin et al. (2006) describe how the addition of a channel may lead to lower loyalty due to coordination difficulties, or channel cannibalization when different channels offer similar content. The coordination difficulties are confirmed by Wilson and Daniel (2007), who mention that the increase of digital channels increases the number of channels that need to be managed, which would lead to increased management complexity. Next to the coordination difficulties and channel cannibalization, poorly integrated multiple channels may lead to customer dissatisfaction (Rosenbloom, 2007) because they cannot find the right information on the channel they use to search for it. However, Payne and Frow (2004) have developed several strategies to manage the channel mix and integrate channels, claiming to mitigate the downsides of a multi-channel strategy.

Dixon, Dull, and Wolfe (2003) point out that service levels across channels need not be consistent, as consumers behave differently depending on what they are looking for. This statement is repeated by (Montoya-Weiss, Voss, & Grewal, 2003), who suggest varying service levels across channels to influence channel choice as the service levels on the traditional- and the online channel influence customer satisfaction separately. Though the internet as a channel can be used to increase the efficiency of services, this does require a sophisticated understanding of the way customers use the channels (Hughes, 2006). This understanding can be gained by studying the needs, wants, and concerns of customers for each channel (Payne & Frow, 2004), making these attributes important in researching multiple communication channels.

What most studies on the channel mix have in common is the realization that companies must make a choice regarding the channels they offer to clients. Payne and Frow (2004) mention this decision is dictated mostly by the customer, but there is no one approach to making channel implementation decisions (Valos et al., 2010). Many researchers offer a step-by-step channel mix selection guideline, but these differ widely. What they have in common is the notion that with channel selection, understanding customer channel use is an important step (Neslin et al., 2006); (Payne & Frow, 2004); (Band & Petouhoff, 2009).

For this research, this means that an analysis of the channels used by clients should be the first step when aiming to analyze the effectiveness and efficiency of communication channels. This analysis not only helps to determine for which communication channels the effectiveness and efficiency should be measured, but also presents the company with a clearer picture of the communication channels used by its clients. Analyzing the needs, wants, and concerns for each channel can provide insight in the reasons behind a channel choice, indicating possible points of improvement.

### **Efficiency, effectiveness and satisfaction**

When researching efficient and effective work at support departments, it is important to find a clear definition of both terms. Efficiency is defined as the accomplishment of a job with a minimum expenditure of time and effort, while effectiveness is defined as the degree to which the intended purpose is accomplished (Dictionary.com, 2012; VanDale.nl, 2012). In this context, it is assumed that the intended purpose of a call to a customer support department is to have a question from a client answered. So, an effective and efficient support department would answer a clients' question with a minimum expenditure of time and effort.

Effectiveness is traditionally measured in terms of precision (the percentage of retrieved documents that are relevant) and recall (the percentage of documents that are retrieved by the system); two measures that require an in-depth knowledge of the underlying system and the relevance of documents (Hull, 1993). These measures are relevant for a support department when analyzing the underlying functionality of a website, but are difficult to apply to support by telephone and other communication channels where the total available knowledge is hard to put in numbers. This makes effectiveness in this setting hard to measure.

Al-Maskari and Sanderson (2010) describe that in information retrieval, system- and user effectiveness are strong influencing factors of user satisfaction. Satisfaction with an information retrieval system decreases significantly when the right document is not the first result of a query (Huffman & Hochster, 2007) or when the amount of time required to find the information sought increases (Law, Klobučar, & Pipan, 2006; Su, 2003).

For measuring user satisfaction, many scales and questions have been developed, making satisfaction easy to measure on a user level. High user satisfaction results in higher loyalty, which in turn results in good company performance (Brown & Lam, 2008; I. L. Heskett, Iones, Loveman, & Sasser, 1994; Yee, Yeung, & Cheng, 2008), so measuring satisfaction is not only easier than measuring effectiveness, its results are also more relevant in predicting future company success.

In a Business-to-Business (B2B) setting, satisfying clients is more difficult than in a Business-to-Consumer (B2C) setting, as B2B customers have higher demands (Miciak & Desmarais, 2001). The e-CRM (electronic Customer Relationship Management) industry proves even more challenging as it faces the same challenges as its customers, but has lower satisfaction ratings (Taylor & Hunter, 2002). This puts the company in a difficult position as it needs to satisfy the wishes of customers with high demands.

For this research, this means that satisfaction scores will be used when measuring the effectiveness of a communication channel. Also, because the company operates in a B2B setting and the CRM industry, the resulting satisfaction scores may not be comparable to those of other companies, as it is more difficult to achieve high scores in this setting and industry. For measuring efficiency, these satisfaction scores should be compared to the amount of time required to find the answer, and whether the answer was found in the first attempt.

### **Past experience**

Wang, Harris, and Patterson (2012) studied self-service technologies (SST's) in a retail environment and conclude that perceived complexity and past experience influence channel choice. Customers must think a service technology will be easy to use, to get them to use it. Also, a positive first time experience is important for customers to trust service technologies, but customers expect problems and give a SST a second chance.

The research was conducted in a retail environment, but the findings show the importance of perceived complexity and user experience in channel selection. Klaus and Maklan (2012) also acknowledge the importance of a positive experience and conclude that this has a significant impact on customer satisfaction, loyalty and word-of-mouth intentions. A customer who experienced helping himself to be easy is more likely to try it again and recommend it to others. The importance of positive experience is further confirmed by Verhoef et al. (2009), confirming that prior experiences influence the way customer experience their next service encounter.

For this research, these findings imply that a positive service experience is likely to increase the use of a communication channel, especially with a SST. The first user experience is hard to measure for a SST, as the use of this technology is not always detectable by the company. However, the overall user experience can be measured, which should give an indication of the first user experience.

### **Relevance of the research**

Research on effective and efficient support is highly relevant for TOPdesk because the number of support requests per full time employee (FTE) at the support department has increased the last four years (TOPdesk, 2012). The increasing amount of questions makes it more difficult for the support department to achieve its response time Key Performance Indicators (KPI's) which is feared to negatively influence customer satisfaction (Ravensbergen, 2012). This relation is confirmed by Cheong et al. (2008) who find that blocked calls, answer speed and service level determine customer satisfaction.

However, branch-wide research shows clients being more interested in solutions than waiting times (Bor, 2011). Feinberg, Kim, Hokama, de Ruyter, and Keen (2000) found the relation between answer speed and caller satisfaction to be only marginally significant and research by Ramasubbu et al. (2008a) indicates customer support satisfaction is influenced in a mayor way by technical- and behavioral skills of the support staff. A KPI that has proven links to satisfaction is First Time Response (FTR), the percentage of calls that is solved in the first response. Chen, Chiang, Chong, Lin, and Chang (2011) list FTR as one of the few significant contributors to customer satisfaction.

In recent literature it is mentioned that “there is limited work that examines customer satisfaction for support services of software systems” (N. Ramasubbu, S. Mithas, & M. S. Krishnan, 2008b, p. 511). A guest editorial by Davis et al. (2011) lists providing higher levels of service to increasingly demanding customers, and establishing consistently high levels of service quality across multiple channels, as challenges for today's service managers. Finding the right mix of customer contact channels alone is considered a challenge (Rosenbloom, 2007) and optimizing the channel portfolio is mentioned as a service science research priority (Ostrom et al., 2010).

From the previous section it can be concluded that the perceived technical- and behavioral skills of Support employees should be measured to further analyze their influence on customer satisfaction. The FTR of calls also influences satisfaction and should therefore also be included in the research. It can be concluded that a research on customer satisfaction and the optimal support channel mix will be an interesting addition to current service science literature.

When all relevant information on the communication channels used at a support department is combined, a research should include information on channel use by clients, prior channel experience, the needs, wants, and concerns of customers for each channel, FTR scores, and perceived support staff skills. This information, combined with satisfaction scores for each channel, should provide a clear overview of the channels used, customers' satisfaction with these channels, and the reasons behind the satisfaction scores.

### **Implications for TOPdesk**

Currently, TOPdesk does not log the use of communication channels that are not used to ask questions to Support employees in a central location. The use of communication channels for Support purposes is logged, but this could be combined with information on the use of other channels to provide a clearer overview. TOPdesk does not log whether a call is answered in the first response, as the number of responses is not logged. If the software is adapted to include this information, the company and its clients would be able to automatically measure a KPI with a significant contribution to customer satisfaction.

For some of its clients, TOPdesk has implemented a continuous way of measuring customer satisfaction by including questions regarding the satisfaction with a response for each response. With this information it would have been easier to conduct this research, and customer satisfaction can be measured in a more continuous fashion. It would also increase customers' knowledge about this possibility, likely increasing its use.

This chapter showed that there is little research on customer satisfaction with support services of software systems and that providing the right mix of customer contact and higher service levels are considered a challenge. The information needed when analyzing the use of communication channels for support purposes was listed and the implications of previous research on the practice at TOPdesk were discussed. The next chapter will describe the problem in a more structured way, allowing the definition of research questions, and will discuss how the required information to answer these questions will be attained.

## Chapter 2: Sample, measurements and research design

From the previous chapter it became clear there is a need for more information on the influence of communication channels on the satisfaction of call center customers. This chapter will start with the formulation of a research question and the sub-questions that need to be addressed to gather this information. Hereafter, it is described what information is required to answer these questions and how this will be attained. The chapter concludes with a list of research designs found suitable for each research question.

In the previous chapter it was concluded that research on customer satisfaction and the optimal support channel mix would be an interesting addition to current service science literature. TOPdesk, a leading international supplier of service management software, saw the importance of this research and commissioned the research to be conducted at its Support department. The company also enabled the researcher to contact its clients, offering a unique insight in the opinions of the service management professionals that are its clients. This led to the following research question:

*How can the Support department at TOPdesk most efficiently answer its client's questions without decreasing customer satisfaction?*

It was described in the literature review section that, to answer this question, information is needed on the possible support channels, the current efficiency of each channel, the customer's experience and satisfaction with each channel, the perceived support staff skills, and the customer's needs, wants, and concerns with regard to these channels. To structure this need for information, the following sub-questions were formulated:

1. (a) What channels are currently used at TOPdesk to facilitate customer support, what is the (b) efficiency and (c) effectiveness of these channels, and (d) what channels are not currently used, but are promising in terms of customer satisfaction and efficiency?
2. What is TOPdesk's clients' perception of the support department's staffs (a) technical- and (b) behavioral skill, what are TOPdesk's clients' expectations in terms of (c) efficiency and (d) satisfaction of the current support channels, and (e) how are these likely to influence each other?
3. (a) What communication channels do TOPdesk's clients commonly use, what are their (b) needs, (c) wants and (d) concerns with regard to receiving support using these channels, and (e) are these channels congruent with the channels used at TOPdesk to support its clients?
4. (a) What implementation steps are needed for the support department to increase efficiency and meet its customers channel use expectations, without decreasing customer satisfaction, (b) and what are the main barriers for implementing more efficient and more effective customer support channels?

To answer the first question, customer support channels that are used at TOPdesk will be determined by examining internal documents. To determine the efficiency of current support channels at TOPdesk, internal documentation will be combined with an internal brainstorm session on perceived channel efficiency. Promising unused channels will be determined via literature on customer service and reports on customer support branch research.

The research method of a survey was chosen for its suitability to explore the communication channels used by clients. An electronic survey allows the researcher to reach a broad audience with little effort and is distributed to foreign clients with the same ease as locals, required to reach all the company's clients. Electronic data is also analyzed faster as the information is already in a database. This was important because of the limited time available for a master thesis.

Answers to the second question will be determined using a survey, of which the results will be compared with internal documents on previous satisfaction scores and the results of the first question. The survey will include questions regarding clients' expectations on channel efficiency and satisfaction, and the perceived technical- and behavioral skill of support employees. On the perceived skills of TOPdesk's support department employees, historical data is available for comparison.

Research question three will also be answered from the survey, asking clients about their channel use, needs, wants, and concerns per channel. The survey will contain questions found in literature describing similar studies on these topics to increase the validity and the comparability of the results. This survey is to be distributed amongst TOPdesk's customers' contact persons via e-mail. From a similar research in the support branch, a response percentage between 6% and 7% is to be expected.

For the fourth question, regarding the possibilities to increase efficiency, information on the organizational changes needed to achieve increased efficiency will be determined by studying literature on this topic, combined with a study of organizational change management literature and a review of the information gathered in the previous parts of the research. The research question is answered in the seventh chapter by combining the information from all previous chapters into a research summary. The thesis concludes by analyzing threats to the validity of its results and listing suggestions for future research.

The chosen method of an electronic survey is limited by the length of this survey, as respondents can be expected to answer only a number of questions before abandoning the research. This led to a focus on single item questions for the research. The questions, along with details on the selection of the question and the answers provided by respondents, are presented in the next chapters. A complete list of all survey questions is presented in appendix A, along with a table that lists the source article(s) for each survey question.

In this chapter it became clear that a lot of knowledge is necessary to fulfill the needs presented in chapter one. The next chapters will each handle one of the previously mentioned research questions. Chapter three discusses the answers to research question one, chapter four describes answers to question two, and so on. For each research question, research design, population sample and measurements are discussed.

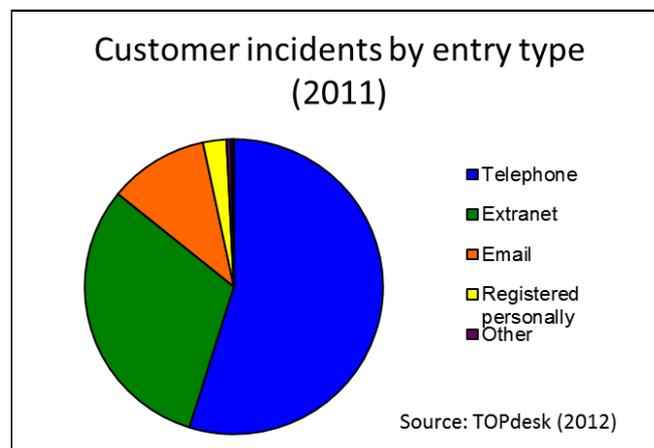
## Chapter 3: Channel use and promising channels

This chapter will discuss the first sub question of this research:

- 1) (a) *What channels are currently used at TOPdesk to facilitate customer support, what is the (b) efficiency and (c) effectiveness of these channels, and (d) what channels are not currently used, but are promising in terms of customer satisfaction and efficiency?*

The chapter starts with a description of the channels used at TOPdesk, followed by a review of ways in which efficiency and effectiveness can be measured in general, and in this specific situation. Hereafter, an overview of channel efficiency and effectiveness at TOPdesk is presented, along with an analysis of what channels have a high potential, based on the measures of effectiveness and efficiency and the opinions of experts in the field. The chapter's conclusion summarizes these answers to the first sub question.

TOPdesks software is a generic application that can be employed in a variety of settings including IT support, facilities management, Human Resources, Shared Service Centers, client support and call centers. The common factor in all these supporting organizations is the processing of calls and requests from clients, employees and members. TOPdesk uses its own software internally to monitor calls at the helpdesk, providing useful information to this research on, for instance, the number of calls, the channels used, and the time it took to complete a question.



**Figure 1: 2011 customer incidents, sorted by entry type.**

Figure 1 represents questions to the Support department in the year 2011. Entry type is logged at the first registration of the call. A question from a customer who uses the telephone to ask a question, and then sends more information using e-mail, is logged as a question by telephone. From the graph it is clear that most customers use the telephone to ask their questions (54%). Next on usage is the extranet, an online form that clients can use to submit their question to the Support department, who then can select an appropriate response. The usage of the extranet (31%) is high, as most helpdesks have e-mail as the second largest channel (Bor, 2011), though some of these calls are automated requests to update client information.

E-mail is third on usage with about 11% of all questions. Other entry types, in order of usage, are personal registration by a consultant, the question form at online knowledge base items, instant messenger, and the TOPdesk community. This community is a website where clients can help each other. Questions that are answered at the community website by other clients are not registered as such and questions answered by support employees are too few in number to show in the chart.

### **Measuring efficiency**

In the first chapter it was stated that an effective and efficient support department answers a clients' question with a minimum expenditure of time and effort. Efficiency is defined as the accomplishment of a job with a minimum expenditure of time and effort (Dictionary.com, 2012; VanDale.nl, 2012). From this definition it becomes clear that, in this context, measuring efficiency is done by measuring the time spent on solving a call.

However, at TOPdesk Support, the time spent on a call is not logged. The company bills its clients on whether they have a support contract or not, regardless of the number of questions filed, and does not log the time spent on calls or clients for internal purposes. There is other information that can be used to get an idea of the time spent on a call, as the time of registration and the time of completion of calls are logged. From this information, a general overview of the channels used and the time spent on questions through these channels can be derived.

To get a more complete picture, clients were also asked in a customer survey to report on whether they use a channel to get general questions answered, to find whether a channel is suitable for support purposes, and whether they used the communication channel to contact the company’s Support department. The questions regarding the use of a channel were:

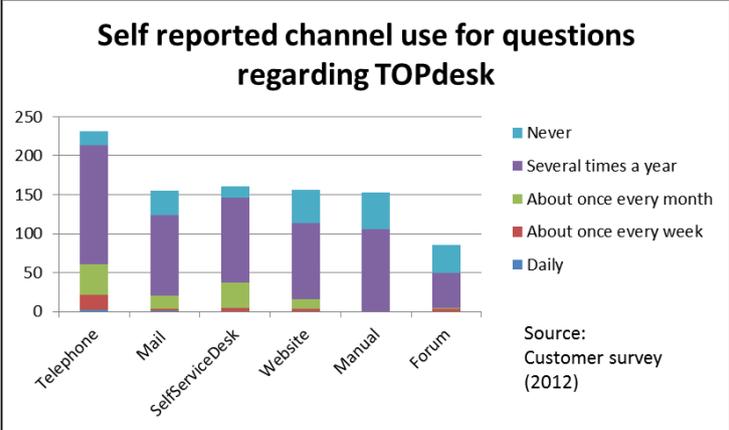
Have you used (the channel) to get a question answered during the past year, for business or personal use?

Have you used this channel during the past year to contact the TOPdesk Support department?

The articles that served as a source for these questions offered no data to compare the results with, as they focus on the expected effects of several determinants on the use of (online) channels. As a comparison, the registered entry types of questions logged with the company are presented hereafter.

**Self-reported channel use**

As the data from the company’s incident registration tool focuses on incidents logged with the Support department, information on the usage of channels that do not require an answer by this department is scarce. To supplement the available data, customers were asked to report on their usage of several communication channels and how often these were used to answer a TOPdesk-related question. The answers (N=264) are depicted in Figure 2.

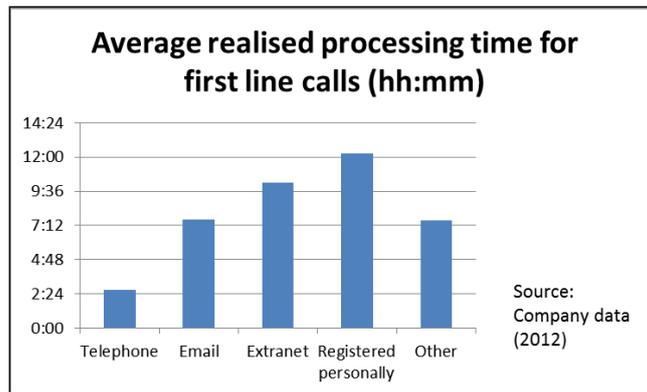


**Figure 2: Channel usage frequencies (number of respondents) for questions to TOPdesk**

The data shows that telephone is not just the channel with the most registered incidents, but is also reported by clients as being used most. Looking at the number of incidents, the Self-Service Desk (SSD) is used second most, but clients don’t experience it this way as many of these are automated requests. Telephone and e-mail are reported to be used daily by some clients, putting these channels in first and second place.

Aside from the SSD, the self-reported contact is in the same order as the customer incidents by entry type. The data also shows the use of the Help & Support website, the manual, and the forum, something that is mostly invisible to operators at Support. These channels are not used as much as the telephone, but there are still several clients reporting to use the website once a week. When these clients find the information they need on the website, this reduces the amount of questions for Support.

As stated earlier, the company also logs processing time for calls. An overview of all communication channels logged in the company’s registration system is presented in Figure 3. Entry types for which the number of logged calls is less than 0.1% of all calls logged were omitted.



**Figure 3: Average realised processing time (hours: minutes) for 2011 calls sorted by entry type**

From the chart, it is clear that calls with the entry type telephone are solved fastest. However, this number is probably distorted, as incidents by phone are often logged after the call is completed instead of before the operator starts working. Next, in order of duration, are calls by e-mail, extranet, and registered personally. This last category has questions registered for clients by their consultants, so it is to be expected that these questions take more time, as the consultant could have answered easy question directly. For calls represented by the entry type Other, no entry type was registered.

### **Measuring satisfaction**

In the first chapter, effectiveness was defined as the degree to which the intended purpose is accomplished. It was shown that measuring this intended purpose in traditional ways is difficult when the total available knowledge is unknown. To counter this, satisfaction was presented as the most suitable measure.

There has been a lot of research on customer satisfaction with services, and many questionnaires have been developed to determine this satisfaction. For face-to-face service SERVQUAL was developed. It is one of the oldest service quality scales, on which many others are based. The SERVQUAL scale measures many aspects of the service experience and is still thought of as reliable (Keiningham, Cooil, Andreassen, & Aksoy, 2007). However, in a B2B setting the SERVQUAL scale must be applied with caution (Durvasula, Lysonski, & Mehta, 1999).

It can be a lot of work to measure satisfaction using SERVQUAL. This is one of the reasons Reichheld (2003) developed a shorter measure: the Net Promoter Score (NPS). This score can be established fast, as it is determined with a single question. NPS is currently widely used and serves as a benchmark for companies (J. L. Heskett & Sasser, 2010). There is more support for using single item measures. Drolet and Morrison (2001) find that a multiple item scale aggravates responses, increasing errors and undermining reliability. Ramasubbu et al. (2008b) found that customers believe multiple items within a construct are redundant and use only one item to measure satisfaction.

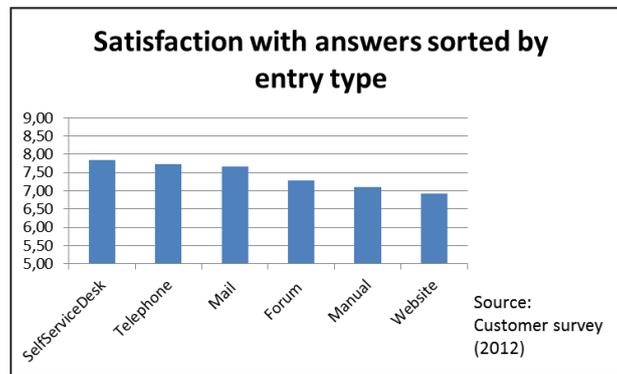
As the NPS is determined with a single question, it may give information on the satisfaction level, but not on the drivers of (dis-) satisfaction. To get a complete picture, Payne and Frow (2004) recommend finding the needs, wants, and concerns for each communication channel. (Wang et al., 2012) used this to evaluate self-service at a supermarket.

As this research includes questions about many communication channels, using a lengthy scale to determine the satisfaction for each channel would be impractical as the respondents would need to answer hundreds of questions. For this reason a single item satisfaction scale from (Ramasubbu et al., 2008b) was used. Questions similar to those used by Wang et al. (2012) were included to determine the needs, wants, and concerns that drive the satisfaction score for each channel. The questions about the needs, wants and concerns are discussed in chapter 5. The following question regarding satisfaction was included for each channel:

Please indicate your satisfaction with the support you generally receive through this channel (1 = very dissatisfied, 10 = very satisfied).

## **Satisfaction with current channels**

The satisfaction with current channels is depicted in Figure 4 and shows that customers are happy with the support they currently receive. Satisfaction scores range from 6.9 (website) to 7.8 (Self-Service Desk) on a scale of 1 (representing very dissatisfied) to 10 (representing very satisfied). The website, manual and community have a lower satisfaction rate, yet satisfaction rates are similar to those in the industry (Bor, 2011) and higher than the mean satisfaction score (6.81) mentioned in the study used as source for the question (Ramasubbu et al., 2008b). This despite it being more difficult for B2B companies to achieve these levels.



**Figure 4: Satisfaction scores sorted by entry type**

E-mail, telephone, and extranet all have above average satisfaction levels. These channels are praised for the quick and personalized response clients get. The little criticism in open answers focuses on answers being given on another channel than the one used to ask the question (i.e. responding to an e-mail by calling the issuer) and the wish to receive more status updates when incidents take longer to resolve.

The differences between the satisfaction score means for the channels mentioned above, and the highest scoring channel (SSD), were tested on significance using a paired-samples t-test. A statistically significant ( $p < 0.05$ ) lower satisfaction score was found between the SSD and the Forum, Manuals, and the Help & Support website. The effect of the difference was also calculated: for each of the three mentioned channels with lower satisfaction scores, a large part of the difference in satisfaction levels can be attributed to the channel used. Details on the statistical calculations can be found in Appendix C.

The recent completion of a manual that has been offered as a preliminary version for over a year illustrates the difficulty of keeping all online documentation up to date. Comments regarding the community are mixed, as commenters praise the quick responses and insights from other professionals, but criticize it being unclear whether an answer from a community member is the best answer they could get. What these channels have in common is that the answers found are not always directed at the specific question of the client. Clients also comment they are sometimes unable to find the right information by themselves. A full list of open answers can be found in appendix E.

From these satisfaction scores it is noteworthy that entry types that require more effort from TOPdesk rate higher on satisfaction. The only exception to this rule is the SSD, where clients register their own calls. Website- and manual articles require a one-time effort to write the article, but can be read by many clients. Posts on a community are directed at a specific client, but can be read and answered by others, reducing the effort for TOPdesk employees. The higher scoring channels all involve a one-on-one interaction with a TOPdesk employee, making the answer highly specific, but less usable for other clients. The SSD is interesting in this perspective, as it requires less effort and has the highest satisfaction rate. Apparently the structured way of providing information, and the possibilities to review old questions are well liked.

## **Employees' views on effectiveness and efficiency**

A brainstorming session was held among Support employees, discussing the advantages and disadvantages of using different channels with regard to effectiveness and efficiency. The complete result of the brainstorm session can be found in appendix B. In this session, it became clear that all channels have their own advantages and disadvantages with regard to different questions.

As an example; questions regarding HTTP code, used to send information to the application, are hard to answer by telephone, as the code must be seen to find faults. These questions are also difficult to

answer on a website, as code is often displayed wrong by browsers. The questions can be answered by e-mail, and sometimes by telephone after the code is sent using the SelfServiceDesk, but the use of e-mail often causes delays, as there is no direct feedback. For this kind of questions, a real-time text-based communication medium, like chat, could be beneficial.

Here, the results of the session are presented, grouped by communication channel:

Telephone is seen as very efficient for the client, as he or she is directly presented with an answer. However, telephone operators are not always available and answers via telephone cannot be repeated. As previously mentioned, questions regarding text and code can be difficult to answer, but tools like remote viewing software can mitigate this problem.

E-mail is seen by operators as useful for sending documents, and answers can be repeated easily, but exhaustive explanations are often necessary and are not always fully read. This, and the lack of direct feedback, makes e-mail less effective. E-mail also presents operators with the problem that more information can take some time to attain. This can be difficult when clients forget to include information needed to solve a problem.

When clients enter a question using the Self-Service Desk (SSD), helpdesk employees have the time to prioritize requests, research a suitable solution, and select the most suitable channel for a response. This choice does not mean the client is always happy with the selected channel. It is also mentioned that clients can't see the work of helpdesk employees until they receive a reply, but this also holds for e-mail. The main advantages of the SSD over e-mail are that it is clearer for clients what information should be included with their question to help Support employees, and the possibility to review old questions.

On a forum or community, clients are encouraged to help each other with questions. This channel is seen as very suitable for questions regarding the implementation of the software, and the surrounding systems, with which helpdesk employees have less experience. The answers, however, can be either wrong or incomplete when they are supplied by other clients. If there is little activity on the community, it may also take a long time for questions to be answered. To counter this, Support employees monitor the forum and sometimes provide answers.

Websites and manuals both have the potential to contain a lot of information, while it takes no time to answer clients' questions, as they search for the answer themselves. The drawback is that the information need of clients must be predicted, and that there must be some kind of system to find the right information in all available information. Also, when the product changes, the information in the system must be updated, which can take a lot of time when a lot of information is available.

In general, it can be said that telephone is the medium of choice for quick answers. E-mail and a SelfServiceDesk can be used to solve text based problems and a forum is useful for questions to other users and questions regarding implementation. A Help & Support website or a manual is can be very efficient when questions can be predicted, but require good search functionality.

### ***Promising other channels***

The channels currently used are not necessarily the most effective or efficient, so in searching an effective and efficient channel mix, other channels should be considered. In the previous section, chat was suggested as a possibly beneficial addition to the channel mix. Also, recently social networks and video communities are often mentioned in a customer service or web care setting (Bugter, 2012; Charton, 2012; Kooi, 2012; Salesforce.com, 2012; van Birgelen, Dellaert, & de Ruyter, 2012; Voert, 2012), so these will be explored here. Additional channels, currently explored by the company, include videos and status pages. This section explores the possibilities of these channels for support purposes.

Recently, much attention has been paid to service on social media. As more and more people become active users of online communities (Charton, 2012) and because these communities are designed for sharing, stories online have the potential to reach millions (Steel, 2010). Companies wanting to prevent negative exposure, or in an effort to better serve their clients, have developed so called web-care teams that constantly monitor and respond to messages on these communities (Bugter, 2012). However, it is unclear whether these communities are an alternative to existing helpdesks or more of a marketing tool.

For a social network to be interesting for a company, its (potential) clients need to be present. A list of the 10 biggest social networking websites includes many that are aimed at people of specific nationalities, mostly Chinese. These networks, and those aimed at teenagers, are ignored from here on,

as the researcher does not speak the language and the networks are not of interest to the company. This results in a list of four social networks; Facebook, Twitter, Google+, and LinkedIn, with a large user base in the Western world.

Next to these social networks, video websites are also used for support purposes. The most popular video website, YouTube (eBizMba, 2012), currently has over 4 billion views each day and about 18 million video's explaining various topics, including lock picking, moonwalking, and folding laundry (YouTube.com, 2012). Clearly videos are often used to explain things and could be a useful additional communication channel for a helpdesk.

Status pages are used to show whether a service is available. These pages can be useful to show information on planned repairs and downtime, so clients can inform themselves when a service is temporarily unavailable. This does require that information on downtime is kept up to date and presented online.

### **Chapter summary**

In this chapter, an answer was sought to the question:

- 1). *(a) What channels are currently used at TOPdesk to facilitate customer support, what is the (b) efficiency and (c) effectiveness of these channels, and (d) what channels are not currently used, but are promising in terms of customer satisfaction and efficiency?*

It was found that (a) telephone, e-mail, Self-Service Desk, forum, manuals, and a website are currently used to answer questions from clients. The website, manual, and forum are most efficient (b), while the Self-Service Desk is most effective (c). In general, telephone is the medium of choice for quick answers. E-mail and a Self-Service Desk can be used to solve text based problems, and a forum is useful for questions to other users. A Help & Support website, or a manual, is useful when questions can be predicted, but both require good search functionality.

Other channels that are currently not used, but are seen as promising for future customer support, are (d): chat, Facebook, Twitter, Google+, LinkedIn, YouTube, and a status page. The next chapter will focus on the channels currently used, and the clients' perception of the efficiency and effectiveness of these channels. The perceived technical and behavioral skill of the Support employees that respond will also be examined.

## Chapter 4: Operator skill and satisfaction with current channels

In the previous chapter, a list of currently used and potentially efficient or effective channels is presented. This chapter will focus on the currently used channels; analyzing clients' expectations when using these channels in terms of the technical and behavioral skill of support employees, and the expected efficiency and satisfaction of the answer. The chapter finishes with an analysis on the possible interaction between these, exploring whether perceived employee skill influences expected satisfaction.

This chapter intends to find an answer to the second research question:

- 2). *What is TOPdesk's clients' perception of the support department's staffs (a) technical- and (b) behavioral skill, what are TOPdesk's clients' expectations in terms of (c) efficiency and (d) satisfaction of the current support channels, and (e) how are these likely to influence each other?*

A survey was held among persons who have filed a question with the Support department in the last 12 months. The survey was available in Dutch and English and clients from all countries were invited to participate by e-mail. Despite some irregularities while sending the invitations, 10% of the invited 2468 clients responded (N= 264), which is higher than the expected 6%. The data from this customer survey will be used throughout this report and is referred to as the 2012 customer survey.

### Measuring skill

Describing a nation-wide survey of occupational variables, Hirsch (2005) describes measuring skill at a 45-item scale, including items for verbal aptitude, problem solving skills, mathematical skills, technical skills, and strength. Unlike with manufactured goods, in the services context, quality is determined by the process of engaging with customers (Ramasubbu et al., 2008b), shifting importance from skills like strength to verbal aptitude. An often used measurement scale of service quality, SERVQUAL, includes several constructs that measure the interpersonal verbal skills in more detail, including assurance and empathy.

When solving problems for customers, engagements require two types of skills: (1) skills associated with technology (technical skills), leading to more effective root-cause analyses and, eventually, finding a solution that meets customers' requirements. And (2) skills associated with social interactions (behavioral skills) which help the coordination of tasks, help get the right information from the customer, and thus lead to a more customized solution (Ramasubbu et al., 2008b). This distinction is important, as customers place a different emphasis on each, affecting their perception of quality (Driver & Johnston, 2001). In the 2001 study of Driver and Johnston, 31% of the respondents in a telephone call center setting valued behavioral skill over technical skill.

To compare performance, Holzer and Neumark (1998) and Coleman (2003) describe a scale for skill that asks employers to rate their employees' performance relative to the typical employee. This scale allows for a quick identification of over- and underperformers, and shows that a person's skill for a specific task can be measured in a single item. A single item scale is also used by Ramasubbu et al. (2008b), asking not for a comparison, but for a satisfaction rating with the skill of the employee. This question type does not require knowledge of the average employee skill and is therefore more suitable when judging a service that is not often experienced. The questions as they appeared in the survey are as follows:

Please indicate your satisfaction with the technical skills of the TOPdesk Support employees you communicate with when using this channel (1 = very low skills, 10 = very high skills).

Please indicate your satisfaction with the behavioral skills of the TOPdesk Support employees you communicate through by this channel (1 = very low skills, 10 = very high skills).

## Technical and behavioural skill

Figure 5 shows the technical and behavioral skill scores customers gave for the current communication channels. The graph shows the employee's technical skill for each channel being rated higher than the behavioral skill. Also, for both skill types the channel order; Telephone, Self-Service Desk, E-mail, and Forum, is the same. Overall, the scores differ little, with only an 8% difference between the highest (7.9 for telephone technical skill) and lowest (7.4 for forum behavioral skill) score.

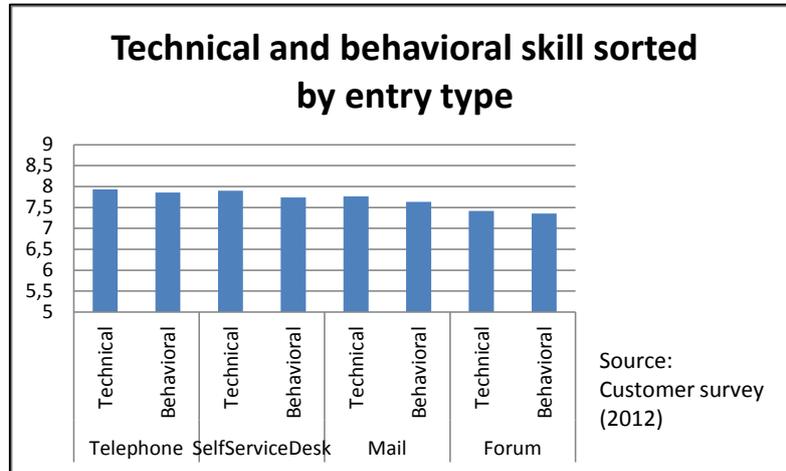


Figure 5: Technical and behavioral skill score sorted by entry type

The small difference in skill type across channels found in the survey corresponds to the way the companies Support department is organized. All calls, regardless of the channel, are gathered in one pool and operators select the question they wish to answer, based on the time the question is logged, their personal skills, and preference. Exceptions are the telephone, where operators don't know the question before answering, and the forum, where not all operators are present.

These scores are slightly lower than the mean technical skill (8.16) and behavioral skill (8.28) found by Ramasubbu et al. (2008b) when studying skill perceptions at a software vendor in the United States. However, this difference may be due to regional differences in skill appreciation. A comparison between respondent countries shows higher scores for responses from outside the Netherlands. There were only nine English responses, so no further comparison of the results was made, but the difference does mandate further study.

Comparing the results to the answers of a similar survey question from a 2008 customer satisfaction survey, a clear difference appears. In 2008 the behavioral skills were appreciated more than the technical skills of the Support employees, which now is the other way around. Though the results cannot be compared directly due to different scales, the level of behavioral skill appears consistent. This would suggest that the department has, in the eyes of the customer, made a big improvement on the technical skill of employees.

A paired-samples t-test was conducted to evaluate the difference between the current technical (T) and behavioral (B) skill for each channel. There was a statistically significant ( $p < 0.05$ ) difference between the technical and the behavioral skill for E-mail and the Self-Service Desk, showing the observed difference in skill level is unlikely to be coincidental. T-test scores, as well as the mean and standard deviation for each pair are shown in Appendix C.

The observed significant difference, despite the small difference in means, is not surprising due to the large sample (Pallant, 2007). However, the effect of these differences, classified according to the eta squared from Cohen (1988) is small (for telephone, mail, and forum) to moderate (for the SSD). From this, it can be concluded that there is little statistical evidence supporting a difference between the perceived technical and behavioral skill of the support staff for each of the communication channels.

## Measuring expected efficiency

In chapter three it was described that in a Support context, measuring efficiency is done by measuring the time spent on solving a call. However, as no data on the actual time spent is available, more information on the expected efficiency of channels would benefit the research. The first chapter showed that in information retrieval it is important to find the right document as the first result of a query.

The percentage of incidents that is solved in the first reply, also known as First Time Resolution, or FTR, is described as an indicator of efficient Support. A question solved in the first reply has to be read only once, while all subsequent communication requires the operator to review previous information, thus increasing the amount of work that needs to be done.

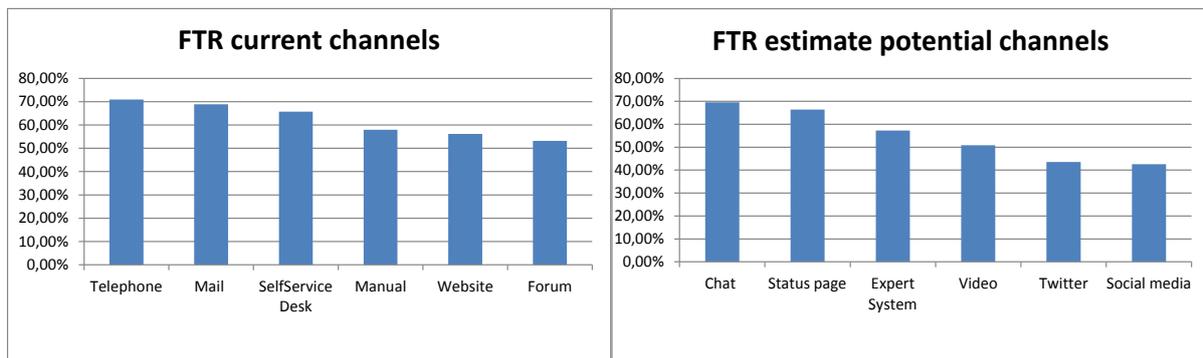
Many studies indicate the importance of FTR as a call center performance indicator, yet all studies found describing this indicator, used databases in which the numbers of responses needed to resolve a call were logged (Chen et al., 2011; Cheong et al., 2008; Feinberg et al., 2000). Consequently, none of these studies includes a (survey) question to determine the FTR percentage. To get an indication of the FTR percentage, the following question was included in the survey:

Please indicate the percentage of your contact with TOPdesk Support through this channel that led to a resolution of your problem on the first response.

If you have not had contact with TOPdesk Support through this channel, please indicate the percentage of questions you expect to be answered by the first response when using this channel.

### ***Expected channel efficiency***

Figure 6 represents the reported FTR for current channels and estimated FTR for the potential channels included in the survey. The results show the highest scores for channels with direct feedback; telephone (71%) and chat (70%). This means that clients expect 71% of the questions they ask using the telephone to be answered in the first response. The graph also shows expectations of potential channels dropping below the lowest scoring current channel, indicating Twitter (44%) and Social media (43%) are not deemed very efficient.



**Figure 6.1 and 6.2: Average expected percentage of calls resolved in the first response for current channels (left) and potential new channels (right). Source: customer survey (2012)**

The FTR score for telephone calls is at the Dutch industry average for in house call centers reported by Bor (2011), despite it being more difficult to achieve the same levels of customer satisfaction in a B2B setting. However, the results are below the mean FTR rates reported by Cheong et al. (2008) (77% to 85.2%, depending on the country) and Feinberg et al. (2000) (77%). These studies used automatic measuring of FTR rates, which may account for some difference, but even so, these results indicate there is room for improvement. For the other communication channels, no data on FTR rates could be found.

### ***Interaction between skill and satisfaction***

In chapter one it was described that research indicates customer satisfaction is influenced by technical- and behavioral skills of the support staff. The information on customer satisfaction from chapter three can be combined with the information on employee skills to verify this relation. Although the reported skill levels across channels vary little, and the satisfaction scores for the communication channels are quite similar, a correlation between skill and satisfaction can be calculated for each separate channel. The correlation is calculated for the effect of technical skill on satisfaction and behavioral skill on satisfaction, for the channels that provide direct interaction: Telephone, E-mail, Forum, and the SSD. The calculations are presented in appendix D.

The results show that there is a large positive correlation between the technical- and behavioral skill types and satisfaction for each channel. So a higher employee skill level leads to clients being more satisfied. This is in line with earlier research and stands to reason as customers likely see a satisfactory answer as the result of Support employees having the right knowledge and people skills.

Looking at what influences satisfaction most, the largest coefficient of determination is found for technical skill at the SSD, closely followed by e-mail. So, for written communication, the skill of the employees largely predicts whether the client will be satisfied. For answers given using telephone and the forum there still is a large correlation between skill and satisfaction, but here the determination coefficients are lower: Factors other than the employee skill have a larger influence here.

The results indicate that companies attempting to increase satisfaction should invest in the technical skills of employees answering questions by e-mail and SSD, as this increases satisfaction most. Behavioral skills for these channels should be next, as these have only a slightly lower coefficient of determination. All increases in employee skill are likely to result in increased client satisfaction.

### **Chapter summary**

The purpose of this chapter was to find an answer to the second research question:

- 2). *What is TOPdesk's clients' perception of the support department's staffs (a) technical- and (b) behavioral skill, what are TOPdesk's clients' expectations in terms of (c) efficiency and (d) satisfaction of the current support channels, and (e) how are these likely to influence each other?*

It was found that both technical (a) and behavioral (b) skills were high, but that the behavioral skills were slightly lower than the technical skills. Clients do not see channels without personal contact as efficient (c), as the First Time Resolution (FTR) scores for these channels are much lower than those of channels with personal contact. Personal contact is also associated with high satisfaction rates (d), which are largely influenced by the skills of the operator (e) that clients correspond with.

With little difference in the satisfaction scores for each channel, one could argue that when pursuing efficiency, a safe choice can be made simply offering only the most efficient channel, reducing the effort for both the operator and the client. However, this is probably not the case as chapter three showed that efficiency varies by question type, and some questions cannot be answered using only one channel. Also, satisfaction levels for individual customers vary within channels and the open answers for several channels suggest clients value the option to choose the channel that, in their opinion, fits the needs of their question. However, clients might still be guided when choosing a channel for their question.

Channels that require personal effort from a Support operator; Telephone, E-mail, and SSD, have the highest percentages of questions answered in the first response. These channels might not be efficient in the way that they answer many questions at once or prevent questions from reaching Support employees, like a website and manual can, but they decrease the number of contact moments. The correlation between technical- and behavioral skill and satisfaction levels for each channel shows that an increase in employee technical skills benefits the satisfaction most. This indicates that training employees increases satisfaction scores.

The FTR rates of the forum, manual, and website may be below average, but an answer using these channels also requires little to no effort of the Support operator. This would make these channels ideal for an efficient helpdesk. However, the lower satisfaction rates of these channels suggest customers see them as less effective, and open answers to the survey repetitively mention the lack of a good way to find the desired information. The next chapter will focus more on the possible causes of (dis-)satisfaction with communication channels.

The forum, manual, and website have only slightly lower satisfaction ratings than the channels that require personal effort, so companies that do not pursue maximum satisfaction should promote the use of these channels. The next chapter aims to find what properties of the current channels are valued by customers, giving an indication of what can be done to increase channel use and customer satisfaction. The chapter also focuses on promising new channels that might mitigate the shortcomings of current channels.

## Chapter 5: Needs, wants, and concerns for each channel

The currently used communication channels were described in chapter 3 as being: Telephone, Self-Service Desk, E-mail, Manuals, the Help & Support website, and a Forum. Of these channels, telephone and e-mail are reported by clients to be used the most. At the end of that chapter, other channels that are currently not used, but are seen as promising for future customer support, are identified as: Chat, Facebook, Twitter, Google+, LinkedIn, YouTube, and a status page.

This chapter will examine the usage of those channels, identifying the needs, wants, and concerns customers have with receiving support via these new channels, and the current channels. The chapter concludes with a summary which shows the channels that are a good addition to the channels currently offered. In other words, this chapter aims to answer research question three:

- (a) What communication channels do TOPdesk's clients commonly use, what are their (b) needs, (c) wants and (d) concerns with regard to receiving support using these channels, and (e) are these channels congruent with the channels used at TOPdesk to support its clients?

### Use of promising new channels

Respondents to the survey were asked about their usage of all the above mentioned channels. For the current channels, clients were asked about their use, but also their contact with the company. For the channels seen as a promising addition to the current channels, only the question regarding use for general support purposes was included to assess their usefulness and allow some comparison between channels. The survey question and its source can be found in chapter three or appendix A. Responses for the potential new channels are shown in Figure 7:

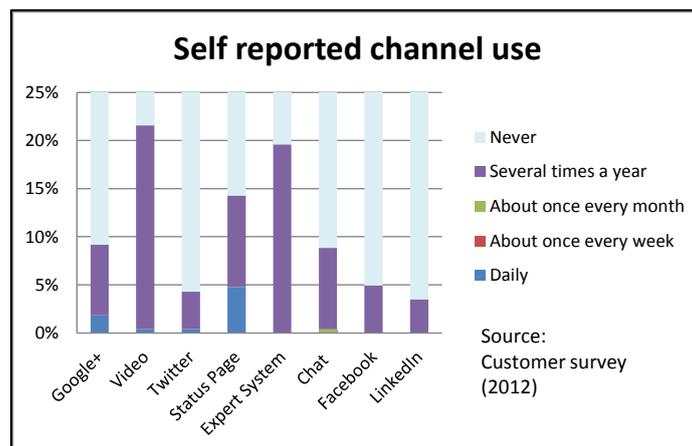


Figure 7: Reported channel use for answering general questions using promising new channels

Comparing the reported channel usage for promising new channels to that of the current channels, it is clear that the latter are used less often than the channels currently offered. Google+ is the only channel that is reported to be used daily by more than one client. Video websites and Expert systems are used by many clients, but not very often. Twitter and Chat are used more often, but not by nearly as many clients as the current channels.

The difference between the reported use of Google+, Facebook, and LinkedIn is interesting, as Facebook currently has many more users than Google+. A possible explanation could be that Google+ is used by some companies as an internal social network (Kooi, 2012), so respondents could be familiar with using it to get questions answered. However, it is interesting to investigate this difference in more detail.

When asking people, who for their daily jobs need to use a specific set of communication channels, about their use of other channels, it is to be expected that these other channels are reported to be used less often. It is however interesting to see how often these channels are used compared to each other. The next part of this chapter will focus on reasons behind channel usage by examining the needs, wants, and concerns respondents have with regard to each communication channel.

### ***Measuring needs, wants and concerns***

To get more information on the usage of the different channels, questions were included in the survey to examine what qualities a communication channel needs to have for it to be interesting for support purposes (needs), what qualities need to be improved for a channel to be more interesting (wants), and what qualities reduce the use of the channel (concerns). In chapter four it was shown that including these questions is a good way to find an explanation for customers' channel choice.

Wang (2012) uses a single question for each of the aspects (needs, wants, and concerns) in a survey regarding the use of self-service technology in a supermarket checkout setting. The questions, though intended for an interview, can be adapted for use in an internet based survey, by adding multiple choice answer options for the most anticipated answers and providing the option to include other answers. To further reduce the number of questions, channel needs and concerns are combined into one question, asking respondents to rank channel qualities from most to least desired:

Please sort the channel qualities below according to your appreciation of these properties.  
The quality you appreciate most should be at the top, the quality you appreciate least should be at the bottom of the list. (Needs and concerns)

Which conditions would lead you to use the channel more often? (Wants)

It was not possible to compare the survey results to the study used as a source for the question, as an interview was used instead of a survey. The resulting qualitative data cannot be compared to the quantitative data in this study.

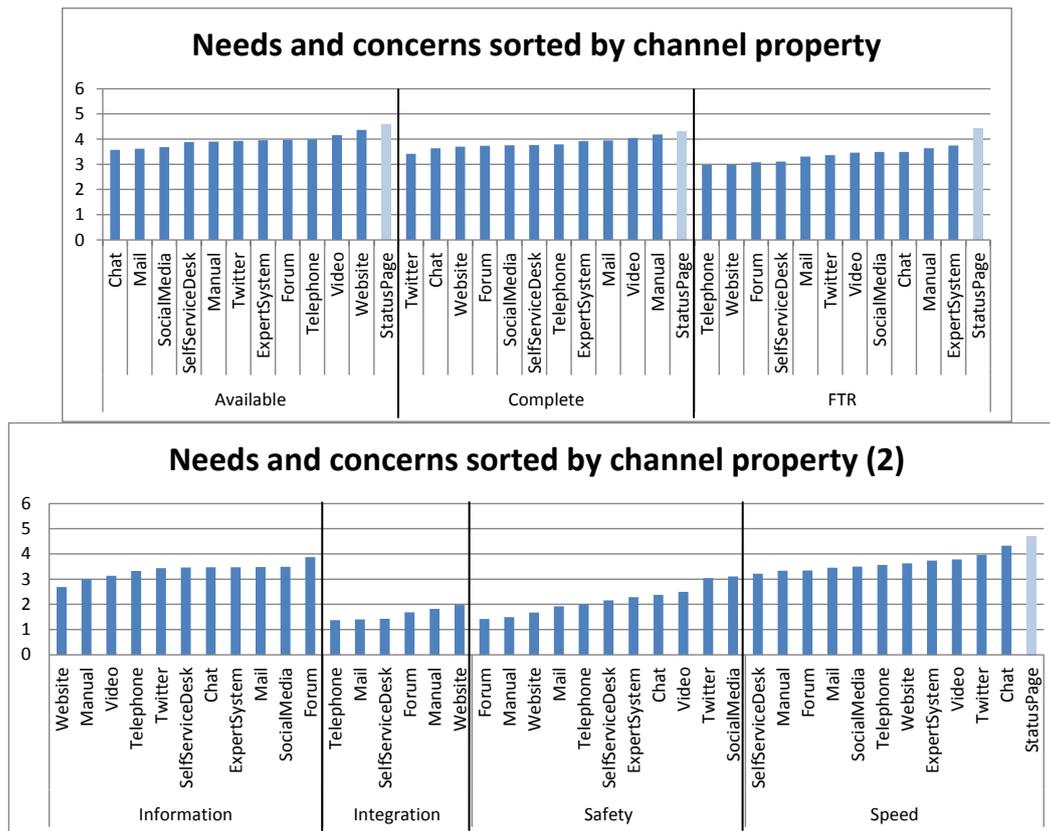
### ***Needs and concerns for current and promising new channels***

A list of channel properties was selected from properties with several mentions in research examined in the first chapter. The selected properties, and their meaning as presented in the survey, are as follows:

<b>The availability of the channel:</b>	The times at which the channel is available. Opening times for a telephone helpdesk, uptime for a website, etc.
<b>The speed of the response:</b>	How fast you get an initial answer when using this channel
<b>The right answer in the first response:</b>	Whether your question was answered in the first response or the first result found when searching, or whether several attempts are necessary.
<b>The completeness of the answer:</b>	If the response is enough on its own, or that more information or knowledge is needed.
<b>The ability to provide necessary information:</b>	Is it possible to provide all information the helpdesk needs to answer your question when using this channel?
<b>The safety of (company) data:</b>	Are your information, files, and contact details safe from others?
<b>The integration with TOPdesk:</b>	Are questions and answers smoothly integrated in TOPdesk, or is a work-around required?

Respondents were asked to rank the properties, and a space to provide additional comments was provided. To prevent the default order of the answers from influencing the results, the answers were shown in a random order for each channel and for each respondent. As no additional property was suggested in the open answers, it can be concluded that the list of properties served the purpose of the research. Respondents did mention difficulties in ranking the safety of company data with regard to other channels. The results are presented in Figure 8, sorted by channel property.

In the analysis, channel properties were ranked against each other. For most channels, seven properties were available which is represented by a scale of 0 to 6. A property scoring higher is deemed more important to clients, but the difference in values has no particular meaning (ordinal scale). For the channels that are currently not supported in the product, the question regarding the integration with the product was omitted.



**Figure 8.1 and 8.2: Needs and concerns scores from the 2012 customer survey, sorted by channel property. Higher scoring properties are more appreciated by clients.**

From the graphs, it is interesting to see that the properties are ranked similar across channels: a property that is ranked high on one channel is ranked high on every other channel, and the same holds for properties ranked low. Figure 8 shows that availability and completeness of the answer rank high across channels. These are the main factors promoting the use of current channels. Integration with the software and the safety of company data are ranked very low. These could be concerns of clients with the current situation, or aspects of the communication that clients care little about. Answers to the question regarding what should be improved might shed a light on this.

For the promising new channels the same properties still rank high, but for Chat, Twitter, and Status pages, the speed of the response is ranked first. This indicates the expectation that the use of these channels will result in a quick response. The status page is presented in a separate color as there were few responses about the needs and concerns for this channel.

**Implications of the needs and concerns for current channels**

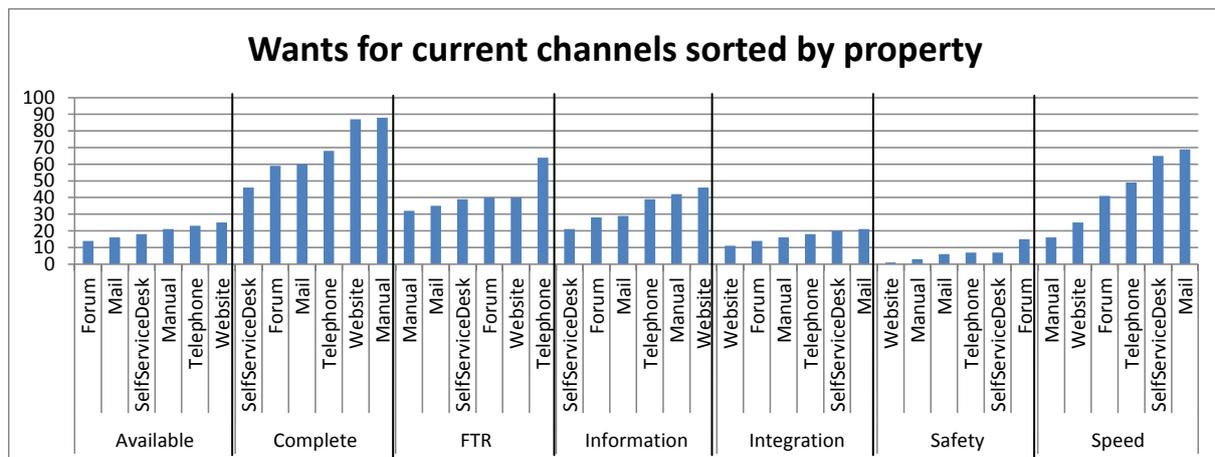
As the score for each property is quite similar across channels, it is unlikely that these channel properties explain the differences in use, satisfaction, and perceived FTR that were found earlier in this research. Wang et al. (2012) suggests a difference in channel use should be sought in previous experiences with, and perceived complexity of, the channel. However, if satisfaction rates of previous service encounters are a good indicator of the previous experience, the experience differs little between channels.

Perceived complexity, the other indicator Wang et al. (2012) found for different channel usage, is not measured in the survey. This is something that could be included in future research to improve the understanding of channel use. Contrary to the first experience, which is hard to pinpoint because this is not registered, the perceived complexity can be managed relatively easy by, for instance, clearly presenting the alternatives (Huffman, 1998).

Whether a property that is little appreciated should be improved, or just brought to clients' attention is a matter of what clients want from the property. For instance, if clients rank the safety of company data using a channel as a concern, it could either mean they do not care much for the safety of company data using that channel, or they see the channel as unsafe. In the second case, safety is likely to be mentioned when asking clients about their wants for that channel. This is investigated next.

## Wants for current channels

Next to the needs and concerns, a question was included to discover the wants of clients for the currently used channels. The question is intended to find what properties of communication channels should be improved for clients to use them more often, and to distinguish between concerns that clients do not care for from those that should be improved. The results, grouped by property, are:



**Figure 9: Number of clients requesting a property to be improved, sorted by property (Customer survey, 2012)**

The graph shows the safety of company data being ranked low for each channel, suggesting clients do not experience this as a problem at this time. The completeness of the answer is ranked high for all channels, indicating a possible point of improvement. This indication is strongest for both the website and the manuals, where the gap with the second most requested property is the largest. Also, for several channels the speed of the response is ranked high. For E-mail and the Self-Service Desk a speedier response is requested more often than any other property.

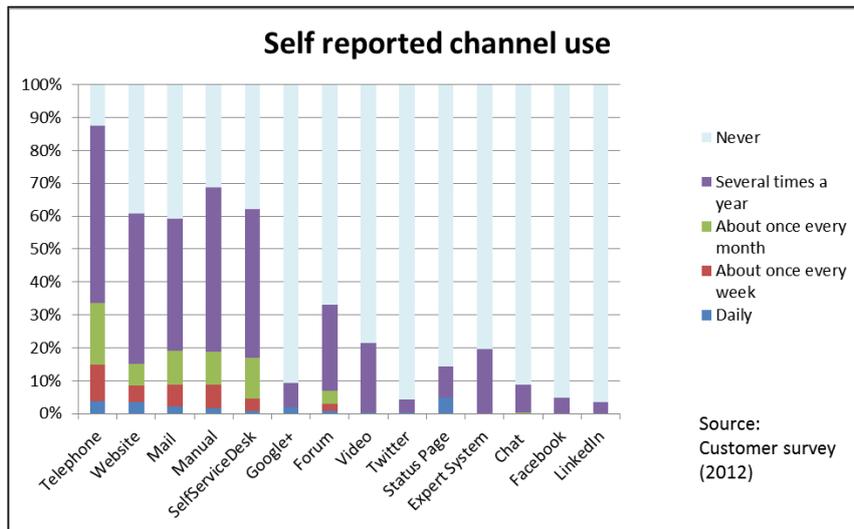
Comparing these results to the needs and concerns for each channel paints a confusing picture at first sight: Properties that are appreciated least for each channel are ranked lowest when respondents are asked what properties should be improved, and properties that are appreciated are also mentioned as possible improvements most often. Probably, clients simply don't care that much about some properties when dealing with specific incidents, explaining the low score. The high ranking properties are seen as so important that they might be good, but are still requested to improve.

For one of the properties in the survey, the speed of the response, measurements from the call registration tool are also available, providing an opportunity to compare the needs to the actual situation for several channels. The actual response times, shown in Figure 3 in chapter three, are from fast to slow: telephone, e-mail, and the Self-Service Desk (SSD). This is in line with the survey results, where the speed of the response for the telephone is mentioned less often than for e-mail and the SSD.

## Channel properties and usage

Combining the data on the current channel use and the potential new channels into one graph, an overview of the channels used by clients is obtained. This overview, in Figure 10 shows the answers to the question 'Have you used (the channel) to get a question answered during the past year, for business or personal use?' sorted by the total number of contact moments each year.

The responses on channel usage indicate that the channels currently offered are also used most by clients. The only exception being the forum, that is used less than Google+. It was stated earlier that Google+ is used often as a company knowledge sharing platform, which might be why Google+ is used more often for answering questions than similar social networking websites that have more users. In the graph, status pages appear to be used daily by many customers, but few customers answered the questions regarding this channel, for which the order in the graph is controlled. The results not only indicate the current channels being congruent with the channels used by customers, but also show that social networks may have many users, but are not necessarily used often to answer questions.



**Figure 10: Percentage of clients reported to use each channel**

### Chapter summary

In this chapter, answers were found to the third research question:

- 3). (a) What communication channels do TOPdesk's clients commonly use, what are their (b) needs, (c) wants and (d) concerns with regard to receiving support using these channels, and (e) are these channels congruent with the channels used at TOPdesk to support its clients?

The respondents to the survey regularly use (a) the channels currently offered, with the exception of the forum. They need (b) complete answers and available channels, want (c) complete and speedy answers, and are not concerned (d) with the safety of their data and integration with the tool when answering questions. As the most used channels are also the channels offered the current offer is congruent (e) with clients' expectations.

The fact that clients often use the channels currently offered for Support to get questions answered is not surprising as they are directed to these channels during their job and have experience in using the channels. More interesting is that respondents seem to put little value on safety and integration, despite safety being a hot topic in the news lately and integration being one of the main reasons to use a call registration tool. These are probably issues that are deemed important only when confronted with a situation where the properties are not present.

The potential new channels may not be used as often as the current channels to get a question answered, but Chat, Twitter, and Status page do have a high rank for the expected speed of the response. Chat and Status pages also have a high expected FTR rate, so these should be interesting additions to the current channels. Certainly if the usage is so strongly linked to the channels currently offered as the results indicate, the use of these channels is likely to increase when presented as an alternative.

The next chapter summarizes the results from the previous chapters, analyzing channels on effectiveness and efficiency. Implications for implementing new channels are described, as well as strategies to manage the current channels and the implications of a switch in strategy.

## Chapter 6: Increasing efficiency without reducing effectiveness

This chapter aims to answer the fourth and final research question:

4. *(a) What implementation steps are needed for the support department to increase efficiency and meet its customers channel use expectations, without decreasing customer satisfaction, (b) and what are the main barriers for implementing more efficient and more effective customer support channels?*

To answer this question, the current situation will be described in terms of efficiency and effectiveness. Then, alternatives to increase efficiency are presented and their impact on satisfaction, or effectiveness, is discussed. A list of possible improvements is obtained from comparing the current situation to research results, and the barriers that can be expected when implementing the changes are discussed.

### **Current situation**

The support currently offered is mostly directed at effectiveness. Support employees often go beyond their normal task in providing the customer with a satisfactory answer, for instance by researching the details of other software packages and their interaction with the product. Clients are directed to the telephone because this channel has the highest satisfaction rates and provides the client with an answer fastest.

To keep the callers from waiting before they get to speak an operator, operators are assigned to groups that are responsible for either answering the phone directly, or researching difficult questions and answering the phone only when the first group didn't do so after several seconds. The result is an average answer time of 9 seconds, while the industry average is 4 minutes (Bor, 2011).

On the phone, clients are not often directed to a manual, website, or forum page, as the information these channels offer often covers basic functionalities and clients calling generally want information regarding interactions between settings or software. Another thing decreasing the use of these channels is that clients are required to log in to use the SSD and cannot reach the Help & Support website directly from any other place than the company software to prevent this information from becoming public knowledge.

Other efficient channels, like the Self-Service Desk, are used and promoted, but questions logged using these channels are answered by the team assigned to picking up the phone, so working on these questions is a second priority. All in all there is a clear focus on effectiveness that might lead to some efficient channels being used less often.

### **Increasing efficiency**

To increase the efficiency, clients should be directed to a channel where answers are given the fastest, can be repeated, and where reaching this answer costs as little effort of a Support employee as possible. But clients should also use a channel that is suitable for their specific question and shouldn't be directed to a channel they do not wish to use, or that leads them to be generally less satisfied with the answer. It is possible to increase efficiency by decreasing the number of telephone operators, but this is likely to decrease satisfaction to such levels that contracts might not be renewed. So a balance must be found where clients willingly choose an efficient channel and are satisfied with their choice.

Based on actual duration of incidents, telephone and e-mail lead to clients having their questions answered fastest. However, these channels also require a lot of time from an operator as the client gets a personalized answer. From an efficiency point of view, questions should either be solved by the client finding the information on its own, for instance by using the website, or a question should be logged using the SSD and answered using e-mail, as this often leads to a complete response that can easily be copied when another client has a similar question.

For the promising new channels, Chat, Twitter, and Status pages are seen as likely to result in a quick response. From these channels, Chat and Status pages have the highest expected First Time Resolution (FTR) rate, meaning clients not only expect responses to be quick, but also expect to receive all the information they need in the first response. Status pages have limited applicability, as most of the company's clients host their own software and the responsibility for the accessibility of the software lies within the client company. These pages can be useful to inform clients who use the Software as a Service (SaaS) solution if this service is unavailable for some reason.

## Efficiency and satisfaction

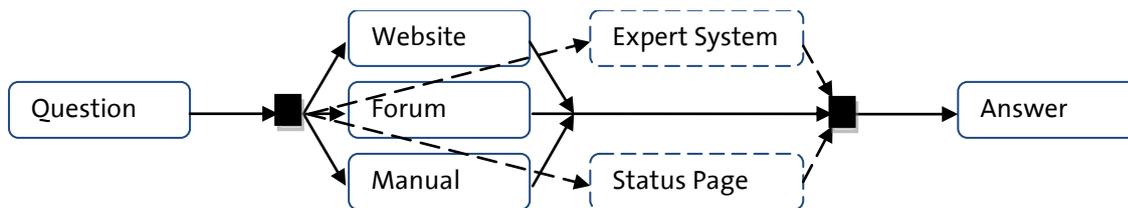
The aim of this research is to find the most efficient way of answering clients' questions without decreasing customer satisfaction. As many combinations of communication channels are possible to get from a question to an answer, several options are depicted and described here to clarify the options and discuss the implications.

**Figure 11: Representation of the current situation at Support. (Logged call statistics)**



Currently most clients use the telephone to directly contact a Support employee and get their question answered. The client gets its question answered quickly, but the situation is not very efficient as many answers have to be repeated to several clients.

**Figure 12: Representation of the most efficient situation at Support. (Employee brainstorm)**



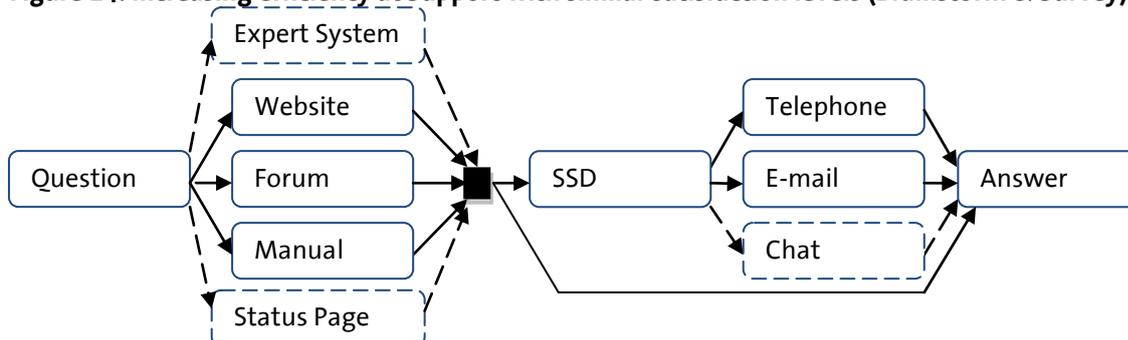
It would be most efficient if clients used a channel that requires no interaction with a Support employee to get their question answered. This way, Support could focus on keeping documentation up to date and clients could find the information they need at the time they need it. However, for this to work the documentation should be improved to keep clients satisfied and information should be easier to find. Also, this model is unlikely to work for all questions, as some are so specific they cannot be covered by generic documentation.

**Figure 13: Representation of the most satisfying situation at Support. (Survey responses)**



The SSD has the highest satisfaction rate, which in itself is a reason to try and persuade more clients to use this. Another advantage of clients using the SSD is that it saves time for Support employees as they do not have to register the question and clients are pressed to provide relevant information. Drawbacks of the SSD are that currently calls are not prioritized, which may lead to important questions being answered late, and that clients are required to log in.

**Figure 14: Increasing efficiency at Support with similar satisfaction levels (Brainstorm & Survey)**



As stated before, the most efficient process of answering a question would be for clients to first search for an answer themselves on all available information sources. Then, if no answer is found, a question should be logged using the Self-Service Desk (SSD). The question can be answered using telephone, e-mail or chat when this becomes available. Chat, status pages and an expert system have similar expected First Time Resolution rates as current channels and also allow for answering repeat questions.

However, clients are unlikely to use all information sources in the current situation, as these are seen as having a low FTR and have a low satisfaction rate. The next part of this chapter will suggest ways to improve on this situation.

## ***Requirements for more efficient support***

As the company aims to increase efficiency without decreasing satisfaction, many of the options to increase efficiency can be ignored as encouraging clients to use channels that have a lower satisfaction rating is out of the question. The remaining possibilities are to either shift channel use to the channel with the highest satisfaction, or increase the satisfaction of more efficient channels.

The channel with the highest satisfaction is the SSD. The use of this channel is high compared to other companies, but when clients are asked what properties they appreciate, the channel is ranked lowest of all channels on the speed of the response. Employee skills are ranked very close to the top ranking channel, and the same is true for the FTR rate. Taking this all into account, the speed of the response to clients using the SSD should be the primary focus. As increasing the use of this channel decreases the workload for Support and increases customer satisfaction.

Currently, operators working on calls logged via the SSD have to suspend their work to pick up the phone, resulting in higher processing times for the SSD. Operators start answering a question and get distracted, so the response is postponed. A separate group of employees answering just questions logged using the SSD should increase the answer speed, and thus the efficiency of the department.

Another possibility to increase the efficiency without decreasing the effectiveness is by increasing the satisfaction of clients using the current efficient channels. This is likely to attract more clients to these channels, thus achieving an increased efficiency. Based on the FTR, telephone and e-mail are most efficient. However, the most effective channel (telephone) is only efficient in the way that little contact is needed after the first response. It prevents a similar question from the same client, but does not solve it for other clients, nor makes it easier to provide an answer the second time.

To get a real boost in efficiency, the possibilities of e-mail, forum, manuals, and a website, and possible additional channels like an expert system, status pages, video and social media, to repeat similar information at almost no expense of time for the operator should be put to more use. However, clients comment that they cannot find the information they need using the forum, manual, or website, and from participatory observations at the Support department it seems that the search function is most often used when searching for exact error messages instead of similar questions. In the open answers to the survey, clients mention being unable to find the information they need using these channels.

Clients also mention that some channels in the survey are unknown to them. The forum is used by only a third of the respondents in the survey, and even those seem not to use it that often. This is an opportunity for improvement, because if these channels are unknown to clients, they will not start using the channel. At the forum this is especially important as clients can use this to answer each other's questions, further reducing the need for Support operators to do this.

If a new search engine was developed that would find results that are more meaningful to clients and presents results from all available channels after a single search, this would increase efficiency in many ways: Clients become more knowledgeable of the information that can be found using a channel, clients and operators will use the efficient channels more often as each search uses all channels, and an answer will be found more often by the client, decreasing the work for Support employees.

In the previous section of this chapter, many ways to increase efficiency were discussed. Some were dismissed beforehand as they are likely to decrease satisfaction with current channels, but two options remain: assigning employees to only answer questions logged using the SSD, and creating a search function that combines results from several channels. The next part of this chapter will discuss what needs to be done to implement these requirements and whether any resistance is to be expected when implementing the described changes.

## ***Barriers when implementing change***

With any change, resistance is to be expected from those whose job is about to change or who stand to lose power or autonomy (Hayes, 2007). This requires those implementing change to consider the consequences for the affected stakeholders. When the work at a Support department changes resistance is to be expected from operators, clients, and other departments affected by the change. Here, the implications for both proposed measures and for each of these groups are described.

### **Dedicated SSD operators**

The assigning of one or more operators dedicated to answering questions logged using the SSD should provoke little resistance from clients, operators, or the other departments: The other departments

should notice little of the change and clients will notice their questions being answered faster when they use the SSD. Clients using other channels may experience delayed service, as operators are assigned to the SSD, but this is the goal of this change. Clients' resistance can be reduced by gradually introducing the change, pointing clients to the SSD when they use other channels, and by decreasing the effort it takes to use the SSD, for instance by making it easier to log in.

Operators are already answering questions logged using the SSD, and won't be disturbed while doing so, making this change an improvement in their situation. However, operators may like the variety of answering questions from different channels or the personal contact telephone offers them. These operators could be offered to continue working on answering phone calls, creating a gradual shift, and can choose to answer questions that require the telephone to give a complete answer. An additional incentive for operators to answer SSD questions is that these do not require the operator to register the question, enabling them to answer more questions.

### **Search portal**

The realization of a search portal that combines information from several sources is a different matter as this requires changes in the daily work of clients and operators, and impacts other departments. Clients need to start to use the new search portal, and are likely to have questions about this, creating extra work for the Support department. Operators need to direct clients to another place when they require documents or answers, and the portal needs to be built and promoted by other departments.

To minimize changes for clients they should be sent to the new search page every time they use one of the current search functions, forwarding the query to the new search page so no extra effort is required. To get clients to use the tool they should be convinced of its value, by showing them the tool presents more meaningful answers, with less effort, and ideally, allows them to forward their question to Support with little extra effort when no answer is found.

Operators currently have several information sources, including the application used to register calls, network folders, and up to 16 other applications (Vijftigschild, 2012) that are used. Including them all into one tool would take long to develop and could become too complicated, but for a new search function to be used it should at least outperform one of the current applications. To get operators to use the new tool, it should completely replace one of the currently used tools. Operators should be made aware of the value of the tool by presenting its advantages and potential in decreasing future work. A decrease in work for the operators could also be seen as a threat, as this might cost jobs. However, with the current growth of the department this isn't really an issue.

Other departments are also affected when the search function changes. The sales department currently requests that no bugs in the software are public knowledge, so bugs in the software cannot be discussed on public pages, requiring users of the community and the extranet to log in before being able to view their information. This policy doesn't have to change, but that would require logon credentials to be forwarded to the new search page when a client searches after logging in. The development of the search function should keep this policy in mind and communicate clearly about how private information is kept private.

As the creation of a search portal is a big change that affects a large part of the company, Support should not be the only department benefitting from its development. If the tool is included in the company's product, the company's clients also benefit from the tool. This way, the company can recoup development costs, and building the tool for clients as well as getting them to use it, ensures quality and continuous improvement. For this to happen however, TOPdesks management must be convinced of the possibilities and added value for both the company and its clients. Possibly, this report serves as a first step in achieving this.

### ***Changing communication channels***

Much has been said about attempting to get clients to change the communication channel they use. Some channels require more effort from Support employees and some channels have higher satisfaction scores, all possible reasons to get clients to change. Here, channels are listed based on the amount of detail contained in the information, also known as information richness, and for each channel the possibilities to get clients to change to a higher and lower channel are presented. Note that the difference in information richness between channels is based solely on the personal experience of the author and that the order of channels does not specify the degree of difference between channels' information richness (ordinal scale).

Channel name	Short description	To a higher channel	To a lower channel
<b>Telephone or chat with video software</b>	Other channel combined with software to transmit video, to see what the caller sees.	<ul style="list-style-type: none"> <li>• Consultancy</li> <li>• Premium support</li> </ul>	<ul style="list-style-type: none"> <li>• Ask to check certain steps or settings first.</li> <li>• Show where to find information</li> </ul>
<b>Telephone</b>	A telecommunications device that transmits and receives sounds.	<ul style="list-style-type: none"> <li>• Start video connection</li> <li>• Refer implementation issues to consultancy</li> </ul>	<ul style="list-style-type: none"> <li>• Ask to use SSD</li> <li>• Introduce wait time or prerecorded messages</li> <li>• Don't help clients with certain questions</li> </ul>
<b>Chat</b>	A real-time direct transmission of text-based messages from sender to receiver.	<ul style="list-style-type: none"> <li>• Start video connection</li> <li>• Call client (back)</li> </ul>	<ul style="list-style-type: none"> <li>• Start chat with search results for question</li> <li>• Display 'no available operators'</li> </ul>
<b>Self-Service Desk (SSD)</b>	A structured form to gather information related to a question, and a possibility to review previous questions. Replies are made using another channel.	<ul style="list-style-type: none"> <li>• Display message to call in case of emergency</li> <li>• Display message: "an operator is currently available to chat about this question"</li> </ul>	<ul style="list-style-type: none"> <li>• Require users to log in</li> <li>• Automatically search other channels for an answer and display results.</li> <li>• List other available channels and their benefits</li> </ul>
<b>E-mail</b>	A method of exchanging digital text messages and electronic documents.	<ul style="list-style-type: none"> <li>• Link to SSD in replies</li> <li>• Call to give answer</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to other information sources in answer</li> </ul>
<b>Social Media &amp; Twitter</b>	Online services that focus on facilitating social relations among people.	<ul style="list-style-type: none"> <li>• Call or mail client</li> <li>• Create SSD call from question</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to video, website or manuals in answer</li> </ul>
<b>Expert system</b>	A computer system designed to emulate the decision-making ability of a human expert.	<ul style="list-style-type: none"> <li>• Provide option to create SSD call from question</li> </ul>	<ul style="list-style-type: none"> <li>• Show possible answers from forum, video, website or manual</li> </ul>
<b>Forum</b>	An online discussion site where clients can hold conversations in the form of posted messages.	<ul style="list-style-type: none"> <li>• Reply as Support employee</li> <li>• Create SSD call from question</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to video, website or manual</li> </ul>
<b>Video</b>	A sequence of still images representing scenes in motion. In a support context, videos are used to show a series of actions.	<ul style="list-style-type: none"> <li>• Enable and reply to responses</li> <li>• Ask to log a SSD call if things don't work</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to manuals or manual pages for more information</li> </ul>
<b>(Help &amp; Support) Website</b>	A set of related pages on the internet where clients can search and find manuals, quick start guides and Frequently Asked Questions.	<ul style="list-style-type: none"> <li>• Enable and reply to responses</li> <li>• Include other media, like video, in website</li> </ul>	<ul style="list-style-type: none"> <li>• Post manuals online</li> <li>• Refer to status page for up-to-date information on uptime</li> </ul>
<b>Manual</b>	A document intended to give assistance to people using a particular system.	<ul style="list-style-type: none"> <li>• Tell clients more (up-to-date) information is available online</li> </ul>	<ul style="list-style-type: none"> <li>• List other manuals</li> <li>• Refer to status page as up-to-date information source</li> </ul>
<b>Status Page</b>	A website that shows information on the availability of other web services.	<ul style="list-style-type: none"> <li>• Refer clients to documentation or SSD when their problem remains unsolved</li> </ul>	N/A

### ***Implications for management***

This chapter aimed to answer the final research sub question:

- 4). *(a) What implementation steps are needed for the support department to increase efficiency and meet its customers channel use expectations, without decreasing customer satisfaction, (b) and what are the main barriers for implementing more efficient and more effective customer support channels?*

From an analysis of the current situation several options to improve efficiency emerged, but only two of these are not likely to decrease customer satisfaction (a): assigning specific operators to answer questions logged using the SSD and creating a search page that includes results from all available sources to increase awareness and usage. The barriers to implementing these options (b) were identified as: the possibility that clients experience increased response times on other channels when operators are assigned to the SSD, and the need to redirect clients, outperform old channels, communication with sales, and ultimately including the functionality in the company's product, for an improved search function.

Possible measures to redirect clients to other channels are listed, allowing the Support department to manage the channel use of clients. The final chapter will summarize results from all previous chapters, listing research questions and the answers that were found. Next to this, the chapter elaborates on what has happened since the start of the research, lists conclusions that can be drawn from the research, and discusses the validity of the research, the company's policies, and general practices at a helpdesk.

## Chapter 7: Research summary and discussion

### **Research summary**

In the second chapter, the research question of this thesis was stated: *How can the Support department at TOPdesk most efficiently answer its client's questions without decreasing customer satisfaction?*

This chapter summarizes the insights gained in the previous chapters, providing an answer to the research question. Also, the threats to the validity of the results and suggestions for future research are discussed.

To answer the question, the current communication channels at the Support department were analyzed on efficiency and effectiveness. Although each channel has its merits for some kind of question, in general it can be stated that the website, manual, and forum are most efficient as they require no effort from the operator. Regarding effectiveness, the Self-Service Desk (SSD) and telephone score highest. This high score for the SSD is promising, as this channel enables operators to distribute questions according to skill and preference, and allows the operator to search similar questions and copy their answer.

As a link between operator skill and effectiveness was likely, the skill level of operators was determined and its relation with satisfaction was determined. It was found that for all channels skill levels of both technical and behavioral skill were high, as are satisfaction scores. There is a strong link between skill and satisfaction, showing the importance of operator training. Channels without personal contact are seen by clients as less efficient, as fewer questions are answered in the first response. As a probable cause, the difficulty of finding information is mentioned repeatedly.

The channels used by clients were analyzed, as was their motivation for using those channels. The channels offered by the company are used most by clients, and the channel use indicates a preference for personal contact and effectiveness. This suggests that if the effectiveness of efficient channels is increased, their use increases. When using a channel, clients want complete and speedy answers, indicating the use of a channel can be increased by reducing the channel's processing time.

From the channels seen as promising additions to what is currently offered, chat and a status page are seen by clients as both quick and efficient. However, a status page is only useful for a limited number of clients and both channels are not used frequently. Adding these channels will require a campaign to make clients aware of this new possibility, preferably combined with an overview of the other channels currently offered, as clients repeatedly mention being unaware of a channel.

The addition of new channels may increase the workload of managers and negatively influence organizational performance due to possible overlap and required oversight. However, these drawbacks are mitigated when the new communication channels are integrated with current channels as operators only need to focus on the integrating tool, instead of the different channels. If new channels are well integrated with the old, they provide an opportunity to distinguish from the competition.

There are several options to increase the efficiency of a Support department, but the requirement that customer satisfaction does not decrease limits the possibilities. The use of the SSD should be promoted. This can be done by decreasing the processing time of questions, for instance by assigning operators to this specific channel, and by redirecting clients from other channels.

Another option to increase efficiency is to increase the use of the website, manual, and forum. This can be done by creating an integrated search portal that presents results from all these channels. To prevent clients from having to switch to a new channel, this would require forwarding search queries, search results, and login credentials between channels. The most likely strategy to make this portal a success, is to convince the company's management to include the portal in its software, requiring a well-thought design and providing the company with feedback from clients to continuously improve the search portal.

### **Threats to validity**

According to Campbell, Stanley, and Gage (1963), as cited by Babbie (2012), sources of internal and external threats to validity should be analyzed before generalizing results. Here, these possible threats to the validity of the results of this research are discussed. Where possible, the effect of a threat is

assessed, as suggested by Simmons, Nelson, and Simonsohn (2011) to improve transparency and minimize the chance of false positives.

The length of the research, up to 70 questions when all channels are used, may cause fatigue or boredom, possibly influencing the responses. An effort was made to reduce the number of questions by selecting single item scales whenever possible and by selecting a survey tool that allows questions to be excluded from the research based on previous responses. Some clients mentioned the research being too long in their comments, but an analysis of the responses shows only 20% of the respondents quitting between the first and the last page of the research. In a sample question from the start of the research, including partial responses shows an increase of 0.3% to the satisfaction score, an effect which is likely to decrease near the end of the survey.

A selection bias may have occurred as clients were invited to participate and those responding to the invitation may feel more positive about the product, making them more likely to participate in a research related to it. To mitigate this problem, it was clearly stated in the invitation and on the first page of the research that the research was conducted as a part of a master thesis. Other ways of participant selection, such as calling random clients, could further reduce this problem, but were impractical in the allocated time. The high response rate (10%) also decreases the chance of a few very positive clients significantly influencing the results.

The data set is limited to customers of TOPdesk, most of who are located within the Netherlands. Although such a research design has the strength of minimizing differences among customers due to national cultures or business practices in different parts of the world, it is recommended to exercise caution when generalizing these results to customers in other countries or other product settings. It was for instance found that perceived skill levels were below those found in another study from the United States, but the few responding English clients report a skill level that is above the level found in this other study.

During this research, the company has developed several new features which will probably impact the work of the Support department and the channels through which support is offered. Software is developed that influences the available communication channels and it will become possible for clients to reset their password when logging in to secured websites like the SSD. This is likely to increase the use of these websites, as it removes a barrier for some clients. However, the changes are not yet implemented and available to clients, so they could not have influenced the results of the research. The changes may influence future survey results, so it is important that these changes are taken into account when the results of future surveys are compared to this study.

### ***Suggestions for future research***

Comments to the survey suggest that, next to the previously mentioned length of the survey, some questions were also seen as quite long. This may have been prevented by ordering the questions by question type rather than by channel. It would have been more difficult to hide questions about channels that are not used by a respondent, but despite this the total amount of time needed to complete the survey might have been reduced.

Regretfully there were too little international responses to compare results across countries, but the few international results indicate significant international differences. It would be interesting to analyze the responses to questions regarding, for instance, satisfaction and personnel skill of customers across different countries. Researchers will be presented with the difficult task to present customers with the same service experience across countries to create comparable results.

The analysis of First Time Resolution (FTR) percentages in chapter four showed that no data was available on FTR percentages for other communication channels than telephone calls. Answering a question using these other channels generally requires less effort from an operator than using the telephone, so it would be interesting to see whether using them leads to a boost in efficiency, or rather leads to repeat questions due to miscommunication.

Currently, new clients can choose whether or not to purchase training in the use of TOPdesk together with a new implementation. Although some training is included in the purchase and support fees, these trainings could be used by many more clients to prevent the most basic questions about the software. It might be useful to research whether clients purchasing user training submit fewer questions to the Support department and whether clients should be encouraged to attend a training more often, for instance by reducing training costs.

This thesis suggests improving the search results to increase the use of efficient channels. As more information is included in the search, filtering relevant results becomes more and more difficult. The current search engine prioritizes results based on how often a search term is found in specific fields. Search engines that are frequently used on the internet use much more advanced algorithms, including the distance between search terms, the quality of information on a page, the age of a page, similar words, categorization, etc. As most of this information is already stored, it is worthwhile to investigate whether the use of this information can increase the validity of search results.

As was indicated at the start of this thesis, it is intended to explore the channels used by clients and find the drivers of satisfaction for these communication channels. For exploring communication channel use in the available time, a survey was selected as the most suitable method. The results from the survey present new questions that require further research. For instance, clients rank the safety of company data very low, despite this being discussed often as an important aspect of stored data. Interviews with clients could provide more information on the reasons behind this choice.

Research indicates the importance of the first experience with a self-service technology (SST). There may be many factors influencing this experience, like whether a person is comfortable using computers or the personality of the user. Information on the influence of these factors could improve the first experience of a SST, which is likely to increase its use and acceptance.

In the first chapter it was concluded that research on customer satisfaction and the optimal support channel mix would be an interesting addition to current service science literature. This thesis has added to the available knowledge on customer satisfaction and communication channels, but much is still unknown. Little information is published on comparing results for B2C and B2B research, and the published research on B2B customer service is also scarce.

### ***Suggestions for TOPdesk***

From the literature in the first chapter, it became clear that much data was needed to conduct a research on the communication channels used by clients and their satisfaction with the service received. Much of this information can be logged using the tool already used, allowing for more continuous measuring of customer satisfaction without the need for a survey. This way, the company can spend more time on finding the reasons behind satisfaction scores and the results of this survey, for instance by visiting and interviewing clients.

This thesis proposes to register more information on calls to Support. This is likely to meet some resistance as the actions operators are required to perform increase and they see no immediate benefit from this. Operators should be consulted before implementing these changes to make them see the importance and value of this information. The results should also be presented to the operators to show them the benefits of their efforts.

One of the reasons to conduct this research was to find what channels could be a beneficial addition to the current channels offered. However, adding these channels also requires someone to manage or monitor responses, so dropping support for a little used channel should also be considered. Another alternative is the integration of channels, as the company currently offers with e-mail, self-service, and telephone, which reduces the needed monitoring.

Currently the community is not used very often by clients. The use of this channel should be increased as clients are satisfied with the responses they get, and help each other instead of requiring effort from an operator. If the proposed search function does not boost the channel usage enough, the company should consider other measures like a promotion campaign or rewarding clients that help other clients.

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## Appendix A: Complete list of all survey questions.

To allow for segmentation, some questions regarding the customer background and product usage were included:

- 1 Select your country of residence
- 2 Which type of group does your department or company mainly support with TOPdesk?
- 3 Which version of TOPdesk does your organization use to support this group?

For each of the current channels, the following questions were included:

- 1 Have you used (the channel) to get a question answered during the past year, for business or personal use?
- 2 Have you used this channel during the past year to contact the TOPdesk Support department?
- 3 Please indicate your satisfaction with the technical skills of the TOPdesk Support employees you communicate with when using this channel (1 = very low skills, 10 = very high skills).
- 4 Please indicate your satisfaction with the behavioral skills of the TOPdesk Support employees you communicate through by this channel (1 = very low skills, 10 = very high skills).
- 5 Please sort the channel qualities below according to your appreciation of these properties. The quality you appreciate most should be at the top, the quality you appreciate least should be at the bottom of the list.
- 6 Please indicate your satisfaction with the support you generally receive through this channel (1 = very dissatisfied, 10 = very satisfied).
- 7 Please indicate the percentage of your contact with TOPdesk Support through this channel that led to a resolution of your problem on the first response.  
If you have not had contact with TOPdesk Support through this channel, please indicate the percentage of questions you expect to be answered by the first response when using this channel.
- 8 Which conditions would lead you to use the channel more often?

For each of the promising new channels, the following questions were included:

- 1 Have you used (the channel) to get a question answered during the past year, for business or personal use?
- 2 Please sort the channel qualities below according to your appreciation of these properties. The quality you appreciate most should be at the top, the quality you appreciate least should be at the bottom of the list.
- 3 Please indicate the percentage of questions you expect to be answered by the first response when using this channel.

At the end, respondents were given the opportunity to provide additional comments:

- 1 If you wish to give your opinion on any matters regarding communication channels that were not reflected in the survey questions, then you can enter them here.
- 2 Here it is possible to give your opinion regarding the survey and its questions.
- 3 Would you like to receive a copy of the survey results?

The next page shows a table with all questions regarding current- and promising new channels, and the article in which the question is found.

<b>Question</b>	<b>Source (author, year)</b>
Have you used (the channel) to get a question answered during the past year, for business or personal use?	(Montoya-Weiss et al., 2003)
Have you used this channel during the past year to contact the TOPdesk Support department?	(Wang et al., 2012)
Please indicate your satisfaction with the technical skills of the TOPdesk Support employees you communicate with when using this channel (1 = very low skills, 10 = very high skills).	(Ramasubbu et al., 2008b)
Please indicate your satisfaction with the behavioral skills of the TOPdesk Support employees you communicate through by this channel (1 = very low skills, 10 = very high skills).	(Ramasubbu et al., 2008b)
Please sort the channel qualities below according to your appreciation of these properties. The quality you appreciate most should be at the top, the quality you appreciate least should be at the bottom of the list.	(Wang et al., 2012)
Please indicate your satisfaction with the support you generally receive through this channel (1 = very dissatisfied, 10 = very satisfied).	(Ramasubbu et al., 2008b)
Please indicate the percentage of your contact with TOPdesk Support through this channel that led to a resolution of your problem on the first response. If you have not had contact with TOPdesk Support through this channel, please indicate the percentage of questions you expect to be answered by the first response when using this channel.	Based on: (Chen et al., 2011; Cheong et al., 2008; Feinberg et al., 2000)
Which conditions would lead you to use the channel more often?	(Wang et al., 2012)

## Appendix B: Results of the brainstorm session on effectiveness and efficiency.

Communicatiekanaal	Effectief – Voordelen	Effectief – Nadelen	Efficient – Voordelen	Efficient – Nadelen
Telefoon	Uitleg geven feedback wederzijds begrip (teamviewer)	Tijd nodig voor uitzoeken Moeilijk teksten doorgeven Moeilijk vertalen Antwoord niet na te lezen	Direct beginnen met helpen	Klant op 'on hold' Niet altijd bereikbaar Antwoord niet na te lezen
E-mail	Bijlagen sturen Juiste woorden kiezen Letterlijke teksten sturen Kiezen van incidenten (Vrije) keuze reactie kanaal	Geen directe feedback Antwoord wordt niet altijd helemaal gelezen Niet doorvragen	Altijd bereikbaar Antwoord herhaalbaar Kiezen van incidenten	Antwoord moet uitgebreid Antwoord wordt niet altijd helemaal gelezen Behandeling niet direct zichtbaar
Self-Service Desk	Vrije keuze reactie kanaal  (afhankelijk van reactie)		Klant registreert vraag Andere incidenten terugzien Integratie met TOPdesk Integratie met website	Account aanmaken Inloggen Behandeling niet direct zichtbaar
Forum	Overleg met andere klanten - Inrichting - Randsystemen	Antwoorden niet altijd juist Geen bronvermelding	Oplossen door andere klanten	Soms lange reactietijd, niet altijd druk bezocht
Help&Support website	Kan veel info bevatten	Vraag klant voorspellen Info mist of is oud Niet geschikt voor code Geen directe link	Behandelen vraag kost weinig tot geen tijd	Zoekfunctie kan beter Onoverzichtelijk Steeds updates schrijven
Handleiding	Kan veel info bevatten	Vraag klant voorspellen Overlap informatie Info mist of is oud Niet altijd met duidelijk doel	Behandelen vraag kost weinig tot geen tijd	Geen overzicht Geen feedback Wordt vaak niet helemaal gelezen

## Appendix C: paired samples t-test scores for skill and satisfaction

### Skill:

Pair	M(T)	SD(T)	M(B)	SD(B)	N	T	<i>p</i>	<i>eta</i> <sup>2</sup>	Effect
Telephone	7.94	1.040	7.86	1.058	216	1.930	0.055	0.017	Small
E-mail	7.77	1.244	7.64	1.235	131	2.530	0.013	0.047	Small
Forum	7.40	1.317	7.35	1.327	52	0.724	0.472	0.010	Small
SSD	7.90	1.136	7.72	1.131	114	4.133	0.000	0.131	Moderate

The table lists T-test scores for the difference between technical and behavioral skill for the channels telephone, e-mail, forum, and Self-Service Desk (SSD). A paired-sample t-test was conducted to determine if the observed difference in means for behavioral and technical skill was significant. The table lists the mean (M) and standard deviation (SD) for both skills, as well as the number of paired scores (N), the resulting T-value and the significance of this score (*p*). If *p* is smaller than 0.05 the result is deemed significant.

For each of the T-test scores the *eta*<sup>2</sup> is calculated to determine the effect of the score. This effect is large when *eta*<sup>2</sup> > 0.14, moderate for 0.14 > *eta*<sup>2</sup> > 0.06, and small for *eta*<sup>2</sup> < 0.06.

The table shows that, despite only a small difference in means, the difference between behavioral and technical skill for e-mail and the SSD is significant. However, the effect of this difference is only small (e-mail) to moderate (SSD). So only a small to moderate part of the difference between technical and behavioral skill can be attributed to the channel used.

### Satisfaction:

Pair: SSD &	M(SSD)	SD(SSD)	M(chan)	SD(chan)	N	T	<i>p</i>	<i>eta</i> <sup>2</sup>	Effect
Telephone	7.83	1.019	7.79	1.026	121	0.787	0.433	0,0051	small
E-mail	7.81	1.341	7.69	1.349	72	1.751	0.084	0,0414	small
Forum	7.81	1.176	7.16	1.247	32	3.962	0.000	0,3362	large
Website	7.82	1.212	6.90	1.566	79	5.286	0.000	0,2637	large
Manual	7.89	0.983	7.26	1.270	80	3.716	0.000	0,1488	large

The table lists t-test scores for the difference between the mean satisfaction for the Self-Service Desk (SSD) and the other channels: telephone, e-mail, forum, website, and manual. A paired-sample t-test was conducted to determine if the observed difference in means was significant. The table lists the mean (M) and standard deviation (SD) for the SSD and the other channel (chan), as well as the number of paired scores (N), the resulting T-value and the significance of this score (*p*). If *p* is smaller than 0.05 the result is deemed significant.

For each of the T-test scores the *eta*<sup>2</sup> is calculated to determine the effect of the score. This effect is large when *eta*<sup>2</sup> > 0.14, moderate for 0.14 > *eta*<sup>2</sup> > 0.06, and small for *eta*<sup>2</sup> < 0.06.

Noteworthy is that the mean for the SSD differs for each of the channels it is compared with. This is because the paired t-test compares respondents who have answered both questions. As some channels are used more than others (also reflected in the number of responses (N)) the number of pairs and their mean differs.

The table not only shows the statistically significant difference in satisfaction between the SSD and forum, website, and manuals. But also shows that the effect of this difference can be considered large for each channel. So, a large part of the difference in satisfaction levels can be attributed to the channel used.

## Appendix D: interaction effects between skill and satisfaction

Skill	Telephone			E-mail			Forum			SSD		
	N	r	deter	N	r	deter	N	r	deter	N	r	deter
T	213	0,825**	68%	125	0,895**	80%	48	0,824**	68%	141	0,899**	81%
B	215	0,786**	62%	126	0,889**	79%	48	0,746**	56%	143	0,871**	76%

The table lists Pearson correlation coefficient scores between the technical skill (T) and satisfaction, and behavioral skill (B) and satisfaction for the channels telephone, e-mail, forum and Self-Service Desk (SSD). The number of pairs (N), the correlation strength (r), and the coefficient of determination (deter) are listed. This last value represents the percentage of satisfaction that can be explained by examining the corresponding skill level, the degree to which skill predicts satisfaction for that pair. All correlation strengths in the table are significant at a 0.01 percent level, indicated by \*\*.

A much used scale to interpret correlation strength by Cohen (1998) suggests the following interpretation be given to these strength levels:  $r = 0.1$  to  $0.29$ , small,  $r = 0.3$  to  $0.49$ , moderate, and  $r = 0.5$  to  $1$ , large. According this scale, all correlations between skill and satisfaction are large. This means a large part of the satisfaction with the answer is determined by the skill of the Support employee. All correlations are also positive, indicating a higher skill will result in more satisfaction, and vice versa.

## Appendix E: Open answers for each communication channel.

Respondents to the survey were asked to comment on possible improvements for each of the currently used communication channels and on communication channels in general. The answers are presented here in their original format and language, excluding answers such as 'no comment', 'N/A', 'none', 'fine' and 'good'.

### Telephone

Beter / vaker op de hoogte gehouden worden van de status als de melding 2e lijns wordt doorgezet (naar ontwikkelaars)

When internal skills and experience is insufficient

Dig. kanaal heeft mijn voorkeur

doorverbinden met behandelaar incident

Duidelijkheid intranet TOPdesk

geen behoefte om meer vragen te stellen

Is voor mij goed genoeg. Als er niet direct een antwoord is, wordt het gesprek met de servicedesk afgebroken en wordt het antwoord snel opgezocht en telefonisch of per mail doorgegeven

Vaker een begripvolle medewerker aan de lijn krijgen

We hebben nooit zulke problemen dat we per direct hulp nodig hebben.

Zorgen dat je weet wat de klant gebruikt. Het stoort mij enorm dat er wordt gevraagd welke versie ik gebruik. Beter zou zijn de laatste keer dat wij u spraken maakt u gebruik van ent 4 met sp2 is dat nog steeds zo. Bent u op de hoogte van onze nieuwe vers

Ik maak liever een melding via de selfservice aan.

Het juiste antwoord krijgen is sterk afhankelijk van wie je bij de support afd krijg te spreken.

reactie snelheid van een online melding

technische volledigheid

ik ben wel tevreden, dat wat ze niet kunnen beantwoorden is meestal ook lastig

ik gebruik alleen de telefoon wanneer ik een vraag heb die moeilijk is te omschrijven via Extranet.

Ik gebruik dit kanaal bij voorkeur wanneer er zich een calamiteit voordoet en dus haast geboden is. Anders maak ik gebruik van andere kanalen.

### E-mail

Geen van allen, ik blijf bellen, vooral persoonlijk contact

geen verbeteringen mogelijk

hoeft niet verbeterd

ik bel liever

Ik gebruik liever extranet

ik heb geen behoefte aan dit medium Extranet voldoet wat dit betreft volledig aan de wensen

ik maak liever een melding via de selfservicedesk

Is voor mij goed genoeg. Als er niet direct een antwoord is, wordt het gesprek met de servicedesk afgebroken en wordt het antwoord snel opgezocht en telefonisch of per mail doorgegeven

Minder standaard antwoorden

niet nodig

nog te weinig ervaring om dit goed te kunnen beoordelen

Only use it when I need it so would not use it more often

we gebruiken de mail als we een vraag hebben aan de accountmanager en hij neemt altijd telefonisch contact op

When internal skills/experience is insufficient

### Forum

bekentheid

Community kom ik alleen om te kijken waar anderen mee bezig zijn en of er dingen zijn waar ik tegen aan zou kunnen lopen.

forum is niet echt up to date/verouderd

gebruik dit nooit maar misschien een mogelijkheid om te gaan doen

het is mij niet duidelijk of support medewerkers het forum continu in de gaten houden op nieuwe meldingen. Bij vragen bel of mail ik liever, dan weet ik zeker dat er meteen iemand reageert

ik gebruik liever de selfservicedesk

Ik verwacht via community geen support, wel fijn dat ze wel reageren op onderwerpen

Ik vind persoonlijk het forum (community) een kanaal om in contact te treden met andere gebruikers / klanten. Bij Support vragen zal ik altijd direct contact opnemen met Support via telefoon of Extranet.

In mijn ervaring is het weer een ander medium waar je voor moet inloggen Vanwege tijdgebrek neem ik die moeite gewoon niet

Is there one?

Je weet niet hoe betrouwbaar de beantwoording is

maak zelden gebruik van 'forum-antwoorden' om het acteren op foute informatie te voorkomen

meer inhoud en betekenis

meer technische onderwerpen

PR: Blijkbaar niet helder welke informatie je krijgt via dit kanaal

Prefereen contact met SD ipv forum. Dit ivm juistheid en volledigheid van de oplossing.

specifieke relevantie

strength of the community, and good engagement from devs

uitleg over het gebruik, wat men er kan vinden en de verschillende onderdelen voor wie bedoeld is. Als functioneel beheerder van TOPdesk staan er voor mij te technische zaken op. De items moeten ingebed worden in de relevantie van TOPdesk als systeem.

Vindbaarheid/zoeken

vindt-mogelijkheid

zoekfunctie

zou ik me in moeten gaan verdiepen

### **Self-Service Desk**

bekendheid

Betrokkenheid en terugkoppeling bij wijzigingsverzoeken (feature/future requests?!)

Customer awareness

gebruik dit nooit bel altijd de helpdesk

Gedoe, telefoon is sneller..

hoeft niet verbeterd

I use self service for complex queries and telephone for simple ones

ik gebruik het nooit

Insufficient internal skills/experience

Omdat er geen interactie mogelijk is, hangt het volledig van de professionaliteit van de communicatie af hoe snel, juist en/of volledig het antwoord zal zijn.

Prognose wanneer er een reactie en/of antwoord komt

Vinden van incidenten

zou ik me zelf eerst eens in moeten verdiepen

### **Website**

beter herkenbare probleemomschrijvingen van de antwoorden

De diepgang van het antwoord. Nu is het op help.topdesk vaak klik hier klik daar, maar dÃ¡jt blijkt vaak wel uit de intuÃ­tieve interface. De achtergrond waarom iets zo is of links met gerelateerde onderwerpen is een punt van verbetering.

De selfservice-site vindt ik nu nog echt makkelijk te navigeren. Wat ik me kan herinneren is het heel

veel klikken en proberen voordat je wat vindt.

Deze koers 'blijven' aanhouden

Dit kanaal is wellicht wel geschikt voor standaard functionaliteiten, maar zeker niet voor speciale vragen of verstoringen.

Duidelijkheid vd site

familiarity, and ability to get right answers first time

Ik gebruik wel de Help (maar dat even terzijde)

meer details en techniek over de werking van TOPdesk: oudere beheerhandleidingen gaven meer informatie en uitleg

relevante informatie beter beschikbaar stellen

Sneller nieuwe handleidingen van de juiste versies

terugvindbaarheid van antwoord op zoekvraag

Whitepapers zijn niet te downloaden maar worden per post verstuurd. Dit is echt achterhaald.

zoekfunctie moet verbeterd worden en de logica van de site

### **Manual**

de handleidingen moeten up to date zijn

Deze koers 'blijven' aanhouden

Handleidingen geheel updaten bij Software update, en niet (alleen) met release notes

Handleidingen moeten actueler zijn

handleidingen zijn alleen als toelichting bij functies, maar zouden meer moeten gericht zijn op generieke werking van module en benodigde inrichting

ik heb hardcopy handboeken. Deze raken verouderd.

ik mis een rapportage handleiding

informatie over installatie benodigde software en te verwachten problemen

Is prima in orde.

juiste versie van handleidingen plaatsen

Meer diepgang, links naar relevante extra info of gerelateerde onderwerpen, use cases ofwel de bedoeling van de functionele opbouw door TOPdesk. (Ik heb het mn. over de beheerhandleidingen.

Ook volledigheid van de verschillende modules (bv http) en zelfde

nieuwe handleidingen geven veel beperktere informatie dan de oude: dus meer informatie opnemen

overzichtelijker wat consequenties zijn voor welke modules onderling

the ability to find the necessary information

uitbreiding van de inhoud

uitgebreidere handleiding

Up-to-date handleiding

zoekfunctie kan verbeterd worden.

beheerdershandleiding meer uitgebreid

### **General comments on communication channels**

afhankelijk van de branche en vraag kan de meegestuurde bedrijfsinformatie gevoelig zijn, beveiliging van de kanalen is dus zeer wenselijk

Belangrijkste communicatiekanalen voor een helpdesk zijn wat mij betreft nog altijd telefonisch

(persoonlijk) en extranet (gericht). Alle andere kanalen kunnen een toevoeging zijn, mits goed gebruikt.

Ben tot op heden een tevreden gebruiker van het Extranet (SSD) van TOPdesk. Maak daardoor

nauwelijks gebruik van de andere kanalen. Een enkele uitstapje naar TOPdesk Community daargelaten.

Bij de community (forum) staat het eerste bericht onderaan, aan andere forum's is dit oneigenlijk en

wennen. Bij Help en ondersteuning mis ik wel een aantal dingen, in het verleden heb ik op sommige

keywords gezocht die niet terug te vinden waren en zodoende de handleiding moest gaan zoeken. Bij

de handleidingen zijn ze niet echt up-to-date, eigenlijk wil je per uitgebrachte versie ook de ServicePacks dat de handleiding hierop aangepast wordt. Af en toe zijn er ingrijpende wijzigingen. Bij gecompliceerde technische vragen over Topdesk is het vaak tijdrovend om de vraag schriftelijk (selfservice, social media etc.) te stellen. Daarnaast is de responstijd bij telefonische vragen beter. Jammer dat de handleidingen zo basaal zijn.

-bouw een interactieve helpfunctie in TD. -Help en support pagina's niet als knoppencursus maar (nog) meer als praktische aanwijzingen over hoe en met welke bedoeling een bepaalde module (of onderdelen daarvan)gebruikt dient te worden.

De kanalen selfservice, telefoon, extranet kennissysteem en handleidingen voldoen aan mijn behoefte. De rest zijn leuke extraatjes, maar ik zal er niet snel gebruik van maken.

De meeste communicatiekanalen waren bij onze organisatie onbekend. Hier mag meer over gecommuniceerd worden.

De mogelijkheid om per mail contact te zoeken met TOPdesk Support wordt gemist in dit onderzoek.

Dat is namelijk het enige kanaal waarmee ik contact heb gehad.

Facebook, google, twitter etc... ik gebruik ze ook maar had dergelijke kanalen nooit gelinkt aan TOPdesk support. Bedankt voor de info.

Graag inzicht in status en verwachtingen rondom gehonoreerde change requesten

Groot probleem van de website is dat er weinig bekende problemen gedocumenteerd zijn of vindbaar zijn. Daarom bel ik vaak na een korte zoektocht toch de helpdesk, daar is een deskundig en snel antwoord meestal wel voorradig.

Handleidingen zijn waardeloos, duidelijk geschreven door een techneut en absoluut onvolledig. Het contact via de helpdesk via de selfservicedesk gaat heel goed. Ik word netjes teruggebeld of gemaild.

I really needed to enter 'the safety of company data' as my top response in all cases, as I can't afford to be lax about that - but it is nothing something about which I frequently have cause for concern. (There are occasional support requests where it is inconvenient (for both of us) that I am unable to divulge certain large sets of data that may assist in support.)

Ik ben tevreden over het Extranet / de Self-Service Desk van Topdesk omdat deze de mogelijkheid biedt om de vraag goed uit te leggen en de nodige technische details aan te geven. Tevens is er een mogelijkheid om bijlagen toe te voegen. Voor de applicatiebeheerder is dit dus een goede oplossing.

ik heb een aantal keren moeten nabellen. Saas klanten zijn ondergeschoen en hebben een eigen team. Ze moeten erg zoeken en zijn afhankelijk van een paar mensen om bijvoorbeeld onze xml koppeling te checken. zodoende heeft het erg lang geduurd. Veder prima

Ik heb hele positieve ervaringen met een helpdesk (1x software leverancier en 1x zorgverzekeraar) die via chat beschikbaar zijn. Dit zou ik ook wel bij meer van mijn leveranciers willen zien, voordelen voor mij als klant zijn onder andere: + Omdat je typt moet je nadenken over de formulering van je vraag. Filtert eerste 'oja dat had ik zelf kunnen bedenken eruit' + Voordeel tegenover e-mail is dat je hoor en wederhoor kan toepassen. (je krijgt niet na 2 dagen wachten zo'n stom standaard antwoord waardoor je alsnog moet bellen/mailen); + Je kunt eenvoudig relevante informatie opzoeken en bestanden delen via uploads en of urls (bijvoorbeeld FAQ of white papers); + Het geeft een 'persoonlijk gevoel' Ben verder tevreden over het functioneren van de helpdesk bij Topdesk. Verbeterpunt is dat ik op de hoogte gebracht wil worden/blijven over ingediende bugs en wensen, ook al zijn ze

Ik meen skype gemist te hebben als communicatiekanaal. Bij Topdesk zou het via het extranet een mogelijk kanaal kunnen zijn.

Ik vind portal/extranet het prettigste en overzichtelijkst. Ik vind community/forum fijn om met andere gebruikers informatie uit te wisselen (en ben blij dat topdesk medewerkers hier ook reageren).

Telefonisch gebruik ik alleen voor nood/spoedgevallen. Overige kanalen gebruiken wij niet.

Ik vond met name de chat support heel prettig. Maar dat was toentertijd een testfase. Ik hoop dat deze vorm van support blijvend wordt.

In eerste instantie ging ik er van uit dat alle kanalen gericht zijn op de TOPdesk support desk. naarmate ik verder in de vragenlijst kwam, ben ik de vragen anders gaan inzien. Ik vertaal dus de kanalen naar

een helpdesk (kan dus ook een andere helpdesk geweest zijn buiten TOPdesk, zoals bijvoorbeeld van een telecom provider of een energie leverancier)

Internal experience and skills is vital to support the product effectively.

Ondanks het gemak van snelle, juiste en volledige antwoorden op veel voorkomende vragen via de verschillende kanalen blijft het uitermate belangrijk de mogelijkheid tot mondeling contact te kunnen hebben om de juiste details en nuanceringen te bespreken. Schriftelijk contact in welke vorm dan ook is altijd van mindere kwaliteit.

Op dit moment zijn er (naar mijn inziens) voldoende kanalen beschikbaar.

Oplossingen worden te vaak gezocht in het updaten van het systeem. Omdat dit in ons geval niet gaat eindigt dit dan ook vaak in het sluiten van de call.

over het algemeen ben ik zeer tevreden over de support

over het algemeen tevreden over de support communicatiekanalen.

Pas beschikbaar vanaf 8:30 vind ik wat laat

Positieve ervaring met: gebruik Teamviewer, snel en efficiënt.

Self Service works best for technical questions, but a better knowledge base and manuals would help/reduce the need.

Te veel communicatiekanalen leidt (denk ik) tot onnodige keuzes daarin. Dingen als Forum en Twitter worden volgens mij weinig gebruikt.

Telefoon vergeten? Maar zie ook volgende opmerking.

Topdesk support belt vaak met een antwoord op een vraag. Ik heb liever dat dit wordt gemaild.

Voor afdeling ICT van het openbaar lichaam Bonaire is e-mail en telefoon effectief kanaal. Tot nu toe hebben wij topdesk alleen Intern gebruik. Het voornemen is om binnenkort over te gaan om Topdeks ook te gebruiken voor externe (collega's van het andere afdelingen) ondersteuning.

Voor veel soorten helpdesk is social media niet wenselijk omdat vaak persoonlijke gegevens of bedrijfsgegevens verstuurd en besproken worden. Ik denk dat het op dit moment juridisch gezien niet handig is om dit overall toe te willen passen. Een chat-functionaliteit is echter wel erg handig: dan kan je net wat meer vertellen en uitleggen dan in een email, forum of self-service systeem.

Zeer tevreden over de huidige communicatiekanalen, maar misschien kunnen nieuwe kanalen de huidige verbeteren of aanvullen.

Zelf heb ik onlangs een eindopdracht HBO Communicatie- en multimediasdesign geweid aan TOPdesk om lokaal de usability van het incidentbeheer in TOPdesk te verbeteren bij de Gemeente Amsterdam Stadsdeel Zuid.