The Migration Measurement Model

How to Measure the Success of a Channel Migration in Customer Support

Anna Rengstedt

LUND
UNIVERSITY

Lund University

Faculty of Engineering, LTH

Supervisors: Ola Alexanderson
Department of Production Management, LTH

Karen Schultz
ACTIVE Network Inc.

Acknowledgement

This thesis was carried out in San Diego during the spring of 2014, as a part of my master degree in Industrial Engineering and Management at the Faculty.

First of all, special thanks to Dennis Triplett at ACTIVE Network who listened to my ideas and ambitions, and gave me the opportunity to write my thesis within this interesting company. Moreover, I would like to express my gratitude to Karen Schultz at ACTIVE Network, who let me get deeply involved in the project from day one and provided me with information and data. I am in debt to all support agents at the company, who let me take their time to talk about cases or report processes, and who carried out customer surveys for me. Discussions with Ryan Lyster, Jeremy Chan and everyone else at ACTIVE Network have been very valuable, and without Arch Fuston and ActiveX I would have been asleep by noon every day.

My deepest heartfelt appreciation goes to my beloved partner and best friend, Kevin Brinkley, who put me in contact with ACTIVE Network and gave me enormous support and encouragement through the whole project; either by introducing me to people, sending me motivating music or links, eating lunch with me, or listening to my confused thoughts.

Finally, without my supervisor at the Faculty of Engineering at Lund University, Ola Alexanderson, I would have ended up on the wrong track from the very beginning. Thank you for your appreciated feedback and guidance.

San Diego, June 2014.

Anna Rengstedt

Abstract

Title:	The Migration Measurement Model - How to Measure the Success of a Channel Migration in Customer Support
Author:	Anna Rengstedt
Supervisors:	Karen Schultz, *Senior Manager, Customer Support* at ACTIVE Network Inc. Ola Alexanderson, *Department of Production Management* at Lund University
Presentation date:	16th of June, 2014
Purpose:	The purpose of this thesis is to develop a theoretical framework that enables a company to measure the success of an initiative that migrates customers from one channel to another, in order to improve or upgrade the way of handling customer support between the company and its end customers.
Methodology:	The strategy for this thesis was to carry out an iterative case study - theory-led by explaining the causes of events and processes from the literature, and discovery-led by exploring the key issues in ACTIVE Network's migration. A theoretical framework was then developed and applied at the company, before the model could be analyzed and recommendations were formulated.
Case study:	The author performed the case study onsite at ACTIVE Network in San Diego, California, where interviews, observations, questionnaires and documents were collected and analyzed over the course of 4 months.

Conclusion: The developed framework, the Migration Measurement Model, covers the most relevant factors that a support organization needs to consider when measuring the success of a migration to a new communication channel. The model starts with analyzing company characteristics and objectives, which in the case study was proven to be very important for choosing appropriate metrics. By evaluating metrics connected to financial, customer and operational performances, a company can with help from the Migration Measurement Model find the most valuable measurements that can be used to determine the success of a migration, internally and externally. The Migration Measurement Model was applied at ACTIVE Network, leading to recommendations for future improvements at the company.

Keywords: customer migration, web-based self-service, service channels, support metrics, customer behavior

Sammanfattning

Titel:	Migrationsmätningsmodellen - Hur man mäter framgång av en migration mellen kanaler i kundsupport
Författare:	Anna Rengstedt
Handledare:	Karen Schultz, *Chef för kundservice,* ACTIVE Network Inc. Ola Alexanderson, *Avdelningen för produktionsekonomi,* Lunds Universitet
Presentationsdatum:	16:e juni, 2014
Syfte:	Syftet med detta examensarbete är att utveckla en teoretisk referensram som gör det möjligt för ett företag att mäta framgång av ett initiativ som migrerar kunder från en kanal till en annan, för att förbättra eller uppgradera sättet att hantera kundsupport mellan ett företag och dess slutkunder.
Metod:	Strategin för denna avhandling var att genomföra en iterativ fallstudie - teoriledd genom att förklara orsakerna till händelser och processer från litteraturen, och upptäcktsledd genom att utforska de viktigaste frågorna i ACTIVE Networks migration. Ett teoretiskt ramverk har sedan utvecklats och tillämpats på företaget, innan modellen analyserades och rekommendationer formulerades.
Fallstudie:	Författaren utförde fallstudien på plats hos ACTIVE Network i San Diego, Kalifornien, där intervjuer, observationer, undersökningar och dokument var insamlade och analyserade under 4 månader.

Slutsats: Det utvecklade ramverket, Migrationsmätningsmodellen, täcker de mest   relevanta delarna som en organisation bör ta hänsyn till vid mätning av framgången för en migration av kunder till en ny kommunikationskanal. Modellen börjar med att analysera företagets egenskaper och mål, vilket i fallstudien visade sig vara mycket viktigt för att kunna välja lämpliga mätmetoder. Genom att utvärdera mått kopplade till finans-, kund- och operationsnivå kan ett företag med hjälp av Migrationsmätningsmodellen hitta de mest värdefulla måtten som bestämmer framgången av en migration, både internt och externt. Modellen var tillämpad på ACTIVE Network och ledde till flertalet rekommendationer till företaget.

Nyckelord: kund migration, webbaserad självbetjäning, servicekanaler, servicemått, kundbeteende

Table of Contents

List of Figures

Vocabulary

Active   Short for ACTIVE Network Inc.

Agent   Employees handling the customer contact

AW   ActiveWorks, the software that the customers uses to set up their events online

CRM   Customer Relationship Management, a system for managing customers

FAQ   Frequently Asked Questions, listed commonly asked questions and answers

FCR   First Contact Management, when a customer's issue is solved the first time they contact the company

Help portal Website used for customers to solve their problems without assistance

IVR   Interactive Voice Response, technology that allows a computer to interact with humans through the use of voice and keypad input

NPS   Net Promoter Score, based on the question "How likely is it that you would recommend our company to a friend or service?"

ROI   Return on Investment, a way of considering profits in relation to capital invested

1.   Introduction

Online customer self-service channels are gaining ground over conventional agent-assisted support, but few companies are aware of the effects of migrating customers to self-service. One of these companies is ACTIVE Network who initiated a migration project in customer support without knowing if the initiative would reduce the expected costs. This first chapter describes the background to self-service, presents the company and defines the purpose of the thesis. The delimitations are specified, the target group of the study is suggested, and finally the disposition of the thesis is presented.

1.1.   Background

Historically, customer service agents at call centers responded to customers' queries primarily over telephone. With the arrival of the internet, support organizations today offer a number of advanced technology-enabled channels to efficiently respond to customers' questions. These support channels fall into two distinct categories: assisted channels where the company's agents assist customers via telephone, web chat and email, and self-service channels where customers can find desired information via web-based self-service portals (Jerath et al. 2012). Today, FAQs, public knowledge bases and customer communities are among the fastest growing resources for customer service and companies have strong incentives to guide customers towards using self-service channels, as these channels cost the firm less than assisted channels while they can still respond to an increasing number of customer issues (Jerath et al. 2012; Leggett 2013; Verrill 2013).

Instantly available, 24/7 online customer self-service portals are marking a significant shift in customer attitudes towards the technology (Klie 2013). However, a customer's channel choice will depend on the perceived value of the assisted and self-service channels, and it is not clear what those perceived values are, or how to estimate them. For example, a telephone is often significantly more effective than the web channel in resolving customers' queries (Jerath et al. 2012).While it is easy to measure results and activities related to tangible and visible features, such as assisted support channels, research shows that contact centers do not really have a good grasp on the type of experience customers are having with self-service channels (Verrill 2013).

Nearly half of contact center professionals said in a study by International Customer Management Institute (2010) that their organizations do not measure customer satisfaction for customer self-service, and nearly three-quarters do not have an

integrated way to report on multichannel contacts. Without this information, centers cannot track customer activities, so they cannot see obstacles, cannot track success and cannot understand customer behavior across and among channels. In other words, a well-functioning self-service can generate significant financial savings without being noticed by the company.

ACTIVE Network is a San Diego-based company that offers software solutions for event registrations. The company has relationships with 55,000 organizations who are its primary customers. In the last few years, the company grew large very quickly through a lot of mergers and acquisitions, and the company today offers 29 different products.

1.2. Problem Discussion

Due to recent budget restraints, the managers at Active[1] decided that the cost of customer support has to be decreased. From best practice in the industry, it was concluded that this should be done by diminishing the incoming phone calls and migrating their customers to the self-service channel on the web. Accordingly, Active initiated a pilot project where two of the company's products would develop a help portal and migrate their customers to this new channel.

The hope is that, except from lowering costs, customers will benefit from quick, effective and usable contact channels, without picking up the phone. But is it as simple as this? It has been speculated that self-service, while potentially being a revenue-saving opportunity, could also erode customer satisfaction and loyalty. Does Active know enough about customer experience to enable them to build successful self-service channels? What does success even mean in this circumstance? What impact will increased levels of self-service have on more traditional channels, such as call centers?

This leads us to the research questions of this thesis: What determines a company's success of migrating customers to a new channel and how can this be measured?

1.3. Purpose

The purpose of this thesis is to develop a theoretical framework that enables a company to measure the success of an initiative that migrates customers from one

---

[1] Active is short for ACTIVE Network Inc. and will largely be used in the rest of this thesis.

communication channel to another, in order to improve or upgrade the way of handling customer support between the company and its end customers.

1.4. Goal

The goal of this thesis is to apply the developed framework on Active Network, and then to be able to measure the success of their customer migration and provide recommendations for future suitable measurements and improvements in their customer support.

1.5. Delimitation and Focus Area

This report and the developed framework will only focus on call driver errands, when the customer contacts the customer service. This means that the report will only consider such communication between the company and its customers that are a result of the customers' lack of understanding when using the product. Any other type of communication between the company and its end users, such as sales and advertising, will not be considered.

The thesis will end with recommendations on how to measure Active's activities and results and how to improve the process of determining a migration success. Since this project started, recommendations were given to the company as they came up, which means that some recommendations in this report have already been implemented in the organization.

1.6. Target Group

This thesis is primarily aimed towards the management and the employees directly involved in customer service activities as Active. The recommendations provided in this thesis are based on Active's specific conditions, although some of the recommendations are general and can potentially be used by other service providers that need to measure results in their customer support. Secondly, this thesis is aimed towards master students within Industrial Engineering or Business.

1.7. Disposition of Master Thesis

Chapter 1: Introduction

The first chapter describes the background of self-service and defines the purpose of the thesis. The limitations are specified, the target group of the study is suggested, and finally the disposition of the thesis is presented.

Chapter 2: Methodology

The purpose of the second chapter is to give the reader an overview of how the thesis was executed. It begins with an explanation of the research strategy and process, describing each step from start to finish. Thereafter, the different research methods - the tools for data collection - that were used in the study are presented. Finally, the credibility of the study is discussed.

Chapter 3: Theory

This chapter presents all relevant theory for the study and is aimed to give the reader a better understanding of the topic. The theory focuses on three areas: self-service, measurements in customer support and customer behavior. Thereafter, it follows two best practice examples and two measuring practices, which, together with the theory, form the foundation of the developed theoretical framework for this thesis. The chapter will end with a design of the developed model.

Chapter 4: Case Study - Applying the Model at ACTIVE

In the case study, the developed model is applied at Active. The case study starts with an introduction of the company and its objective with the customer migration. A list with all the metrics that were used in the Migration Measurement Model is presented and thereafter follows a description and analysis of each of the different parts of the model: financial measurements, customer measurements and operational measurements. The chapter ends with an evaluation of the company's success with the customer migration.

Chapter 5: Analysis of the Theoretical Framework

The analysis focuses on interpreting the results from the case study by studying each part of the model. It is discussed how well the model could be applied to the case study and what the results mean.

Chapter 6: Conclusions

This chapter starts with recommendations for measuring Active's migration, followed by requirements for implementation. A discussion whether the purpose of this thesis was fulfilled or not, with comments on credibility and future recommendations, are thereafter provided.

Chapter 7: References

2.   Methodology

The purpose of the second chapter is to give the reader an overview of how the thesis was executed. The research strategy is explained and every part of the process is explored. In this chapter the different research methods that were used in the study are presented. Finally, the credibility of the study is discussed.

2.1.   Research Strategy

A strategy is a plan of action designed to achieve a specific goal. It requires an overview of the whole project, a plan of action and a specific goal that can be achieved. The choice of strategy depends on identifying one that works best for the particular research project in mind. Whichever decision is made, however, it is important that the choice of strategy can be justified in terms of being feasible, being ethical, and is providing suitable kinds of data for answering the research question (Denscombe 2010). The purpose of this thesis was to develop a theoretical framework and apply it at a company, why the chosen strategy was to do theoretical research while iteratively carrying out a case study. The strategy was considered to be suitable in terms of time frame, scope and previous knowledge.

With a case study approach, the researcher starts with a set or related ideas and preferences, which, when combined, give the approach in its distinctive character. In this thesis, the case study started with a literature study that lead to a framework, which then later was adjusted and improved as the factors were studied in-depth. The case study was hence used for the purposes of 'theory-testing' as well as 'theory-building', with the aim to illuminate the general by looking at the particular. Indeed, the strength of a case study approach is that it allows the use of a variety of methods depending in the circumstances and the specific needs of the situation (Denscombe 2010).

There are many ways in which case studies might be used but does not imply that any particular case study must be restricted to the goals associated with just one category. In this thesis, the case study was theory-led by explaining the causes of events and processes from the literature, and discovery-led by exploring the key issues in Active's migration. The research process can be seen in Figure 1.

A case study is suitable for understanding and creating a model showing the relationships between complex factors, using both qualitative and quantitative methods. The strategy emphasizes the role of triangulation, which basically means to

view things from more than one perspective (Denscombre 2010). Below is described the different types of data that was used in the thesis.

Qualitative Data

Collected data can be divided into qualitative and quantitative data. Qualitative data can be observed, but not measured (Denscombre 2010). Initially, the literature review mostly consisted of qualitative data, in order to understand the topic, but also interviews and observations at Active provided information and ideas. The analysis of qualitative data was regarded as iterative, an evolving process in which the data collection and data analysis phases occurred alongside each other.

Quantitative Data

Quantitative data can be measured and often deals with numbers (Denscombre 2010). After the initial literature review, raw quantitative data was collected from Active, which had to be organized, summarized, displayed and described. Finally, connections between parts of the data was explored (correlations and associations). The data mostly originated from questionnaires or data files. Statistical tests were used to see similarities and differences between data, and different charts were later used to present the data.

Primary Data

Collected data can also be categorized in primary and secondary data. Primary data is data collected or observed directly from the source by the investigator who conduct the research (Denscombre 2010). In this thesis, methods for collecting primary data were surveys, questionnaires, interviews and observations. A large majority of the data from the presented case study was primary data, free from interpretations and valuation.

Secondary Data

Secondary data is data that has previously been collected by someone else of for a purpose other than the current one (Denscombre 2010). In this thesis, methods for collecting secondary data was mostly published work such as books and articles, but also statistics from the company that the author was not able to collect herself. The literature review was conducted by studying secondary data, but primary data from the company was later used to confirm the validity of these sources.
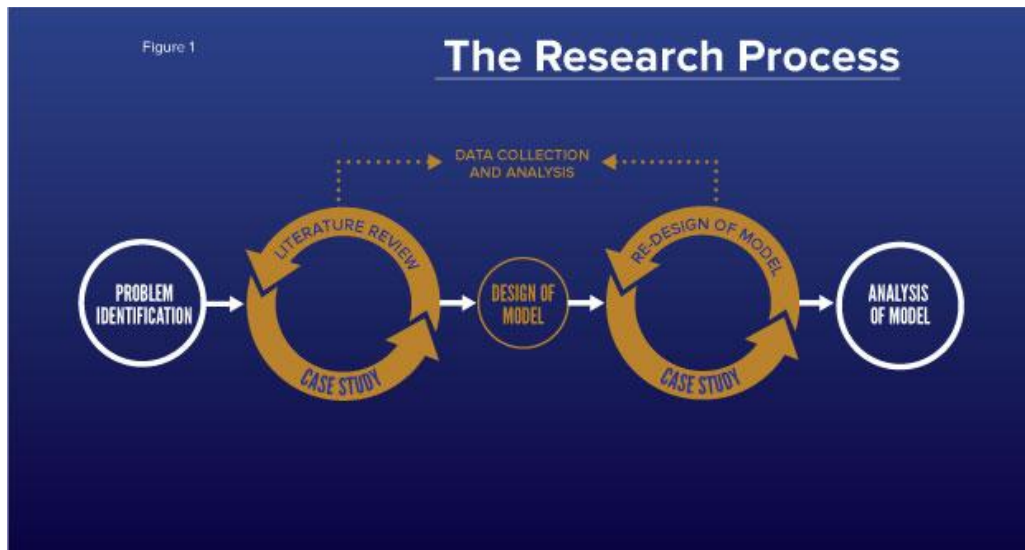
Figure 1. *The research process.*

2.1.1   Problem Identification

The problem and research question for this thesis was identified by the author, after discussing with different people involved at Active and with the supervisor at Lund University, and after reviewing the initial literature. The project specification and the purpose with the thesis were formulated as a first step, and did not change as the work proceeded.

2.1.2.   Literature Review and Case Study

In order to identify the features of the situation and gather enough knowledge about how to create a model for measuring the results of a migration, an initial literature study was carried out. The literature study focused around measurements in customer service, customer behavior in different channels and migration between channels, mostly found in e-books and articles and retrieved from different databases. The literature contributed with many insights, but it also revealed gaps where no previous research had been made. At the same time, the migration project at Active started and it was closely followed to get as much input as possible. By being seeing how the process progressed in the case study, relevant questions and areas to look closer into was discovered. Data was collected and analyzed as soon as the project started, in order to find or reject eventual variables for the model. The process of reviewing literature and studying the project at Active was iterative and ongoing for almost two

months. Several areas were left behind, due to time constraints and delimitations of the thesis.

2.1.3. Design of Model

When enough data was collected from the literature and case study, an initial design of the model was made. The purpose of the model was to enable a company to measure the success of an initiative that migrates customers from one channel to another, in order to improve or upgrade the way of handling customer support between the company and its end customers. The model used variables from different sources and were put together to be as general as possible.

2.1.4. Re-design of Model and Case Study

After the model was designed, it was applied at Active. The variables in the model now got specific measurements adapted to the situation at the company. The questions that were formulated during the initial phase could now be answered thanks to the model, but new areas and questions came up as the case study progressed. Another iterative phase was now taking place, where the model was re-designed and revised as it was used at Active. In this thesis both quantitative data, taking the form of numbers, and qualitative data, taking the form of words or images, was used for the case study.

2.1.5. Analysis of Model

As a final step, the thesis rounds of with an analysis of the different parts of the theoretical framework, describing what a company should focus on when the model is applied. The analysis is based on the results found in the case study, and the thesis ends with recommendations and comments on generalizability, credibility and future recommendations.

2.2. Research Method

A research strategy is different from a research method. Research methods are the tools for data collection – things like questionnaires and interviews (Denscombe 2010). In this thesis, several methods were used since that allowed the use of triangulation and exploration of the topic from a variety of perspectives. The most useful and suitable methods for the project was questionnaires, interviews, observations and documents.

2.2.1. Questionnaires

Questionnaires normally consist of a written list of question and are used to collect information which can be used as data for analysis. Questionnaires are appropriate when used in large numbers of respondents in many locations, when straightforward

8

information is needed, and when there is a need for standardized data (Denscombre 2010). In this thesis, primarily web based questionnaires were used, meaning that a web page was located on a site that visitors can reach from a link in an email from customer support. The questionnaire was developed together with senior managers from Active and the responses were read automatically into a database, where a spreadsheet could be created and analyzed. The used questionnaire, or customer survey, can be seen in appendix A. Secondly, verbal questionnaires were constructed to be asked by call center agents, when they got phone calls from customers. The data from these surveys were manually summarized in a spreadsheet.

2.2.2. Interviews

When more complex situations were studied, interviews were used as a research method. Interviews are appropriate when insights need to be gained into such things such as people's opinions, feelings, sensitive issues, emotions and experiences (Denscombre 2010). In this thesis, semi-structured one-to-one interviews were used for collection of information from agents, employees, customers and customer service specialists at Active and other companies. A semi-structured interview means that the interviewer is prepared to be flexible in terms of the order in which the topics are considered, and perhaps more significantly, to let the interviewee develop ideas and speak more widely on the issues raised by the researcher. The answers are open ended, and there is more emphasis on the interviewee elaborating points of interest. Field notes and, if the interviewee agreed, audio recordings were collected during the interviews.

2.2.3. Observations

There are essentially two kinds of observation research; systematic observation, linked with the production of quantitative data and the use of statistical analysis, and participant observation, associated with qualitative data and used by researchers to infiltrate situations (Denscombre 2010). In this thesis, participant observation was the most used method, by shadowing agents, since the principal concern was to see things as they normally occur and listen to what was said. However, systematic observation also occurred when data was collected from a large number of incoming calls, and the focus was sampling and frequency.

2.2.4. Documents

Documents are written sources, such as articles, reports, excel files and web pages (Denscombre 2010). During the literature study, a large number of articles and reports

were studied. Since this thesis was carried out onsite at Active, the author got access to a large number of reports and data. Through the CRM (Customer Relationship Management) system at Active, reports were created in spreadsheets in order to analyze the data.

2.3. Credibility

When conducting a case study, doubts can arise about how far it is possible to generalize from the findings of one case. However, although the case is in some respects unique, it is also a single example of a broader perspective. Additionally, the extent to which findings from the case study can be generalized to other examples in the class depends on how far the case study is similar to others of its type. In this thesis, guidelines are presented how to use the model (see chapter 3.8). These guidelines are created in order to make the model as generalized as possible.

Both literature which conflicts with the emergent theory, and literature discussing similar findings was examined prior to, and during, the thesis. This gave a deeper insight into both the developing framework and the conflicting literature. The central idea with this thesis was to constantly compare theory and data – iterating toward a theory which closely fits the data. At the point when incremental learning was minimal because the author observed facts seen before, the iterating between theory and data stopped, and the work focused on analysis and conclusions from the case study. The credibility of the documents was closely examined before the data was used in the thesis. Factors considered were amongst other: which purpose the document was written for, who produced the document, if it was a first-hand report and when the document was produced. This was, however, not always easy and many resources were excluded since their credibility could not be validated.

A crucial question with interview data is how to know that the informant is telling the truth. In this thesis, data was checked with other sources when possible, using triangulation. Furthermore, the author often went back to the interviewee with the transcript to check that the statements were accurate. The analysis of quantitative data included efforts to ensure that the data had been recorded accurately and precisely, that the data was appropriate and that the explanations derived from the analysis were correct. Data files that had been entered via a manual process were checked to make sure that no errors occurred, and some tests were performed twice to be compared with previous results.

3. Theory

This chapter presents all relevant theory for the study and is aimed to give the reader a better understanding of the topic. The theory focuses on three areas: self-service, measurements in customer support and customer behavior. Thereafter, it follows two best practice examples and two measuring practices, which, together with the theory, form the foundation of the developed theoretical framework for this thesis. The chapter will end with a design of the Migration Measurement Model.

3.1. Self-Service

In the theory, self-service is most commonly defined as any technologically mediated interaction or transaction with a company where the only humans involved in the experience are the customers themselves (Meuter et al. 2000). Companies often invest in self-service technologies with the hope that it will give them a competitive edge, allowing them to cut costs and/or improve service. It costs companies significantly less when customers can find information that they need themselves, compared to when a human customer service agent assists them. Self-service can also assure faster access to information, often 24/7 (Kauffman et al. 1994).

It is the internet and the commercial development of the world wide web that have accelerated the trend towards self-service. However, the increasing use of self-service technologies is changing the nature and scope of the customer input into service provisions in ways that might impact their perception of the whole service experience (Hilton et al. 2013). One reason is that self-service can have a very different definition – now the customer does the work for the company. For some customers, self-service can translate to "no service" and bad self-service can be a brand destroyer for companies (Alcock & Millard 2007). With self-service technology, resources are moved from that which the organization manages (employees) to that which they do not (customers). While customers may appear to be a cheaper resource than employees, they are also harder to train and manage, and the can become ad hoc advisers to other customers. As partial employees, customers are unable to draw upon the same level of expertise and tacit knowledge that employees do when producing the service (Hilton et al. 2013).

Calling a contact center for service and support can be frustrating for customers who end up stuck on hold or get trapped in voicemail. Self-service aims to solve these problems by getting users to find answers for themselves through alternative channels to the telephone. But many customers, despite the emergence and maturity of self-

service, still prefer to use the telephone because of the channel's immediacy, personalization or simply the desire to talk to a human being. One reason why self-service can work well is that most calls to contact centers tend to be common questions or standard problems (Hilton et al. 2013).

3.1.2. Knowledge-based and Transaction-based Solutions

Self-service technologies can be accessed by customers within the operating sites of organizations, as in self-check-in or remotely through the internet. Conventional self-service approaches fall into one of two categories: knowledge-based and transaction-based.

Knowledge-based solutions are designed to interpret customer requests that are often based on an easily searchable and intuitively structured database, essentially a collection of possible answers for frequently asked questions (FAQs). Knowledge-based solutions are quick and easy to implement. They often act as a first level of customer service and serve to reduce interaction costs by addressing the most common issues in an automated manner. Therefore, they work well if all customers want the same answers to the same questions. Knowledge-based solutions, however, push customers away from direct interaction with the company. They work poorly if all customers asking the same questions require different answers. Additionally, they must have minimal customization since customer transactions are not tracked (Hilton et al. 2013).

Transaction-based solutions encourage customers to use self-service channels by allowing them to make changes as well as enabling real interaction between the customer and operator. They do this by logging in and accessing their own personal details and services. Transaction-based solutions provide first level support and encourage customers to control their service and support. They enable customers to perform self-service on most of their inquiries, such as billing details, changing address details and reporting faults. Furthermore, they provide service providers a better view of what their customers are looking for in terms of new service packages and price offerings. A drawback is that back-office integration for completing transactions captured through different channels is often done using asynchronous platforms, and to avoid intrusion from customers, they require investment in robust security architecture (Gupta et al. 2005).

3.1.3. Technology Leverage Point

There are many tools that can make the customer's self-service experience more personal and more relevant, such as issue tracking, knowledge management, cloud technologies, search engines, dynamic FAQ, personalized customer portals and intelligent agents (Klie 2013).

While it is important to service customers on their channel of choice, it's essential to give agents what they need to efficiently work. By providing agents with a single point of collection for customer data, organizations can ensure that their customers are being heard and responded to in a quick, efficient way. In an online community, for example, questions should be routed to customer service agents if they have not been answered by forum users (Petouhoff 2009). Research shows that one of the top challenges faced by most multichannel contact centers is different applications used to manage customer care across different channels (CRM Media 2013).

Consistency is highly relevant and important for those support organizations today that offer multiple communication channels, such as phone, chat, email, SMS, IVR (Interactive Voice Response) etc. As customers may start interactions using a channel or device that is available for the moment and then continue them on another channel, a company has to look toward integrating and timing disparate information sources. Customers who interact across multiple channels should not have to repeat themselves (Morris 2013). There are specific kinds of technology that are best suited to making this problem resolution more effective: the technology needs to provide a comprehensive, integrated solution for web self-service and agent-assisted resolution and it needs to be able to track devices. Structured data is often the language of computers, such as large files of numbers, while unstructured data is created by humans, such as emails. To make the self-service technology the most useful, it needs to be built on a platform that can exploit both structured support content and unstructured content (DB Kay & Associates 2003).

However, every company does not have access to this type of technology. In order to measure the success of a customer migration, the most important tool is the Customer Relationship Management (CRM) system, which allows companies to manage business relationships and the data and information associated with the customer. With CRM, a company can store, track and analyze customer information, ideally in the cloud (Salesforce [no date]).

Figure 2 shows a study from IMCI (2013) and describes which self-services that are currently in use amongst 637 companies in 72 countries, and the percent of companies that provide each channel.
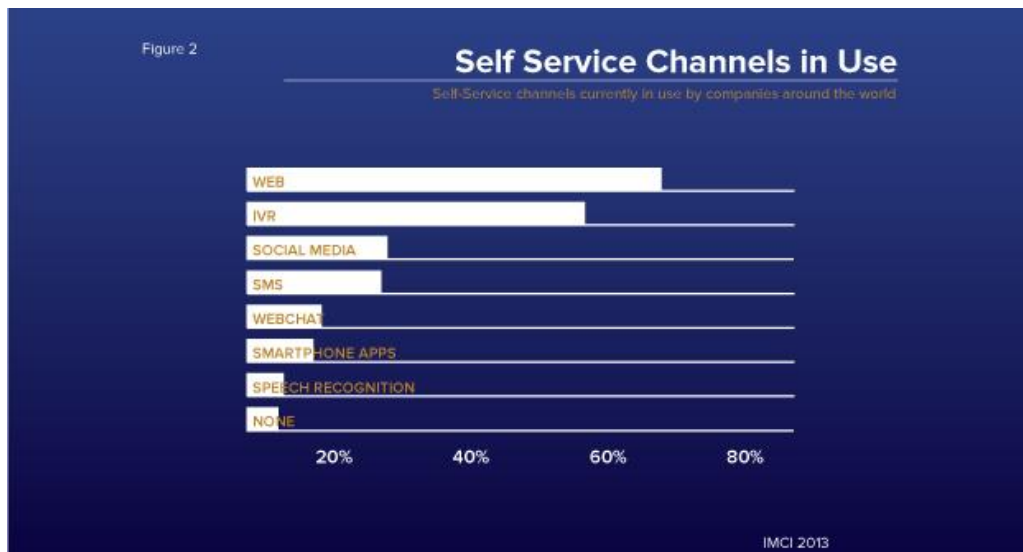
Figure 2. *Self-service channels currently used by companies around the world (IMCI 2013).*

3.1.4. Company Benefits with Migration to Self-Service

Channel migration refers to the movement of users from one channel to another to reduce costs or improve service, or both. Service improvement can include both better quality and higher uptake of the service (Kernaghan 2013).

While some companies might benefit from communicating with their customers through a new channel, others might first have to focus on getting customer conversations under control. Most small businesses and startups often end up using email to support customers, and the last thing they might consider is adding another channel. As soon as a company is able to streamline customer queries with the right processes, workflows, and tools, a channel migration can take place (Kernaghan 2013).

Before a migration takes place, a clear migration strategy should be defined. Strategies for channel integration and migration are a vital part of an overall channel strategy that should in turn be positioned within the organization's broad service strategy and supported by policies and guidelines for implementation. A successful migration

should lead to a support structure that is aligned with the company's goals (Kernaghan 2013).

The advantages of migrating customers to self-service are numerous and can provide opportunities to:

- Reduce costs
- Increase productivity
- Improve competiveness
- Increase the ability to deliver 24/7
- Increase customer satisfaction and loyalty
- Increase precision and speed of customization
- Differentiate through a technological reputation

The major incentive for most companies is cost reduction. Significant cost reduction can be achieved by increasing the number of customer contacts which are carried out through self-service rather than by traditional channels (Alcock & Millard 2007). Forrester published data showing that the approximated average cost per contact through a call center agent is $6, or $12 if the case gets escalated to technical support. The cost for a chat session is in average $5, $2.50-5 for email, $0.30 for Interactive Voice Response (IVR) and a self-service session costs around $0.10 (Leggett 2013).

Other benefits of self-service are less obvious, for example removing the more boring, repetitive and mundane tasks from contact center advisors. Humans are good at empathy, relationship building, complex problem solving and creativity – technology is not. Rather than being automated out of the process when self-service, such as FAQ, is implemented, the strengths of the human call center advisor could be utilized. While self-service can solve simple tasks, the call center agents are dealing with more complex calls. This impacts how contact centers are designed and managed and how agents are recruited, trained and supported. The agents get a more interesting and challenging job; thus increasing their sense of value to their organization and their job satisfaction. Job and employee satisfaction has been linked to customer satisfaction (Alcock & Millard 2007).

3.2. Measurements in Support Centers

Many companies invest a lot in self-service technologies with the hope to reduce operating costs and meeting customer demands, but unfortunately, everyone does not

get a great return on that investment. Research from IMCI (2010) shows that the problem often is that contact centers do not have a good understanding of the type of experience customers are having with self-service channels. For instance, a good number of support centers do not know when customers have tried to self-serve and when or why they abandoned the process. In the research, nearly half of all contact center professionals said their organizations did not measure customer satisfaction for customer self-service, and 70 percent did not have an integrated way to report on multichannel contacts. Given the shift in consumer preferences towards self-service and the growing focus on measuring customer experience, companies need a framework of metrics to measure and benchmark their self-service efforts (Zendesk 2013).

There is no stand-alone metric by which a customer service organization's success should be judged. Each piece contributes to an organization's foundation and breadth. On the other side, too many metrics can prevent a support center to organize, act upon and achieve any results. The volume of data that a company gathers does not correlate to better performance. In order to choose which metrics to use, a support organization has to start by understanding the objective with the customer migration. If the reason is improved customer experience, satisfaction measures are of primary importance, but if the reason is cost related, efficiency and productivity measures are more important (Morris 2012).

From the literature, four areas that companies should focus on when measuring success in customer support are standing out: support costs, customer satisfaction, self-service quality and agent satisfaction. Below, each of them is presented, with additional theory explaining its importance and principles.

3.2.1. Support Costs

In a company, customer service is often the first budget area to be cut because it is so difficult to measure and often deemed to be a waste (Wilhite 2006). On the other hand, customer satisfaction has long been considered a milestone in the path towards company profitability. Although it is widely acknowledged that customer satisfaction leads to higher and more stable revenues, the relationship between customer satisfaction levels and the costs that the company incurs has received far less attention (Cugini et al. 2007). With no restraints on spending, it is relatively easy for a support center to "spend its way" to high customer satisfaction (Rumburg 2012). Some companies offer different communication channels depending on the size and

importance of the customer. This way a company makes sure that customers who bring the most revenue get the best (and most expensive) support, while smaller customers are directed to self-service.

Organizations implementing help portals and online communities can expect some startup and recurring costs, when deploying self-service technologies. The cost can be divided into three categories: technology, people, and process management, which has to be weighed against the future savings and revenues. Savings through self-service are largely made because of increased speed of transaction, transactional solutions, and the removal of employees from the process for both transactional and knowledge-based services. Automation can also reduce the cost, in both time and error, of potential human involvement (Alcock & Millard 2007).

According to IMCI (2010), investment in self-service technologies is on the rise with contact centers are spending a higher amount of money each year. Figure 3 below shows the trend as a reply to the question "What was/will be your total investment in self-service technologies from 2009-2011?".

Figure 3. *Total investment in self-service technologies (IMCI 2010).*

Even though the data is a few years old, it shows that when companies are looking in a 3-year perspective, they intend to spend more money on self-service in the future.

17

Investing in self-service seems to be a trend and new technologies are emerging every year, such as virtual agents and advanced speech recognition.

3.2.2. Customer Satisfaction

Defining and improving customer satisfaction and experience is a growing priority for companies since it is replacing quality as the competitive battleground for customers (Klaus & Maklan 2012). Customer satisfaction is a measure of how products and services supplied by a company meet or surpass customer expectation. It appears the majority of companies deploy self-service with their customers in mind, as well as the need to save costs. Levels of customer satisfaction are believed to increase as a result, along with reduced cost leading to an increase in profitability (Alcock & Millard 2007).

While companies commonly use several, often too many, measurements of customer satisfaction, Fred Reichheld – a well-known expert on loyalty measurement – criticizes traditional satisfaction as being overly complex without adding value. He argues that by simply asking customers their likelihood to recommend plus one open-ended follow-up question, companies can reliably measure the long-term health of their organization. The measurement is called Net Promotion Score (NPS). By definition, it is the percentage of your customers who are promoters minus the percentage that are detractors. Reichheld provides summary empirical evidence in his writings that suggest the metric is associated strongly with enterprise-level growth. However, evidence from academia is less conclusive. In some instances, the likelihood to recommend is shown to be strongly predictive of customer behavior and financial performance. In other cases, the linkage is tenuous if present at all. Nevertheless, NPS is today, among companies, one of the most used measures of customer satisfaction (Klaus & Maklan 2012).

The potential danger of self-service is that it lessens the opportunity to talk directly to customers through interpersonal contact. Any interaction which involves direct contact with customers has the potential to supply the company with valuable knowledge and information about the customer. Contact center agents are uniquely placed to capture knowledge on customers, through use of their latent and tacit knowledge. These things are difficult to automate and self-service design needs to maximize the strengths of both the man and the machine (Alcock & Millard 2007).

3.2.3. Self-Service Quality

Customers are turning to support websites as a way of helping themselves solve problems or learn how to do something. In some of these cases, the customer's ability to serve themselves may prevent them from opening a support call, so-called call deflection. In many cases, the support website delivers help to customers who never would have opened an incident, increasing the value of the solution and making them more satisfied (DB Kay & Associates 2003).

Regardless of the company's motivation, the success of web self-service depends on the quality and quantity of the information and the ease with which it can be accessed. Online customers are extremely impatient and information-hungry, so the material available to customers through self-service needs to be informative and direct, even in response to queries that are not (Klie 2013). Studies in service quality have mostly been conceptualized around face-to-face service, while in e-service, quality includes dimensions such as information quality, ease of use, privacy/security, graphic style and fulfillment (Rumburg 2012). Since the web is often visited by anonymous visitors, many companies find it a challenge to measure the effectiveness of their website. Particularly within the context of their knowledge base or help center where visitors do not always authenticate to get help or service from a company (Perez 2013). For self-service channels such as IVR and web portals, it is important to measure how important it is for customers to navigate the channel and resolve their queries. Questions to consider are: how well customers navigate, what information they are looking for and how easy it is to find, whether the right content is housed in the right place and what eventually caused the customer to call, email or request a chat session, rather than continue to serve themselves. Additionally, measurements have to be created differently depending on if it is a transactional or knowledge-based web site.

Online communities - a collection of people who want to share their knowledge, perspective, and solutions - have evolved and grown over time. The quality of an online community is hard to measure since it is often not fully managed by the company. The ration of "super users" to "posters" to "lurkers" is referred to as the 1:9:90 community participation principle. Most people in communities are referred to as "lurkers" – they visit the site and read the questions and answers, but don't post (ask questions). Therefore, it can be hard to keep an online community "alive", where questions are answered, without the interaction of support agents (Petouhoff 2009).

A research made by Jerath et al. (2012) showed that assisted telephone channel is a dominant customer support channel for complex services, while web portals are effective for simple, unambiguous tasks (such as seasonal information needs). The design of a web portal, in terms of access to information, can be an important dimension in this decision. However, there are limitations on what can and should be resolved through self-service. As technology advances, incident complexity also increases. Developing knowledge articles that keep up with technology, and offer them in a friendly, searchable format is a very challenging task (Rumburg 2013). As important as testing and measuring are in determining how well self-service is working, what really matters in the end is how the customers feel about the experience. And there is no better way to do that than to ask them directly. Web users who have just completed a transaction can be surveyed with pop-up windows or outbound email surveys, while IVR users can give an automated phone survey.

Finally, there are indications that quality and satisfaction of an offline service (i.e. phone) negatively affects the intentions to use an online channel (i.e. web self-service) (Sousa & Voss 2012; Yang et al. 2012). Thus, e-service quality might not be the only important factor for migrating customer interactions in the online channel. At best, it would require a large jump in e-service quality to actually change customer patterns of channel use (Sousa & Voss 2012).

3.2.4. Agent Performance

Contact centers have long evaluated agents on performance metrics critical to the outcome and staffing requirements. Average call time, transfers, absenteeism, quality conformance scores and other metrics are viewed as reliable for assessing the effect that individual agents have on service quality. But how does the customer experience fit within these metrics? Commonly, customer satisfaction is not tracked at the agent level or used in performance management. Consequently, it is often difficult to identify which agents are most affecting satisfaction scores (Georgesen 2012).

The problem is that the data collected in customer service is easy to quantify but more easily manipulated, which often affects the outcome and service level. If managers track support staff performance by the number of cases resolved, the agents have a tendency to close customer's ticket without confirming that the problem is solved. If managers use time-based metrics, research has shown that this encourages staff to cut calls short. It also reduces the odds they will work for hours to solve a problem if necessary (Wilhite 2006). In order to make the customer experience fit within these

metrics, an important step is to capture agent details using satisfaction surveys. This approach delivers sufficient individual data to get a stable and reliable indicator of performance at the agent level, and it is not overly colored by a single customer contact. Obviously, objectives have to be matched with target metrics (Georgesen 2010).

Many contact center managers measure their operations based on strict key performance metrics, such as speed to answer a phone call. However, statistical analyses have revealed that agent skills and first contact resolution (FCR) have much stronger impacts on satisfaction performance than does time spent in queue. Customers whose issues were resolved at first contact have higher satisfaction scores – regardless of how long they waited. Acceptable waiting times vary by industry, customer segment and type of call (Convergys 2008a).

3.3. Customers Behavior and Adoption

In order to understand why customers choose a certain channel, how well they intend to use self-service technologies and what experience that makes them the most satisfied, a company must study customer behavior and their adoption of the new channel. Below will be explained what areas the theory highlights and how they influence a migration.

3.3.1. Customer Benefits with Self-Service

With increasing online sales and marketing on the web, multichannel customer management is becoming an important part in companies' strategy. Despite this trend, there is a lack of details on how customers migrate between channels. Some prior work has shown that customer preferences differ by channel, but most of them describe e-loyalty and trust in a transactional environment, such as e-commerce and e-banking (Ansari et al. 2008).

Research has shown that customers are particularly satisfied with self-service:

- When it solves an intensified need (e.g. in an emergency)
- When it is better than the alternative (e.g. calling the contact center)
- When it performs as it is supposed to

All customers can potentially benefit from good self-service. Some of the benefits to customers of self-service are time and cost savings, greater control, reduced waiting time, avoidance of human interaction, convenience of location, fun or enjoyment from

21

using the technology and efficiency, flexibility and surprise. These have all been shown to positively influence the usage of self-service (Alcock & Millard 2007).

3.3.2. Adopting Self-Service Technology

Employees have traditionally played a major role in customer's service experience. Yet self-service technology replaces the customer-service employee experience with a customer-technology experience. A research by Hilton et al. (2013) pointed out that there is a danger for organizations to embrace self-service technology as an economic and efficient mechanism to "co-create" value with consumers when they are merely shifting responsibility for service production.

Alcock and Millard (2007) showed that where self-service technology enhances value it is liked by customers: when the service is faster, more convenient and cheaper, and where staff is used more effectively to support customers - rather than being replaced by the self-service. However, customers should be able to opt for the conventional route rather than being forced to use self-service. Technology take-up is driven by social and consumer needs – whether if fulfils their motivations and desires. The authors stated that, in order for a system to fulfill its function, it must be:

- useful – it needs to do what the users need (i.e. functionality) otherwise customer motivation to use will be significantly compromised
- useable – the users can do things easily and effectively (i.e. usability)
- used – the users actually do start and continue to use the product

The authors present a model, see Figure 4, that links the degree to which users think the system is easy to use and the belief that the system is useful. These predict the user's attitude towards the system and the likelihood for them to actually use it.
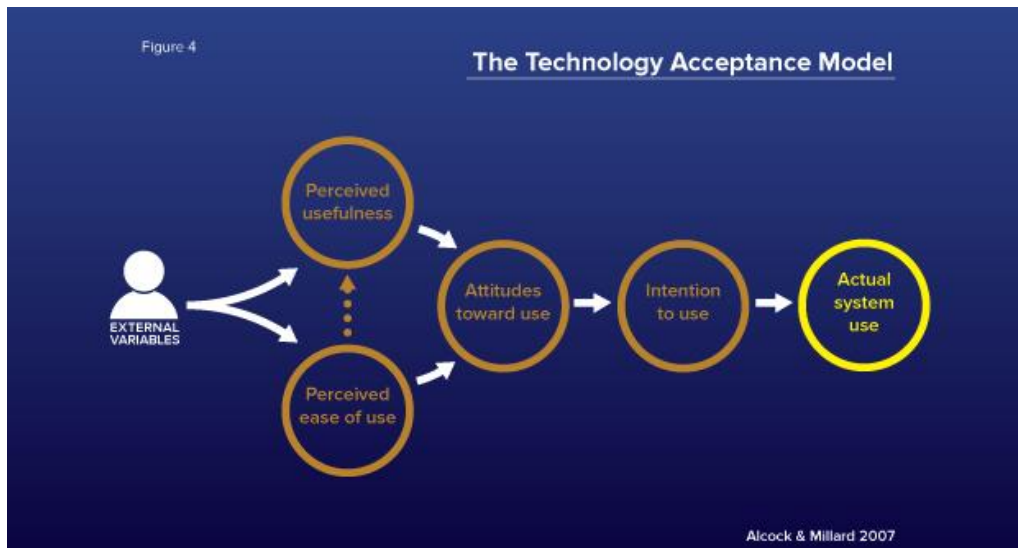
Figure 4. *The Technology Acceptance Model (Alcock & Millard 2007).*

However, all customers are different. Some customers will start using the self-service from day one, others need help to get started, and a third category will probably never use self-service. Motivation and technical ability are two variables that influence trial of self-service. Motivation can be reached by clearly communicating valued customer benefits, such as savings in cost or money, while ability readiness is enhanced by training and easy instructions (Meuter et al. 2005). Most importantly, to influence the customers to use self-service, ease of use and usefulness of the self-service has to be marketed continuously, preferably through different channels such as newsletters, on the website, through engaged users in online communities or in auto-replies (Comaround [no date]).

Contrary to popular belief, interest in web self-service technologies is not just coming from younger consumers. The technology is so disruptive that it is changing the behavior of consumers of all generations. A recent study by Forrester Research found that 72 percent of all consumers – regardless of age – prefer self-service to picking up the phone or sending email when it comes to resolving support issues, and the overall self-service satisfaction rating is 63% across all generations (Morris 2013). However, only half of all self-service users usually find what they are looking for (Klie 2013).

3.3.3. Customer Behavior in Different Support Channels

It is of great importance for firms to understand customer behavior in support services (Sousa and Voss 2006), which has motivated several papers on this topic. Bobbitt and Dabholkar (2001) and Meuter et al. (2005) explored the determinants of adoption and customer satisfaction for self-service technology channels using questionnaires and survey tools to obtain customers' preferences regarding self-service. However, they did not consider how adoption of self-service technologies affects demand for other available alternative channels. Campbell et al. (2010) conducted a field study on the impact of online banking channel adoption on local branches, IVR, ATMs and call centers. They showed that the users who adopted online banking channel reduced their dependence on the IVR and the ATM, but increased their consumption of the firm's offline channels; the call center and local branches. Kumar and Telang (2011) conducted experiments to show that the web portal is useful for providing structured information to customers, but it is not effective for resolving unstructured questions. In the latter case, they found that customers who use the web portal for unstructured queries call more by telephone to the call center.

Findings from a US health insurance firm showed that each customer has an underlying information stock which determines her behavior. It revealed that customers prefer the telephone channel if their information needs are higher, but prefer the web portal for seasonal information needs. Across customers, it has been distinguished two distinct customer segments: "web avoiders" and "web seekers" (Jerath et al. 2012).

In summary, customer behavior in different support channels appears to depend on what other channels are available and what technology readiness and information need the customer has. However, few studies have considered that customers might use several channels at the same time and how they behave when they are migrated from one channel to another.

3.3.4. Brand Extension and Expectation-Confirmation Mechanism

With few exceptions, most firms have initiated their online business by expanding their existing traditional offline business. Accordingly, most consumers are also single channel users at first, and they gradually develop into multi-channel users through channel extension. A consumer's channel extension is defined as a dynamic process in which consumers use services by utilizing channels in addition to the ones they currently use. During this channel extension process, consumers' experiences with a

firm in one channel may affect their perceptions and beliefs about the same firm in another channel. Therefore, while examining the determinants of consumers' online behavior, it is critical to consider the impact of the traditional offline channel (Yang et al. 2012).

Research by Yang et al. (2012), with data collected from the banking industry, showed that consumers' offline channel experience influences their intention to extend to the online channel through two routes. These two routes are based on two different mechanisms: the brand extension mechanism and the expectation-confirmation mechanism, see Figure 5. Under the brand extension mechanism, the perceived service quality of the offline channel positively influences the perception of the corresponding service quality of the online channel, which further influences the intention to use the online channel. Under the expectation-confirmation mechanism, the confirmation of the performance of the offline channel negatively affects the perception of the relative benefits of its online channel, which further affects the intention to use the online channel. This is called cross-channel synergies and dissynergies on consumers' channel evaluation.
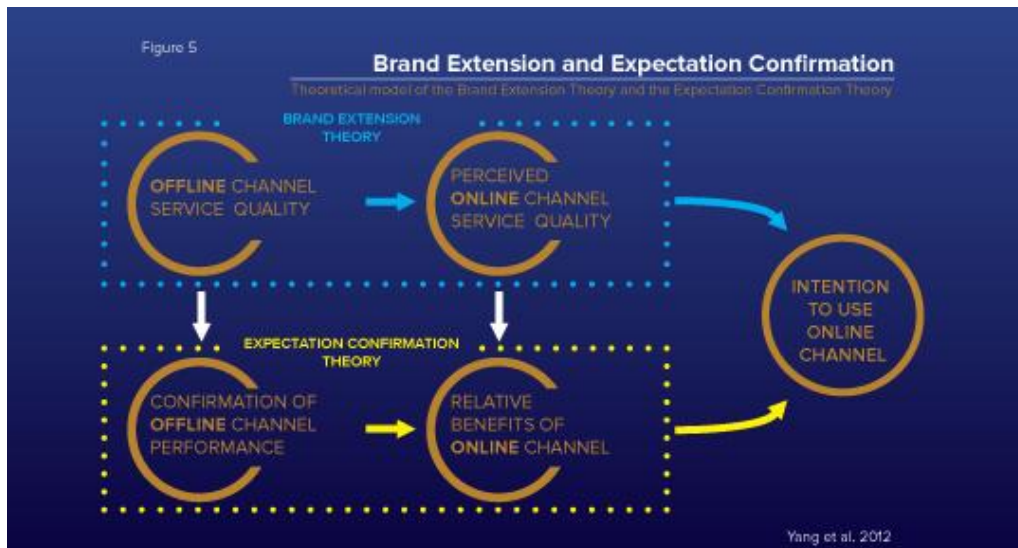

Figure 5. *Theoretical model of the brand extension theory and the expectation confirmation theory by Yang et al. (2012).*

According to expectation-confirmation theory, if a users' initial service performance expectations are not confirmed during their actual offline channel usage, they may try to remedy this dissonance by seeking to use the online channel or modify their usefulness perceptions in order to be more consistent with reality. On the other hand, if a users' initial service performance expectations are positively confirmed in the offline channel, they may unlikely perceive the relative benefits of the corresponding online channel even with high perceptions of the online channel. The reason is that their needs have already been satisfied in the offline channel and their motivation to use the online channel is not yet triggered (Yang et al. 2012).

3.3.5. Customer Behavior in a Multichannel Environment

It is easy to think that today's more technological consumers might begin abandoning traditional customer service channels such as phone or email in favor of newer channels like chat, web, self-service, social communities and mobile, but that is not the case (Valentini et al. 2011). Instead, the majority of consumers are simply increasing the total number of channels they use to interact with brands and organizations, based on convenience. The ever-expanding multiplicity of channels through which customers can be served makes it imperative for managers to understand how customers decide which channel to use (Ibid.).

According to a recent Ovum study of 8,000 consumers from across the world, the majority of consumers use three or more communication channels when engaging in customer service. Result show that 25% of consumers use one or two channels; 52% use three to four; and 22% use five or more. In conclusion, the majority, 74%, use at least three channels when interacting with a company for customer related issues (Morris 2013).

Research has uncovered numerous factors affecting how customers use various channels and combinations for channels. Examples of categories are customer attributes, customer preferences and goals, product/service characteristics and channel attributes. As a consequence, customers will have different requirements for multichannel service delivery and will value different channel attributes. It has been shown that customers rank channels differently in terms of their ability to meet their requirements. In general, while virtual channels tend to offer increased convenience, transactional efficiency, information availability and accessibility, the physical channels typically rank higher in terms of the richness and complexity of customer interaction (Sousa & Voss 2012).

In the banking industry, it was found that a migration to online services lead to a reduction in e-loyalty. If this is the case, this negative effect must be weighed against potential cost savings. Many multichannel banks engaged in such initiatives have been careful to not limit channel choice too drastically and to not totally disengage customers from branches (Ibid.).

3.3.6. Channel Steering and Channel Switchers

Many companies believe that customers want more choices in how they interact with a company such as web chat, knowledge bases, step-by-step guides, email, click-to-call, online support services, etc. With all the choices available for customers to resolve a given issue, it is hard for them to make the right (lowest-effort) choice based on the issue or problem they are experiencing. Some kinds of issues are very fast and easy to resolve through web self-service. Others are so complex that they require live interaction with a service agent. The vast majority of companies simply leave it up to the customer to choose his own course, instead of directing customers to appropriate channels (Dixon et al. 2013).

Recently, some major brands have experimented with not providing or minimizing customer service on certain channels in order to funnel support efforts. Best Buy, an American electronics corporation, recently removed the email option from their website since it provided low satisfaction scores, in favor of live chat. The reason was, according to the company, that communication back and forth via email did not offer the same level of in-the-moment assistance that a customer would get from an instant response like via live chat. Six weeks later, however, they decided to restore the email option, since many customers still preferred it (Morris 2013).

While many companies are good at tracking a customer's usage of one channel, few companies have systems capable of tracking the experience across multiple service channels. Companies tend to think of their customers as "web customers" or "phone customers", not as customers whose resolution journeys cross multiple channel boundaries. This is called channel switching – when a customer initially attempts to resolve an issue through self-service only to *also* pick up the phone and call customer service. Customers who attempt to self-serve but are forced to pick up the phone are more disloyal than customers who were able to resolve their issue in their channel of first choice. They also cost companies more to serve (Klie 2013).

Banfi et al. (2012) tracked the customer service journeys of consumers going through various touch points to resolve issues and found that customers who started and ended their service journey through traditional channels declared an overall satisfaction rate of 57%, see Figure 6. The respondents that had a journey incorporating different mixes of traditional and digital channels stated a satisfaction rate only marginally higher, while customers who only used digital channels reported that their satisfaction was 19 percentage points higher than traditional only channels. These results are clear evidence that a purely digital journey drives higher customer satisfaction (Banfi et al. 2012).

Figure 6. *Customer satisfaction for digital and traditional journeys (Banfi et al. 2013).*

3.3.7. Customer Loyalty and Experience

Depending on the type of company, a satisfied customer may not imply a loyal customer. Loyalty is defined as customers' intention to continue doing business with a company, increase their spending or say good things about it (or refrain from saying bad things) (Dixon et al. 2010). With a solid base of loyal customers a company can be assured of its continued health and stability (Georgesen 2008). A recent study by Dixon et al. (2010) showed that 20 percent of the "satisfied" customers said they intended to leave the company in question and 28% of the "dissatisfied" customers intended to stay. So how can one know if a customer is truly loyal?

In a study by Gelbrich (2009), it was showed that failure in technology-based service encounters triggers anger and helplessness. Angry customers display lower levels of loyalty, and helpless customers refrain from using the service in the future. It was also presented that helplessness is not related to customer satisfaction, but that helpless customers often search for more expensive communication channels. The reason was concluded to be that a helpless person blames the technology, not the provider, for service failure. Anger, on the other hand, has a strong negative impact on customer loyalty and angry customers often react by switching their provider.

3.3.8. Reputation
Service failure not only drives existing customers to defect – they also can repel prospective ones. The experience that individuals have with a company and then what they hear from friends and family influences their perception of, and likelihood to do business with, a company. Dixon et al. (2012) did a three-year research of 75,000 customers which showed that nearly half of customers who had a negative experience told 10 or more about it, while not even a fourth of the customers voiced a positive service interaction. With the opportunity to post their thoughts in venues outside the ones controlled by the company, customers can easily share their negative thoughts in social media, blogs and review sites (Lamont 2014).

3.4. Methodologies and Measurement Tools
In current studies of customer support, two common concepts for measuring activities and results are distinguished. One is the Balanced Scorecard, which gives a balanced view of organizational performance and is mostly connected to a business' vision and strategy. Another methodology, Knowledge-Centered Support, provides different metrics for knowledge bases and defines four maturity phases that help a support center find the right benefits and measurements for each phase.

3.4.1. The Balanced Scorecard
The Balanced Scorecard is a strategic planning and management system that is used extensively in business and industry to align business activities to the vision and strategy of the organization, improve internal and external communications, and monitor organization performance against strategic goals. It originated as a performance measurement framework that added strategic non-financial performance measures to traditional financial metrics to give managers and executives a more balanced view of organizational performance (Balanced Scorecard Institute [no date]).

As shown in Figure 7, the balanced scorecard suggests that the organization should be viewed from four perspectives: Learning and Growth, Business Process, Customer and Financial, and that a company should develop metrics, collect data and analyze it relative to each of these perspectives. The four perspectives offer a balance between short-term and long-term objectives, between desired outcomes and performance drivers of those outcomes, and between hard objective measures and softer, intangible measures. Each perspective of the Balanced Scorecard includes objectives, measures of those objectives, target values of those measures and initiatives for meeting the objectives (Kaplan & Norton, 1992).

Figure 7. *The Balanced Scorecard (Kaplan & Norton 1992).*

3.4.2   KSC Adoption Phases

Knowledge-Centered Support (KCS) is a methodology and a set of practices that focuses on knowledge as a key asset of the support organization. KCS seeks to create content as a by-product of solving problems, develop a knowledgebase built on demand and usage, and reward learning, collaboration, sharing and improvement. According to KCS, any benefits realized in the short term can be tracked using traditional support metrics, while longer-term benefits are in new areas of value creation and, therefore, require new measures (Kay 2007).

The time period of each phase, see Figure 8, depends on the culture, the underlying technology, and the complexity and nature of the business. Measurements are used to asses when the support center is ready to move to the next phase. A list of metrics to use in each phase, and how to measure them, is presented in appendix B.
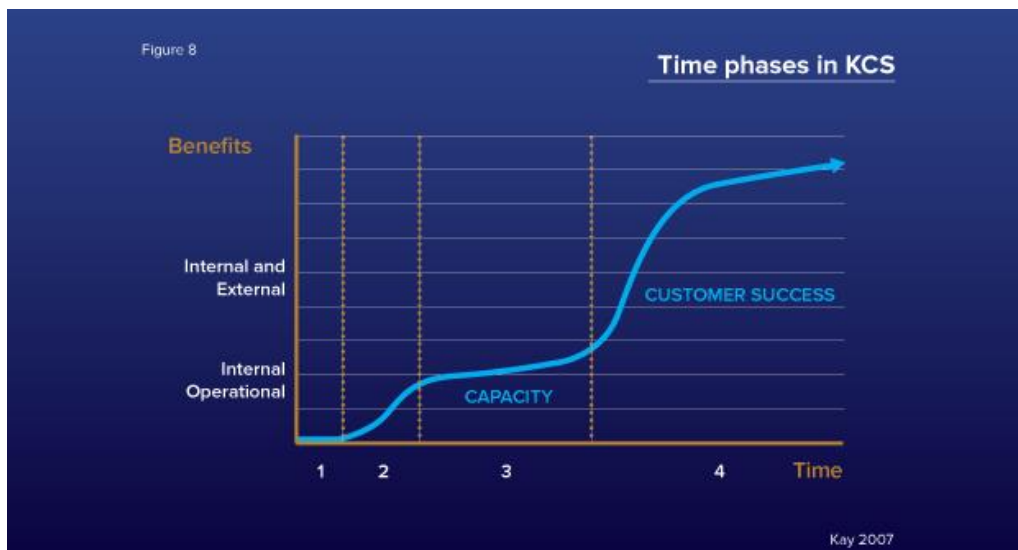

Figure 8. *Time phases in KCS (Kay 2007).*

Phase 1: Planning and Design
Phase 1 provides time to develop the roadmap and foundation of the KCS program. Tools are built during this phase, which are required for successful adoption. Baseline measurements are gathered and realistic internal and external expectations are set.

Phase 2: Adoption
Phase 2 establishes internal understanding and training. In this phase, focus is on individual and team proficiency measurements rather than organizational measures. The desired outcome of this phase includes internal reference ability and participant enthusiasm about the migration. This phase should produce moderate efficiency gains but goals are not set for these activities. Efficiency targets are considered to distract employees from the adoption measurements.

Phase 3: Proficiency
Phase 3 builds people and process competence and a mature knowledge base. Major efficiency gains are made, so organizational-level measurements can be assessed, such

as resolution capacity and average work time to resolve. By the end of phase 3, the support organization should be able to document the kind of improvements in ROI that business managers use. Improvements in the cultural baseline of collaboration and trust in employee job satisfaction should also be seen.

Phase 4: Leverage of the Knowledge Base

Phase 4 provides operational improvements for the support organization, leading to increased customer success and loyalty as the knowledgebase is now used externally. The agents are working on fewer known issues as much of the work is now being handled through self-service. Patterns, trends, and insights from the knowledge base are shared with product and service development teams to eliminate root causes and improve customer satisfaction. The traditional metrics that were used in the first phases are now going in the opposite direction and new measures for self-service are introduced. Phase 4 benefits are usually 18-30 months from the beginning of the journey.

KCS in Self-Service

While KCS techniques improve the efficiency and quality of assisted support, most teams are also using it to enable a shift from the assisted model to a self-service model. By capturing knowledge and making it available broadly, KCS helps support agents shorten resolution times and improve capacity in Phase 2 and Phase 3. The measures here are average work time to resolve, cost per incident, and number of incidents handled per analyst per month. Trends in these measures accurately reflect improvement.

The picture changes dramatically in Phase 4, however, as customers gain access to the well-developed knowledge base. Customers help themselves to information earlier in the process. Many of their questions and concerns are answered quickly, on demand, without support center assistance or the need to escalate. As new and complex issues are entering the assisted support process, the traditional metrics – average work time to resolve, cost per incident, and number of incidents handled per analyst per month – start to go the wrong way, but the customer experience is vastly improved. Phase 4 needs different measurements: web self-service results, product improvements based on patterns in the knowledge base, and the impact on customer and employee loyalty. Support is now transformed from a transaction-based model to a highly leveraged relationship-based model (Kay 2007).

3.6. Best Practice

There is a lot to learn from support organizations around the world, but each of the solutions are different from one another and not necessarily applicable at every company. Presented below are two companies that once had a problem with supporting their customers successfully, but now they have found a unique way to handle support by using a new or improved communication channel.

3.6.1. Support Communities

It's hard to get tangible results from social media and communities. Giants from Coca-Cola to Wal-Mart have set up web sites where customers can share their interest in the brand, but many of these sites do not attract enough visitors to form a real community or they have been slammed by critics (Reena 2009). Unlike many other companies, there is a company in southern California that seems to have figured out a way to benefit from social communities. The company prefers to not be mentioned by name in this report, but it is a leading player in the market of software solutions for customers, with over 9,000 employees.

Rather than inviting the whole world, the software company steers only active users as a resource to a site where they can exchange truly helpful information. For customers, that means quicker answers to problems. For the company, this volunteer army means less need for paid agents. The community is accessible automatically to anyone who uses the software that the company offers. This approach was chosen after the Chief Executive saw what was going on at the web site of one of their products. On the site, customers were not only asking technical questions, they were often outshining the company's own tech support staff by answering 40% of the queries themselves. Today that number is up at 70%, resulting in less calls to customer service and cost savings with less of a need for support agents.

Due to this great success, the company decided in early February 2014 to increase this number even further. Since the number of active volunteers is definite, mostly consisting of older software users with a lot of spare time and engagement, the company tried to hire outbound agents that would answer questions on the site. This resulted in great resistance from the volunteers, since they did the same work for free. Moreover, often the new agents would copy and paste old answers that the volunteers once had written, which disappointed the customers and upset the volunteers. The two week long training the agents had got before being hired was not comparable to the lifelong training the volunteers had with the software. Likewise, experience with the

33

need to ask for more questions in order to solve the customer problem accurately turned out to be an important factor.

Emails are no longer used as a support channel since, according to the company, they were difficult to manage. A customer could pick up an old conversation with the support center - making it hard to close a case and take measurements. Instead, the company steers the customers to the right channel from their web site, choosing from the help portal with a knowledge base, social community, chat or phone. Current customers have a special number they can call, while customers that have not yet registered and paid for the software are steered to the chat and knowledge base. A Customer Care Analyst at the company admitted that the customer survey, sent out after each interaction, contains too many questions, since they aren't sure what questions to ask and what to measure. As a result, the participation rate is only 5%. Agents are valued on their resolution and there is no expected minimum cases per day to close or measures for efficiency. But with few customer surveys received, many agents are not evaluated. Evaluation and user satisfaction with the knowledge base is made though an external service, where users are hired to give their opinion on the content quality and user friendliness.

3.6.2. Customer Interaction Network

Cisco Systems, Inc. is the worldwide leader in networking, known for excellent customer relationships. Cisco customers are IT professionals who manage Cisco systems purchased by their organizations; these customers require ongoing, highly complex interaction. Cisco was among the pioneers who effectively used the internet as a part of answering the customer's question. They could teach the customer the answer and show him or her not just the answer to the same question on repeated occasions, but also enable the customer to find that topic and query on the web. While talking to the customer on the phone, a Cisco agent would ask him or her to join a web session. He or she would key in a code on the web and the Cisco agent would lock them in together, archiving the session for next time, and capturing that experience on the web in order to analyze it. How well did it work? How could that have been different? When did they lose the customer? The call center could give Cisco developers real-time customer response information about the usability of their tools that they would never get in a survey (Hastings 2010).

Cisco was like most large companies that grew quickly and ended up with many silo call centers, reporting to different business groups and not sharing information across

other call centers. This meant that they were inconsistent, overlapping, and customers were frequently routed around from group to group. The vision was to have a single access point for the customer and the ability to answer the question or route to the expert regardless of the customer and question – it was called the Customer Interaction Network (CIN). It required that Cisco organizations share knowledge and that CIN agents interact with the customer by sharing, teaching, and capturing the experience. Call centers in the past focused only on answering the question but not on listening to what else may be going on that be of importance to the company. With the implementation of CIN, problems are captured before they become a critical issue, leading to high rates of First Contact Resolution (FCR).

Cisco increased both efficiency and customer satisfaction. Previously, a customer would contact the call center and the agent would open a case. The customers would continue calling, and the call center would keep opening cases. With the CIN initiative, when they called, the Cisco agent showed them the web page where they were going to open the tool. They let the customer know that they could do it too – with or without the Cisco agent – making it clear that they were going to use the same tool the Cisco agent could use. Cisco added a little "click to talk" button on that tool. They said "Look, if you go to the web tool first, before calling, if you subsequently need a person, we'll guarantee you'll get to an engineer faster than if you called our support number". Within three months, Cisco had reduced the number of calls coming in to open cases by 50%. Customers' satisfaction increased because Cisco agents did not just solve their issue and hang up, they taught them to do it themselves. In addition, as Cisco was teaching them how to use the web tool, they could provide feedback to Cisco engineers for redesign to make it easier for customers (Ibid.).

Implementing CIN took almost three years, where the first two years were all about people and sharing knowledge. Cisco had very competent engineers, with their expertise defining their identity and their answers being part of their value to the company. If they gave up their answers to be reused and repeated without them, then who would they be? Because of this, Cisco started rewarding them on their answers – the number of answers they published on web and the usage of those that were published. What was reported was not which customer they helped or the number of cases they completed as much as the things they shared (Ibid.).

Call centers in most companies focus on volume, talk time and workforce management.

What is often neglected is the need to provide the mechanism to capture a potential issue and reward agents for recognizing opportunities for improvement, capturing what they hear and what the customer is saying. How many times did the agents capture quality feedback? How many times did they recognize a problem and let management know about it? As a key for future innovation, the call center agents would feel more valuable and increase their motivation.

3.7.   Designing the Model

In order to design a theoretical framework, the Balanced Scorecard approach and KCS was used as an inspiration, together with theory and experiences from different studies and companies. The presented model is called the Migration Measurement Model and its purpose is to help a company measure the result of a migration of customers from one support channel to another. The framework is intended to be used within customer support, in order to measure and find a successful way to communicate with a company's end users.
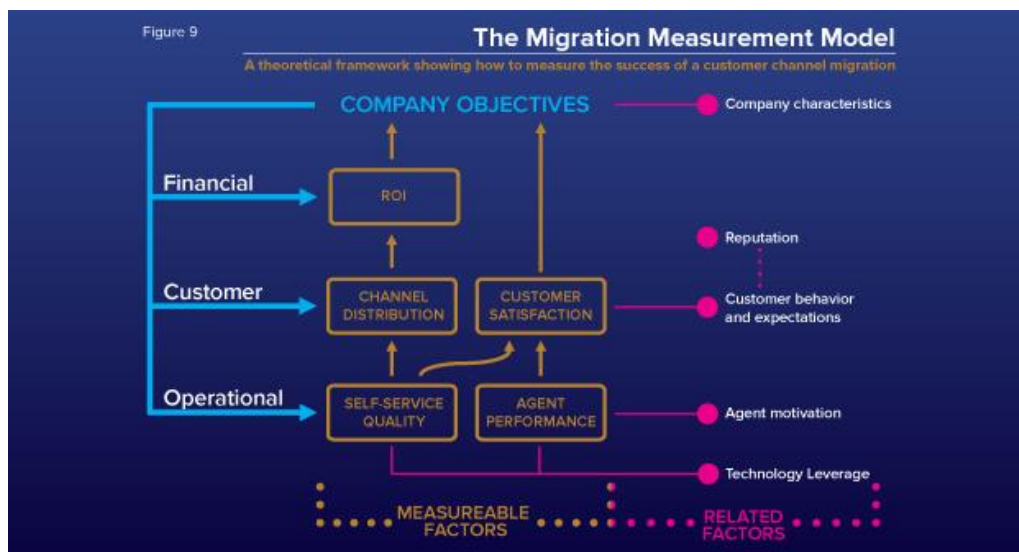

Figure 9. *The Migration Measurement Model - a theoretical framework showing how to measure the success of a customer channel migration.*

The model incorporates financial, customer and operational efficiency and capability goals, depending on what the overall objective for the support organization is. Because objectives are only meaningful if performance against them can be measured, metrics

are included for each one of the objectives. One objective is to focus on providing the cheapest communication channel, lowering costs, while another is to use channels or methods that the customers prefer, hence, improving customer satisfaction. As the KCS methodology proposes, the support organization must be aware of their current phase, since the same metric can show contradictory results in different phases.

As can be seen in the model, some factors are not measurable, such as company reputation and agent motivation. However, they are of great value to keep in mind when analyzing, understanding and improving results and activities. If a support center displays low operational efficiency, it might be a result of the technology or agent motivation, which in turn would need to be changed in order to improve the metrics.

Many metrics used by companies today are financial and represent information about the past. Even though revenue and profitability are important for a company's survival, they may not be appropriate metrics for an organization that is interested in understanding effects of different changes within the company. Relying solely on financial and past metrics limits an organizations ability to proactively drive in their chosen direction (Leggett 2011). Pulling data from CRM or financial reports means that the resulting metrics typically reflect an organizations activity, not the outcomes it is trying to achieve. In establishing activity metrics, it is important to understand the behaviors they drive and to assess whether they are motivating the right outcomes. Activity metrics measure what is done, such as "the number of calls answered", while outcome metrics measure the result of the activity, such as "wait time until answered". In the presented model, both activity and outcome metrics are used, but only the outcome metrics have goals.

3.7.1. Company Measurements

The first part of the Migration Measurement Model is related to the company and is performed to get an overall picture of the company and understand which part (or parts) of the model to focus on. Company characteristics and objectives are presented, describing which services the support center offer, which channels they are using when communicating with their customers, and the reason for migrating.

Company Characteristics

Before choosing objectives with a migration and deciding what to measure, a company must take into account their own capabilities and characteristics. Questions that are important to ask are, for example: Why do we want to migrate? Why should we offer

non-assisted channels, such as self-service? Do we know our customers' needs and demands?

Company Objectives

As soon as a company is clear about their own capabilities and before choosing metrics, it is important to realize that any measurement used in a support organization should be in line with the company objectives and goals. By understanding the company objectives it will be easier for a support center to create suitable, understandable and meaningful metrics. Usually a company implements self-service in order to lower the costs or increase the amount of service, but a company can have more than one goal with a migration. The recommendation is to have a distinct, challenging and comprehensive goal which can be measured and divided into objectives, leading to increased motivation within the support organization (Comaround [no date]).

Examples of overall goals:

1. Lower the support cost with x dollars per year.
2. Increase the service with x more closed cases without increasing the support costs.
3. Increase the service with x more closed cases to the cost of x dollars increase in support cost.

Examples of objectives:

1. Lower the cost per case.
2. Increase availability 24/7.
3. Increase+- customer satisfaction.
4. Solve more cases.
5. Move x number of incoming cases to self-service.

3.7.2. Financial Measurements

There is a great opportunity to decrease support costs by implementing self-service. If a company decides to migrate their customers because of this reason, it becomes important to measure the benefit of savings in time and cost, and which return they give on the investment. The second part of the Migration Measurement Model describes ROI as a suggested metric to determine the financial success of a migration.

Return on Investment

At the highest level, most customer support organizations exist to make the company more profitable by ensuring customer repeat purchases, boosting the reputation of the company and its products in the marketplace, and helping customers receive value from their purchases. However, today most support organizations are expected to deliver each "support contact" at a lower cost than before. Self-service technologies generally have a lower support cost than assisted channels, and they can resolve more issues per time unit. Lower cost is the most common reason for a company to migrate its customers, which must be measured in regard to the investment needed in self-service technologies or new channel features. This is why Return on Investment (ROI) is an important, and fairly easy, financial factor to study. There are several ways to determine ROI but the purpose is often to measure, per period, rates of return on money invested in order to decide whether or not to undertake an investment. With this information the payback period can be determined, saying how long it takes for incoming returns to cover costs. The results should be compared with similar industry investments since some sectors can have a greater average ROI than others (Petouhoff 2009).

3.7.2. Customer Measurements

Even though a company's profitability often is tied to a financial success, it is hard to succeed without customers. This part of the model presents two factors that are measurable and two factors that are related and affect the total success, in addition to why they are important to understand and consider.

Reputation

While a company's reputation cannot be measured, its impact on a company's business is deeper and it occurs faster than any other factor. In today's online environment where people can share their experiences or search for information in just a click, it is more important than ever to make sure that a company has a good reputation. By being active online, for example in forums, or by talking directly with customers, a company can usually get a good grasp on their own reputation. If a company is known for bad customer service, it is important to market the new channel better and more conveniently than the previous channel, which in turn will affect the customer behavior and expectations.

Customer Behavior and Expectations

A customer's expectations are not as easy to measure as satisfaction, but they are still important to consider when analyzing the effects of a migration. This factor of the Migration Measurement Model is not measurable but includes the customer journey, the adoption of self-service, and the reason why customers contact customer service. This background will have significant influence on how satisfied customers are with the self-service and the company.

For service and support organizations, assisted communication channels offer a great opportunity to gain insights about the issues, questions, and perceptions customers have related to the products and services they use. Help portals and FAQ pages have many anonymous visitors whose expectations are hard to measure, but online communities can provide more feedback. Through social forums and communities, a support center can not only let users answer the questions posted, but they can also learn about customer needs, expectations and perceptions beyond the reach of help portals and FAQ pages.

Customer Satisfaction and Loyalty

The job of customer support is to satisfy customers by fixing their problems quickly, give them the information they need to use products effectively, help them avoid problems, and even empower them to be more informed buyers. To measure if a company is achieving this, the most common way is to send out a customer survey after a contact to the support center. The problem is usually companies suffer from very low response rates due to complex questionnaires. By limiting the number of questions, the response rate and accuracy could increase.

This thesis will not present one satisfaction or loyalty measurement that is better than another. Instead, some generalizations are shared in order to help the company design effective customer experience measurements that hopefully can be tied to the company objectives.

1. **Measures should be customized**

   Managers might wish that there is one "best" way to measure customer satisfaction, but every organization is different and customer relationships are always unique. The research design must fit the organization and the business should not be forced into a pre-fabricated design.

2. **Evaluate several measures**

> There are many ways to measure loyalty, and there are many different circulating theories. Perhaps overall satisfaction ratings best predict revenue growth and customer retention rates, or maybe likelihood to recommend could be the best metric to use. If multiple questions are not used, the company may end up tracking and implementing metrics that are sub-optimal or even detrimental. The recommendation is to conduct an initial research program that incorporates multiple measures of attitudinal loyalty. This information should then be statically linked to behavioral and organization data, in order to analyze which metric best predicts actual loyalty.

3. **Make sure the measures work bottom to top**

> When a loyalty metric is created for performance tracking, it should be relevant from the customer level to the enterprise level. Net Promoter is a loyalty metric best suited for managers that include the perspective of the whole organization and customer journey. A customer survey should include changeable metrics that can trigger an action at agent, team or management level (Georgesen 2008).

Channel Distribution

Case volume by channel is critical to measuring how well a migration worked. Do the customers use the proposed channel? What is the level of complexity of the cases that are coming into each channel? These are activities that easily can be measured, but are hard to analyze. For example, a decrease in phone calls does not have to mean that more customers use the self-service, since seasonality or deployment of a new product can impact the call volume (Perez 2013). For some organizations, the web has actually resulted in more calls to the contact center, since a poorly crafted website can create confusion and the complexity of the incoming calls rise while less complex issues are still solved through self-service (Alcock& Millard 2007). While channel distribution is closely tied to financial results, it is up to the customer to choose to use one channel or another if the company does not steer them to the most applicable communication channel.

3.7.3. Operational Measurements

Behavior and expectations are not the only factors influencing the customer's choice and use of channel, but also the quality and performance of each channel. The last aspect of the Migration Measurement Model describes what factors should be

41

measured on an operational level, including both activities and outcomes. Two factors, such as agent performance and technology leverage, cannot be measured in numbers, but they can explain why the results showed what they did and how to improve the metrics.

Technology Leverage

Technology plays an important role in measuring customer interactions and making self-service as effective and efficient as possible. Without a CRM system that tracks cases and channel usage, it can be hard for a company to measure activities and results, and for an agent to quickly find case information. Furthermore, a web self-service that is difficult to understand or use will not encourage customers migrate to that channel, neither will a complex IVR or a chat with technical interruptions. It is important that, before migrating customers to a new channel, a company have the technological capabilities necessary to track activities and measure goals.

Self-Service Quality

Measuring the activities of self-service is fairly easy for transactional solutions, since a company can measure the number of successful payments or registrations, while knowledge-based solutions require more consideration. Two important measures for non-transactional solutions are search success and participation rate.

If the goal for customers is to find a specific document whenever they ask a specific question, success can be measured by *creating a script* that runs a series of questions, where the results can be reviewed to determine if the desired document showed up. Unfortunately, no evaluation is conducted with respect to the quality of the documentation found. One way to measure the quality is to *add a short question* at the end of an article, asking whether the information provided answered the customer's question. Typical response rate to this sort of survey is very low, generally less than 2 percent, but it can still give an indication of the quality of the article (Kay 2007). In most cases, a customer enters a random question into a search engine and the search engine is expected to deliver the correct answers. When searches are conducted this way, measuring success becomes more challenging. However, a *web-based survey*, as a pop-up or email, can provide some metrics. Questions to be asked are for example: "Why did you come to this website?", "Did you find what you were looking for?" and "If you did not find what you were looking for, where did you eventually find it?"

Using more than one method enables a company to measure search success from different perspectives. A simple way is to use web analytics and see how many searches a visitor conducted before they found their answer. One can also measure the percentage of articles that are connected to a case, indicating if the articles in the knowledge base are relevant and related to the customers' questions. This is called participation rate. A high participation rate is desirable, since it means that the articles posted are used by agents when they are helping customers. It will also indicate which articles could be removed or improved (Ibid.).

Agent Performance

Handling incidents is the core business process of the support organization, where the agent is often the one who resolves the incidents. An agent's performance can be measured by efficiency or customer surveys. The latter is usually carried out following an interaction, where customers can be asked about the agent's customer service skills, technical knowledge, completeness of solution, time to respond and satisfaction (Morris 2013).

Average Handle Time (AHT) is a measurement that shows the efficiency of agents, while also indicating if individual agents require additional training or coaching. Additionally, it shows the effectiveness of the knowledge base since that is where the agents find answers to new questions. While efficiency is highly related to costs in the support center, it does not say anything about the customer experience. By definition, the process of fully addressing a customer's issue the first time – commonly referred to as First Contact Resolution (FCR) – eliminates the need for the customer to follow up with a second call. Just like AHT, FCR is also a significant cost driver to contact center operations; the more calls handled the first time, the lower the repeat call volume (Convergys 2008b).

Agent Motivation

The customer support organization's ability to deliver is completely dependent on having staff with the right attitude, motivation and expertise. Heskett et al. (2008) presented the service-profit-chain, explaining how enhancing internal service quality (equipping employees with the skills and power to serve customers) raises employee satisfaction, which fuels employee loyalty and productivity, which in turn boosts external service value - increasing customer satisfaction and loyalty. The authors claimed that agent performance is a critical leverage in improving customer satisfaction. But what does an agent need to perform on a top-level? Besides having the

technology, working conditions and training needed to work efficiently, an agent also has to be motivated in order to accommodate, understand and help the customers. Other factors that influence agent satisfaction are job design, work design, employee rewards and recognition (Heskett et al. 2008). The first step toward achieving high motivation is to communicate an organization's specific goals to all employees (Becher 2005). For example, is the organization more focused on reducing the cost of service or deepening its relationship with the most profitable customers? Agent motivation is hard to measure since agents might not tell their managers or others exactly how they think and feel. What is important to consider is that motivation triggers performance metrics, but performance metrics can also trigger motivation. A company should have a good balance between time-based or volume-based metrics, and soft metrics, such as customer satisfaction scores. To ensure that a company has motivated agents, turnover rates and employee surveys are two useful methods (DB Kay & Associates 2003).

3.7.4. How to Use the Model

Now that all parts of the Migration Measurement Model are presented, the next questions are how to use the model to measure results and how to adjust the strategy or processes as needed for getting the most benefit from a self-service technology investment. The model is created to make it possible to use for by every company, so each measurement has to be created individually, depending on the customer support objectives (DB Kay & Associates 2003).

1. **Select objectives**. Each support organization has specific challenges dealing with its customers, the solution it supports, its relationship with the rest of the organization, and the technology it has deployed.
2. **Set metrics per objective**. For each objective selected above; financial, customer or operational, metrics need to be chosen and adjusted to evaluate the progress on the objective. Keep it simple with around 1-3 measurements per factor. The Balanced Scorecard Institute has presented five steps on how to find the right measures:
   a. *Begin with the end in mind.* It has to be known what the outcome is and what difference it will create.
   b. *Be specific.* Now the outcome has to be described as concretely as possible, preferably with a language that everybody understands and can react upon.
   c. *Check the bigger picture.* Check the bigger picture for what could happen if the outcome is measured. What might unintended

consequences be? What behavior would the measures drive? Which other areas of performance might be affected?

d. *What is the evidence?* It has to be decided what the specific measures are that would represent achievement of desired outcomes to everyone within the organization. Which of the measures would be the optimal balance between objectivity and feasibility?

e. *Name the measures.* Naming the performance measures marks the point at which people know exactly what will be measured.

3. **Pre-measure.** Once it is known what is going to be measured, it is time to take the "before" measurements. This will provide a baseline to measure the value of subsequent improvements.

4. **Migrate.** Migrate the customers according to selected channel strategy, which should go in line with the company objectives.

5. **Measure results.** Use the presented framework to evaluate the impact and measure the results of the migration.

6. **Identify.** Recognize which factors that have to be improved, starting the amendment process with enhancing the related factors.

Examples of Measurements

See appendix B for a detailed list of different metrics to use, connected to the maturity phase of the knowledge base.

4.   Applying the Model at Active

In the case study, the developed model is applied at Active. The case study starts with an introduction of the company and its objective with the customer migration. A list with all the metrics that were used in the Migration Measurement Model are presented and, thereafter, follows a description and analysis of each of the different parts of the model: financial measurements, customer measurements and operational measurements. The chapter ends with an evaluation of the company's success with the customer migration.

4.1.   The Company
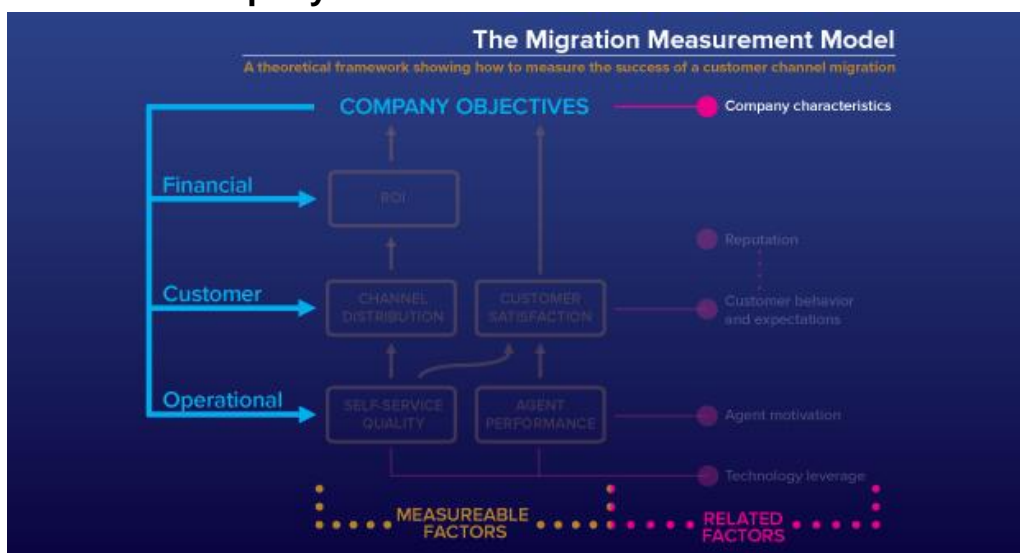
The Migration Measurement Model - highlighting Company Objectives and Characteristics.

4.1.1. Company Characteristics

Active Network is a leading provider of cloud-based, Software-as-a-Service, Activity and Participant technology solutions. The company provides the technology to help manage the process from registration and signup for events, through the actual event, and the subsequent follow-up relationship management. Active offers today 29 different software solutions within the following categories: Meeting & Event, Endurance, Recreation, Outdoor, Camp, Church, Golf, Ski & Attractions, Sports and School. The company is headquartered in San Diego but has offices in Europe, Asia, Australia, South Africa and North America.

This case study will focus on Endurance, which is one of the most used solutions at the company. Typical customers using this management solution are event organizers setting up races such as 5k, 10k, cycling, triathlon and multi-sports. The platform used is called ActiveWorks (AW), a scalable cloud platform that the customers often set up themselves after buying it from Active. Apart from offering online race registration and handling transactions, Active can also collect data, help set up events and drive new participants through marketing.

Between March 2013 and 2014, the monthly number of transacting events using AW increased by almost 180% to 6,050 events per month. During 2013, the number of race participants increased by 100% to an average of 380,000 participants per month. As a result, Active saw an increase of over 80% more cases coming into customer support. During 2013, a typical customer contacted customer support 9 times per year. As the customer facing salaries at Active's support center has also increased during the last year, in the end of 2013 a project was initiated to migrate customers from phone to self-service on the web. Active offers today customer support through phone, email, chat and self-service. The volume of incoming cases to Active is strongly dependent on season, with the high peak during spring when many customers need help to set up their software for online registration and during fall when refunds are requested.
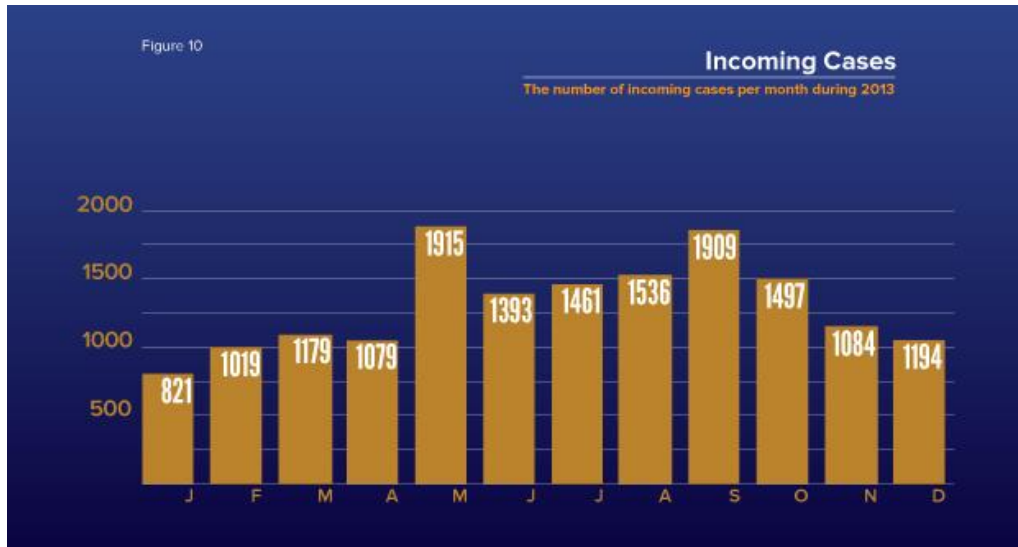

Figure 10. *The number of incoming cases per month during 2013.*

Phone

The most frequently used communication channel between Active and its customer is the phone. During 2013, 50% of the customers chose to contact Active this way. In North America, Active offers their customers phone support between 7am and 5pm every weekday, and between 7am to 3pm every weekend. Their goal is that a customer should never have to wait more than two minutes before an agent will handle their call. The phone number to customer support can be found on several places at Active's Endurance website.

Help Portal

The help portal was launched the 12th of February 2014, as a way for customers to find answers to their questions online, instead of contacting the company. In April 2014, the help portal had 258 articles and videos. The start page of the help portal displays a search box, where the visitor can search for a word or question (see Figure 11), which returns a list of articles or videos that contain the search phrase (see Figure 12). The articles are automatically listed by articles that contains the word the most times. The start page also shows the most popular articles, the latest videos/articles and a training calendar. The help portal is non-transactional, i.e. no log-in is required.

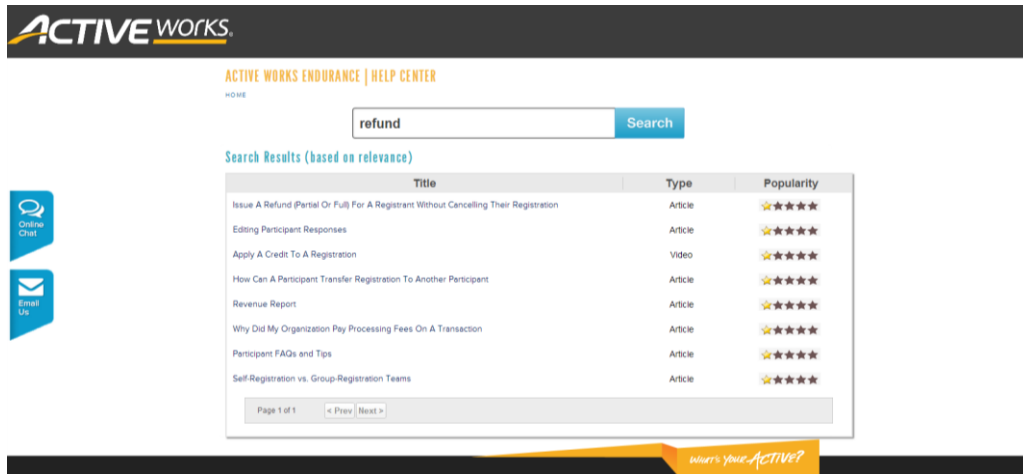**Figure 11.** *The start page of the help portal.*

Figure 12. *The help portal after a search is made.*

Chat

The option to contact customer support through chat was introduced during summer 2013, and during the first year it was used by 7% of the customers contacting customer support. The chat function can be reached though the help portal, and pops up when a customer has made a search query in the search box, see Figure 12. Agents at customer support assist the chat the same time as the phone hours, but every agent can only handle two chats at the same time. If all agents are busy, the chat option is no longer available and the customer can fill in a form to send an email instead.

Email

43% of the customers contacting customer support in 2013 chose to send an email. The email address can be found in several places on Active's website, and as a form on the help portal. As soon as an email is sent to customer service, an auto reply is returned, confirming that the request was received. For this communication channel Active has a goal to answer all customer queries within 24 hours.

Case Categories

The existing case categories are:

- Customization
- Enhancement/Feature Request
- How-To/Training

- Invoice/Remittance Issue
- Product Defect
- Setup/Implementation
- System Outage/Performance
- Work Request
- Other

Non-critical categories that Active wants their customers to handle themselves through self-service are: How-To/Training, Customization, Setup/Implementation and Work Request. The rest of the categories are seen as critical and customers that have a problem related to these should communicate directly with an agent at the support center.

4.1.2. Company Objectives

The objective with the migration from phone to web was to decrease the number of incoming cases by 25%, in order to reduce the customer facing costs at the company. Active did not have a migration goal regarding customer satisfaction, which has lead to conflicting opinions within the company. Some employees says that customer support is just a cost and should be diminished, while others argue that customer support is value adding and is a part of the price the customer pays for the product. Even though Active's management did not consider customer satisfaction when they set the migration goal, it is still important to understand what customers value and what features should be prioritized or weight out when the customer interaction change.

Not until this project was initiated did Active start to collect customer satisfaction feedback from their customers, which means that customer satisfaction levels were not known before the migration. In Active's history, customer service has been a key word throughout the company, and by encouraging customers to call in as soon as they have a problem, most customers have gotten the help they need. Today, the customers are referred to the help portal, which frustrates many customers that are used to calling in, but also makes it easier for those customers who are web seekers to obtain services they need.

Maturity Phase

As concluded in the theory about KCS organizations, a support organization should use different measurements depending on what phase the migration to self-service has reached. While traditional metrics are relevant in the first phases, new metrics are

required when the self-service is adopted amongst customers. In best case scenarios, a support center has a well-used and cited internal knowledge base before it is launched for external use. For Active, this was not the case since the help portal was launched and used both externally and internally from day one. It was launched without any baseline measures, communication plans or clear expectations. Therefore Active has to use metrics from all phases, since tools are built (which normally happens in phase 1) at the same time customer adoption is measured (which should happen in phase 4). Consequently, the measures presented in this thesis are specific for Actives situation and should normally be used in relevant phase by a company that follows the KCS program.

Choosing Metrics

As presented in chapter 3.7.4., "How to Use the Model", metrics should only be selected when the objectives of the migration are known. As mentioned, Active has only one objective with the migration; to decrease the volume of incoming cases with 25%. However, without considering customers and operational processes, the migration project can lead to unsuccessful self-service usage, dissatisfied customers and low agent performance. Even though Active has not expressed any objectives for customers and operations, the two factors are still considered and measured in this thesis. The reasoning behind this is to make an extensive study of the whole situation and find relevant areas to measure and follow up upon, as well as recommend new objectives with the migration.

The process of finding metrics at Active started with the desired outcome in mind. Active needed a measurement showing that the volume of cases was decreasing, and after discussions with people involved it was assumed that the customer satisfaction should be the same or higher, as well as the operational efficiency. By valuating the available data at Active and implementing and testing different measurements recommended by the literature, Figure 13 shows what metrics finally were chosen to show the progress of the different factors in the Migration Measurement Model. The metrics are explained and the results from Active are presented throughout the rest of this chapter.

Measure	Data Source	View	Comments	Type
ROI				
Self-service completion	Web reports, CRM tools	%	**Self-service completion on issues customers would have opened a case about, as percentage of total visitors to the help portal**	Outcome
Cost per case and customer	CRM and financials	$	**In order to measure the ROI, it must be known how much savings the self-service generates**	Outcome
Channel distribution				
Cases per channel and category	CRM tool	**Trends**	**Percentage of incoming cases per channel, including complexity since most low complex cases should be resolved on the web**	Activity
Channel switchers	Web reports	%	**Percentage of unsuccessful web sessions, leading to an opened case**	Activity
Customer Satisfaction				
Satisfaction score	Survey	**Score**	**Should include a final "overall satisfaction", together with other metrics**	Outcome
Waiting time	CRM tool	**Avg. minutes**	**The time before a customer is serviced by an agent**	Outcome
Self-Service Quality				
Search quality	Web reports, survey	#	**Percentage of "Yes" from feedback-buttons, or web analytics showing customer journey**	Activity
Participation rate	Web reports, CRM tool	%	**The number of incidents closed with a solution linked or cited**	Activity
Agent performance				
Agent efficiency	CRM tool	#	**Number of cases closed per week**	Outcome
First contact resolution	CRM tool	%	**This measure is impacted by a successful self-service model, as self-service becomes more effective. FCR might decline as the incoming cases get more complex**	Outcome
Agent Satisfaction	Survey	**Score**	**The agent is the factor that effects the overall customer satisfaction the most**	Outcome

Figure 13. *Selected metrics to be used by Active, measuring the different factors of the Migration Measurement Model.*

4.2.   Financial Measurements
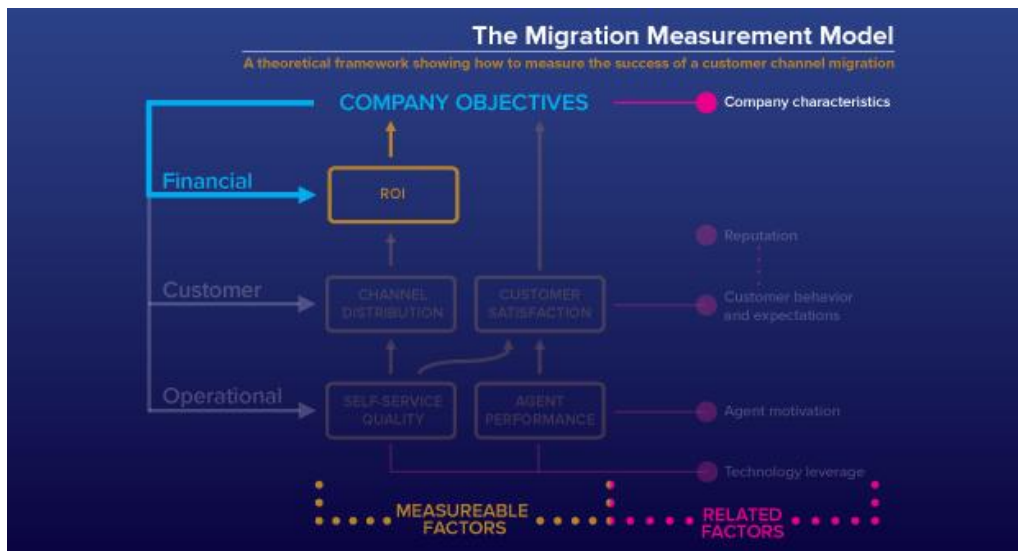
The Migration Measurement Model - highlighting Financial Measurements.

4.2.1.   Return on Investment

Based on the data from March 2014[2], the return on investment (ROI) for Active will be -62% after the first year, meaning that after one year with self-service, the savings will not even cover half of the investment. Consequently, a positive ROI will not appear until 9 years after the implementation of the help portal, which will be when the investment is "paid back". Appendix C explains how this was calculated. However, the ROI or payback period alone doesn't say much, since every industry average is different. According to Fidelity Investments (2014), the average ROI within the technology sector is 15%, meaning that the payback period is less than a year.

The average handling time per case includes the time to help the customer, create a ticket, and close the ticket. *The assisted support cost* is based on salaries, technological investments and other costs appearing in the support center. *The maintenance cost* of

---

[2] From this point and onward, all presented data regarding the month of *February* or *March*, means collected data from *February 12 until March 11*, respectively from *March 12 until April 11*. The reason for this was that the migration to self-service started February 12, and due to the limited time frame of this project, data had to be gathered from that day. Presenting only the month, and not exact date, will hopefully make it easier for the reader to follow the results and conclusions.

the portal is based on the work to update articles, post announcements and keeping the content up to date. The basic development of the help portal was carried out by an external partner up until the launching of the portal, while design and smaller features were made internally after January 2014. Thus, *the cost for implementing* the help portal includes the consultant fees for developing the site, plus time devoted from Active employees. One person was assigned as a project leader for the migration, with a group of developers and team leaders helping part time.

However, the negative ROI results is based on the same costs and percentage of self-service completions that appeared in March. If the number of cases solved through self-service would be three times higher, the ROI would be positive already after the first year.

Cost per Case and Customer

At Active, just as at most companies in the industry, phone is the most expensive channel for communicating with customers. In January 2014 an average phone call lasted 9 minutes and 26 seconds. An average chat lasted 16 minutes and 26 seconds, but every agent has the possibility to handle two chats at one time. Assuming that two chats always were handled at the same time, the actual time spent working on each case through chat would in average be 8 minutes and 13 seconds. It should be noted that an agent can work with other things, such as reporting, while waiting for the customer to reply. Another advantage with the chat is that the customer enters his or her data before opening the chat, which means that the agent can pull up the customer account right away, which otherwise has to be done manually through phone. For the agent, this means less work and time on each case.

After talking with a customer over phone or chat, a case has to be created so that the case information can be stored in the CRM system. If the case is solved, the agent can close the ticket right away. If the case had to be escalated or if more information is needed, the case is left open until the customer gets a reply that solves the problem. The average time for an agent to create a ticket is around 3-5 minutes. With the average agent salary at Active as a starting point, the average cost for a phone call was $2.9 and $2.5 for a chat. The cost for a case communicated through email is harder to measure, since the time each agent spend on answering an email is not recorded. Agents at the support center say that email is the most time consuming communication channel. The reason is that it is more difficult to understand the customer's question without having a direct verbal communication, and conversations can last for many

days, even weeks if there are misunderstandings. By calculating the total number of email cases solved in a team, and dividing it by the total number of hours assigned to work on emails, it is estimated is that each email takes around 40 minutes of an agents work time.

Figure 14 below shows the number of hours it took to close a case in March 2014. The average case age is the time spent from when an agent opens a case until it is closed, including escalation or waiting for response from customers.


Figure 14. *The average case age in hours per channel.*

Self-Service Completion

For the purposes of this thesis, self-service completion means avoided phone calls, chat sessions, emails or online case submissions - any contact that requires assisted support. Self-service completion is the percentage of users that resolve their issue on the web, without the assistance of a live agent. There are many ways to measure self-service completion. For a company that has a fixed customer base and an average number of incoming cases to customer support, one can look at the decreased number of opened cases after the migration has taken place. At Active, however, the number of customers are always changing and the workload on customer support depends on seasonal changes, trends or product releases and updates. Today Active uses web analytics in order to see if the visitors "self-served" successfully.

56

In a non-transactional help portal, a document or article view does not mean that the session was successful. Visitors might read many articles and FAQs before they find their answer, contact customer support or even leave the site without an answer. At Active, it was assumed that self-service completion is the percentage of customers that use the search function on the help portal to find an answer to their question and leave without clicking on "Contact Us". Few customers were assumed to leave the site without an answer, since they all go to the site to solve a problem. The visits without search were not considered since those people often went directly to contact customer support, or they were just directed to a certain article after opening a case with an agent. During March 2014, the self-service completion was 32%, which means that 32% of the customers that tried to self-serve actually succeeded. The reason why the rest did not succeed could be that they did not find an article that addressed their needs, they did not know what search phrase to use, they did not understand the help portal, or they did not have the patience to resolve the problem themselves.

4.3. Customer Measurements
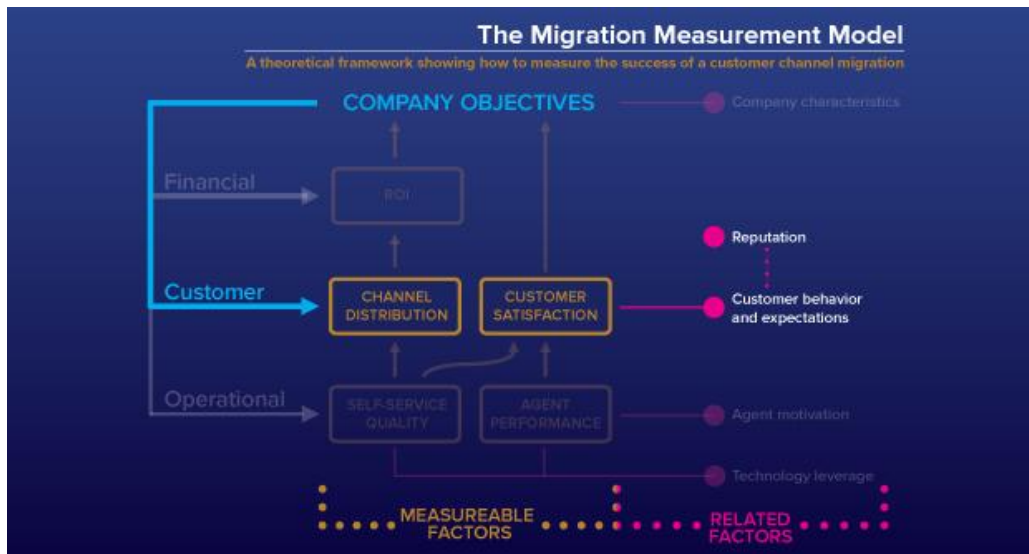
The Migration Measurement Model - highlighting Customer Measurements.

4.3.1. Reputation

Active, amongst customers today, is identified as offering a solid product with individual service, and it is well known that every customer gets assigned an account manager from their first contact with the company, in contrast to many competitors. In

57

terms of marketing, customers know that Active owns the largest customer database on the market, reaching out to millions of people that utilize their registration technology, visit their website or read their emails. Active is also currently recognized as the leader in event management solutions with a strong brand name.

The first years after Active started, customer service was one of the aspect that branded the company. The phone number to contact customer support was present in multiple places on the website, leading customers to call as soon as they had a question. Today, due to many acquisitions and new products within Active, the personal service with customers is not as strong as it once was. After talking with customers, many claimed that Active does not keep up with technological upgrades and that competitors are becoming more attractive. Lately, many competitors have entered the market with cheaper and more flexible products, such as Eventbrite and imATHLETE.

4.3.2. Customer Behavior and Expectations

By using the Technology Acceptance Model, Figure 15 aims to describe the customer's intention to use self-service at Active. Even though the customer behavior is not measurable with numbers and cannot be fully controlled by a company, it strongly affects the results and is important to consider when evaluating a migration. Each factor that influences the customer to use a system is described in more detail below.

Figure 15. *Variables that influences the customer's intention to use self-service at Active.*

External Variables

A customer to Active is usually an event organizer who manages all the registrations and contacts the race participants. The customers' first interaction with Active starts with a sales representatives who helps them to gain access to the software solution needed for their events. Then they typically get assigned an account manager, who helps them setup the appropriate participant fees and marketing campaigns. Eventually, some customers encounter problems when they are setting up or configuring their event registration, such as team settings, refunds, discounts or how to list their event on Active's website. Depending on the problem, they choose different ways to contact customer support. For example, invoice and remittance issues are often handled through email, while customers prefer to call when they have how-to questions. A more detailed overview can be seen in Figure 18.

As concluded in the theory, a customer who is satisfied with an offline channel, such as a phone, might not see the benefits of the online channel, such as a help portal. In February 2014, the average satisfaction score for a customer contacting Active by phone was 9.2, on a scale of 1-10, which is higher than the average satisfaction for software companies in the US (Klie 2012). Since many customers at Active already are satisfied with the traditional channel, they also have high expectations when they are introduced to a new channel.

Perceived Ease of Use

Most queries are related to event configurations, which often happen when customers are new to Active's platform and don't know how to set up the event. Agents at the support center claim that many customers don't even bother trying to solve their issues themselves; instead they call support as soon as they encounter a problem or have a question. Hence, most customers are helpless and need someone to walk them through the configurations. This can also be confirmed through web analytics, which shows that 57% of the customers go direct from the start page to find the phone numbers or chat form (or email form if the chat is offline). This happens even though the start page displays a big search box and the contact information is hidden, as shown in Figure 11. For these customers, it is important to promote the search function and its ease of use. If a customer held the opinion that the effort to use self-service was lower than calling, they might try to use the help portal. The describes behavior flow, however, a customer's likelihood to use the online channel could also depend on if the customer is a web seeker or web avoider. By talking with agents, some customers at Active can be identified as web seekers, usually younger event organizers that are comfortable with

new technology. The web avoiders are often older and used to calling in to customer support, either by habit or because they just want someone to talk with when they have a problem.

Appendix D demonstrates the customer journey customers to go through from when they encounter a problem in ActiveWorks until they eventually can find an article on the help portal, by showing each web page they have to click on.

Perceived Usefulness

Web analytics show that almost half of all daily visits to the help portal take place between 8am and 12pm, which is also when phone and chat is available. Most customers try to use the search function once or twice, and then they click on "Contact Us" to speak with an agent through phone or chat, likely because they could not find a relevant article. To call customer support instead of trying to search a few more times with different search terms indicates that customers want an answer to their question fast and without making any effort. For them, the direct contact through phone means a minimum effort. Visitors that search the help portal outside day hours tend to try searching a few more times before they make a chat request, send an email to customer support, or call the next day. In order to help these customers find their answers themselves, it is important to have a high search quality, where relevant articles are displayed when the appropriate search words are entered. The customers will quickly give up self-serving if the first articles that appear do not answer their questions.

4.3.3. Channel Distribution

Channel distribution is an activity metric, indicating how many cases come into customer support and which complexity they possess. Active has a goal to reduce all incoming cases by 25%, but this number has to be relative to the case volume and time of the previous year, since Active's business is subject to seasonal changes. Furthermore, one must consider the number of active customers, since more customers usually mean more incoming cases. Between March 2013 and March 2014, the number of incoming cases increased by 100%, while the number of customers using AW Endurance increased by almost 190%. Instead of just looking at incoming cases, the number of cases per customer gives a more accurate picture of the self-service success since it considers the increase or decrease in total customers. In March 2013, the number of cases per customer was 0.8 per month, while the same number was 0.5 one year later. This means that Active has seen a decrease of 37% in incoming cases per customer during the last year. Figure 16 displays the change from month to month.

Figure 16. *The average number of cases per customer from January 2013 to March 2014.*

As can be seen in Figure 16, the number of cases per customer fluctuates and the great difference between February and March, when the help portal was implemented, cannot be distinguished. The decrease in cases during 2014 could be a trend, and the difference from last year might depend on other factors, such as new products that change the need for support.

Since these measures were taken only a month after the migration, they do not reflect the final result of the migration, which instead should be measured after at least one year. Below are presented some alternative methods to measure and analyze the effect of a migration, both in the short term and long term.

Cases per Channel and Category

Every issue is not suitable for self-service, which is why it is important to measure the incoming cases depending on channel and level of complexity. According to Active, non-critical categories are: How-To/Training, Customization, Setup/Implementation and Work Request. All of these issues are assumed to be possible to solve through self-service. Due to a move to a new CRM system during the summer of 2013, the data showing the distribution amongst channels in the beginning of 2013 was not obtained. However, what is known is the total number of incoming cases and their complexity. The percentage of incoming non-critical cases in March 2013 was 83%, more than half

of those related to How-To/Training. Cases categorized as How-To/Training often pertained to customers needing help setting up their event online or training on how to use ActiveWorks.

After the migration in March 2014, the distribution of channel and case complexity can be seen in Figure 17. The percentage of non-critical issues coming in to customer support was now 84%, which is slightly more than the previous year. A few of these cases were handled through chat, which is currently the cheapest assisted communication channel. In March 2013, chat was not yet implemented and email was used to a small extent.
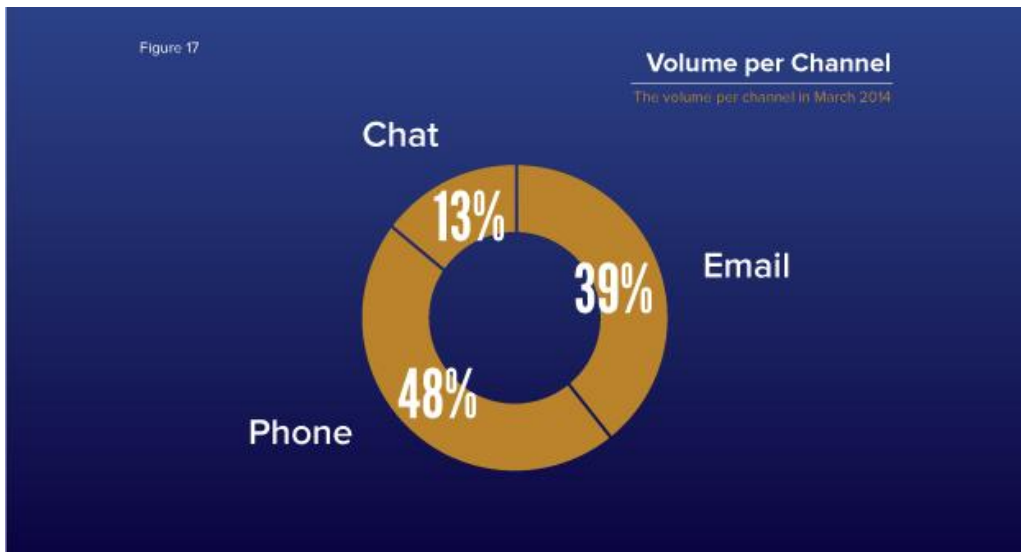

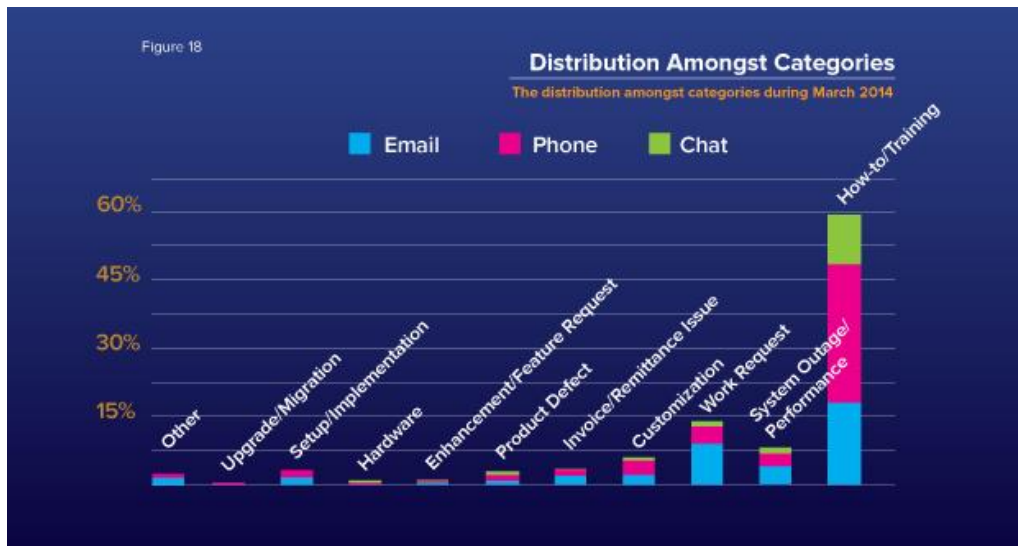**Figure 17.** *The volume per channel in March 2014.*

Figure 18. *The distribution amongst categories during March 2014.*

If Active succeeded to migrate all their customers who have questions about How-To/Training from phone to self-service, more than 30% of the total number of cases could have been avoided in March 2014. This was a strong motive for Active to complete the migration.

Channel Switchers

It was mentioned at Active that one of the biggest challenges regarding self-service was to get the customers to go to self-service, since the potential cost savings were well known. What they did not take into consideration was that several customers already had tried using the help portal before they called, which is called channel switching. Moreover, most customers who were on the phone with the agents were also at Active's website at the same time, according to many of the call agents. Channel switchers are not only more dissatisfied, they also cost the company more since they actually use several channels to solve one issue. This is why channel switchers are important to consider when measuring channel distribution and customer satisfaction. The percentage of channel switchers was measured in two ways, partly through web analytics and partly by manually asking customers that called customer support.

63

With help from the web tool it was calculated how many visitors that first tried to solve their issue on the help portal and then contacted customer support, by taking the number of visitors that clicked on "Contact Us" from an article, and divide it with the total number of cases coming from the chat and email form on the help portal. During March 2014, the number of people who first used the self-service but later had to switch channel to phone, chat or email because they could not find their answer was 68%.

Another way to find out the magnitude of channel switchers and why customers had to switch channel, the call agents were during a period armed with a simple question tree. Customers were initially asked whether they tried to use self-service. For those who answered yes to this question, they were asked what happened: *why* did they have to call? Was it a technical issue? Was something confusing? Did they lose their way on the website? These are the channel switchers, telling Active *exactly* why they had to switch. Customers who *didn't* try to self-serve were asked if they knew that the functionality existed.

During March 2014, while customers called in to customer support to get help, 50 of them were interviewed as explained above, and the study showed that around 10% of the respondents had used the self-service unsuccessfully before they called. The rest were not aware of the help portal or did not want to use it. Most of the customers that had been at the help portal before calling said that they could not find the answer they were looking for - giving Active suggestions for new articles. The others did not actually make an effort to find a relevant article, or they wanted a more customized solution - giving Active suggestions for article improvements.

This was a way to make more customers aware of self-service and the short survey helped the company know where to make future self-service improvements. Positioning the questions as a way to learn from the customers was a reason so many customers offered their input. Additionally, customers felt that they were truly being listened to when they spoke with an agent about their online interaction, versus a survey that can be perceived as impersonal. This approach can capture great insight about channel switching and also gives valuable information on how customer preferences are evolving plus a sense of how aware customers are of self-service options.

4.3.4. Customer Satisfaction

The most common way for companies to measure customer satisfaction is by sending out customer surveys. At Active, customer surveys were not implemented before the migration initiative started. Instead, waiting time was used as a measure, but with data that was not current. Both of the metrics were closely investigated in the case study, with the hope to give valuable information to the company.

Customer Survey

To measure the customer satisfaction at Active, a survey is sent out as soon as an agent closes a case. If a customer contacts Active several times during a month, only one survey per month is sent out. Up until April 2014, the response rate for the survey was 19%.

In order to pick the right questions to ask the customer and to design a useful survey, extensive research took place within the different support teams at Active. Due to many acquisitions at Active, every team worked differently and had their own way of measuring results. All the suggestions from each team were then compiled and the most useful factors were picked out. Essentially the survey was designed so a low or high score on each question would have a specific resulting action that Active can take to address it, either for the individual agent, the team managers or company directors. The idea was that this would be useful when it comes to performance review time and aligning the business around delivering better customer satisfaction scores as supposed to focusing too much on process metrics, such as average call time and call counts.

The created survey let the customer give a score between 1 and 10 for 8 different categories, plus one Yes/No question:

- **Agent Satisfaction:** how satisfied the customer was with the agent. This is an important measure for the agent's performance (more discussed in chapter 4.4.2). The customer's satisfaction with the agent can be linked to the agent's motivation and training.
- **Time to Resolve:** time spent from that a case was opened until it was closed, i.e. case age (see Figure 14). The time to resolve often depends on the agent efficiency, but obviously also the complexity of the case since some cases need to be escalated.
- **Time to Respond:** time spent until an agent picked up the phone, replied to an email or answered a chat inquiry. This is a metric that Active can control by

increasing the number of agents, so that each customer does not have to wait before they get assisted support.

- **Professionalism:** how professionally the customer was treated by the agents. This metric, together with Staff Knowledge, is valuable for the individual agent in order to know what he or she has to improve. It can also be useful at performance reviews inside the company.
- **Staff Knowledge:** how well the agent was familiar with the subject. If the support center has a developed knowledge base where all solutions are shared, the agent should be able to find the answer to most questions there.
- **Quality of Resolution:** how satisfied the customer was with the solution. If the customer was not satisfied with the solution, the linked article should be improved or the solving method should be changed.
- **Touchpoint Satisfaction:** overall satisfaction with the service. This metric is the most interesting for customer support managers, since it displays the total satisfaction of all above factors. If customer support receives a score below 7, the case is followed up by the team manager.
- **NPS:** how well a customer would recommend the company to a friend or colleague. This metric is valuable for managers that analyze goals from a company perspective. NPS includes feedback from the whole customer journey, and not only the interaction with customer service.
- **Issue Resolved:** if the problem could be solved by the agent, or if it had to be escalated. The customer can only answer Yes or No to this question.

By performing a regression analysis of 350 customer surveys from February to March 2014, the correlation between the overall satisfaction (Touchpoint Satisfaction) and the different factors described above could be analyzed. The p-value for each term tests the null hypothesis that the coefficient is equal to zero (no effect). A low p-value (less than 0.05) indicates that the null hypothesis can be rejected. In other words, a factor that has a low p-value is likely to be a meaningful addition to the model because changes in the factor's value are related to the overall satisfaction. In Figure 19, it can be seen that Professionalism, Staff Knowledge and Quality of Resolution does not have a significant impact on the overall satisfaction.

Overall Satisfaction Factor	Correlation to Overall Satisfaction	Significance (P-value)
Agent Satisfaction	0.400	0.000
Time to Respond	0.105	0.000
Professionalism	-0.062	0.446
Staff Knowledge	-0.021	0.751
Time to Resolve	0.179	0.000
Quality of Resolution	0.055	0.216
Net Promoter	0.305	0.000

Figure 19. *The correlation and p-value of survey factors, related to overall satisfaction.*

The correlation coefficient represents the mean change in the overall satisfaction for one unit of change in the variable factor while holding other factors constant. For example, if the Agent Satisfaction increases one score point, the overall satisfaction tend to increase with 0.4 points. Thereby, it can be concluded that the factors that influence the overall satisfaction the most is Agent Satisfaction, Time to Respond and Time to Resolve. Net Promoter is also correlated to the satisfaction, but is seen as an indication of the company loyalty. This means either that a customer that receives satisfying service from support becomes more loyal to the company, or that a loyal customer will be satisfied with the service he or she just received.

The correlation between the factors seemed to stay reasonably intact before and after the migration, but some small changes could be detected in the individual scores. Figure 20 and 21show the customer satisfaction scores from February 2014, before self-service was an option, and from March, right after the help portal was launched. The customer surveys were not fully implemented and used before February, which is why no earlier comparison in customer satisfaction can be made.

Figure 20. *Survey scores from February 2014.*

Figure 21. *Survey scores from March 2014.*

Comparing these two figures, a few conclusions can be made about the migration impact on customer satisfaction. It should be noted that the differences between the two months are relatively small and that the results are hard to interpret since data

68

could not be compared with previous months, since customer surveys were not implemented before February. However, the individual scores are interesting to look into, since some factors get different scores than others, independent of month.

Firstly, Agent Satisfaction and Professionalism are two categories that score high, and have around the same score before and after the migration. These metrics are influenced by the agent's performance. A possible conclusion from this is that the implementation of the help portal did not affect the Agent Satisfaction and Professionalism, and that agents perform well in the interaction with customers.

Secondly, Figure 20 shows that the Time to Respond score is low before the launch of the self-service, and even lower after the migration in Figure 21. Since time to respond, or waiting time, was considered to be an important factor for the overall satisfaction in the regression analysis, this could explain why the Touchpoint Satisfaction had a lower score after the migration in Figure 21. The waiting time will be discussed more in the next chapter, since it is one of few factors that Active can address immediately.

Fourthly, the second figure shows an increase in Staff Knowledge. A reason for this can be that after the implementation, the staff had access to a large knowledge base through the help portal, with answers to a large number of questions. While talking on the phone with a customer, an agent could easily find the article on the help portal and give the answer, or send a link to the article/video through email or chat.

Fifthly and surprisingly, a decrease in Time to Resolve and Quality of Resolution after the migration was noticed. One can assume that a knowledge base would help the agents find their answer faster, and links to articles could be sent in chat or email, instead of self-composed solutions by the agent. However, the decrease in Time to Resolve can be explained by the fact that many agents tried to help the customers to solve the problem themselves, by walking them through the solution, instead of just solving the problem for them. Another explanation can be that Active received 10% more incoming cases in March, many of them emails, with the same number of agents working. Analyzing the case age in hours for each channel and type of case, see Figure 22 below, indicates that an Invoice/Remittance issue through email has the longest case age, and a closer look into the Time To Resolve score shows that customers who contact support through email are the least satisfied. This is especially distinct when a case has to be escalated – for example Invoice/Remittance Issue (case will be escalated to the Accountant Manager) and Work Request (case will be escalated to developers).
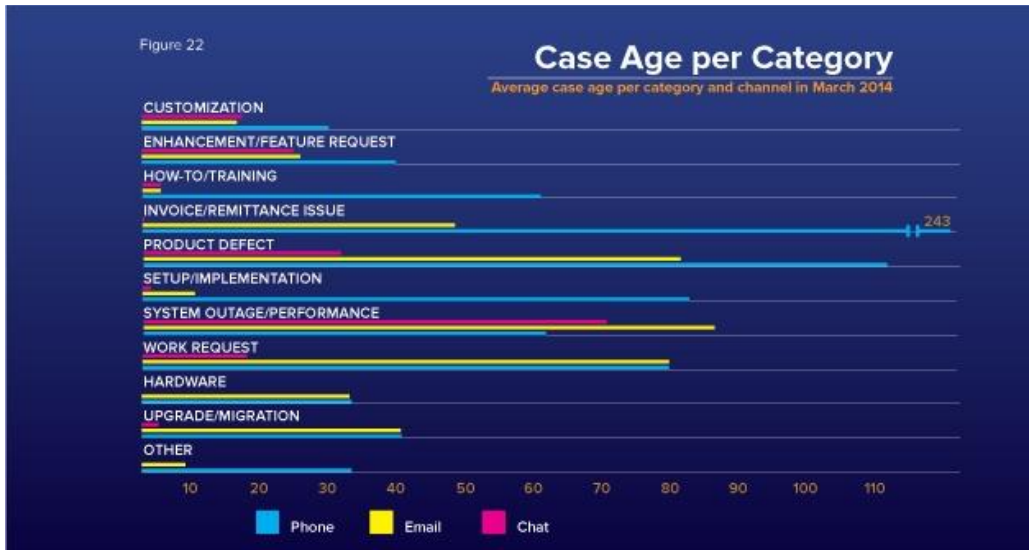
Figure 22. *Average case age per category and channel in March 2014.*

When it comes to Quality of Resolution, it seems that customers prefer to get a customized solution instead of following a generalized article. By shadowing agents and analyzing the survey comments from the customers, customers displayed dissatisfaction with being referred to the help portal when they called or emailed about an issue. When communicating with the customers, the agents tried to promote the self-service and wanted the customers to find the answer themselves in the help portal. Since this means more effort for the customer and a "non-customized solution", the final satisfaction of the resolution decreased.

Finally, Net Promoter Score (NPS) is today the metric Active uses to report upwards to managers about results in customer support. Active's customers tend to be satisfied with the support they received, but not as many customers would actually recommend the company to a friend or colleague. The reason might be that the NPS takes into account the total experience with the company, from first contact with the sales representative to handling refunds after the race or event, while Touchpoint Satisfaction is measuring the satisfaction only regarding one contact occasion with the support center. It can also be seen that the NPS decreased more than Touchpoint Satisfaction between February and March. There can be many factors contributing to this, but a possible reason was that Active laid off a great number of workers during February and March due to a recent acquisition. This created confusion within the

70

company as many positions were taken away or replaced and customers had to be routed to new account managers or contacts.

Waiting Time

Something that frustrates many customers is to wait in a telephone queue, which in this thesis was proved to be positively correlated to the overall customer satisfaction. The target waiting time for calling customer support is 2 minutes, and the average time for an agent to respond in February was 1 minute and 51 seconds – just below the goal. In February, the average satisfaction score for Time to Respond was 8.8 and in March it was 8.4. Data show that 68% of the customers that rated the category lower than average were using phone as communication channel. 25% had communicated with Active through email and 7% through chat. There is no waiting time to communicate through chat: if the agent is busy the chat does not get initiated and the customers is advised to contact the support through email or phone. A reason why the Time to Respond scores were lower in March could be that some of the customers were channel switchers; they had already tried to solve their problem on the help portal. When they called they were frustrated to be put in line, which could make them perceive the waiting time as longer. Unfortunately, waiting time data from March could not be retrieved from Active before this thesis was finalized, since it takes 2-3 months to get the information from the phone provider, why the satisfaction scores cannot be related to the actual waiting time after the migration.

4.4. Operational Measurements
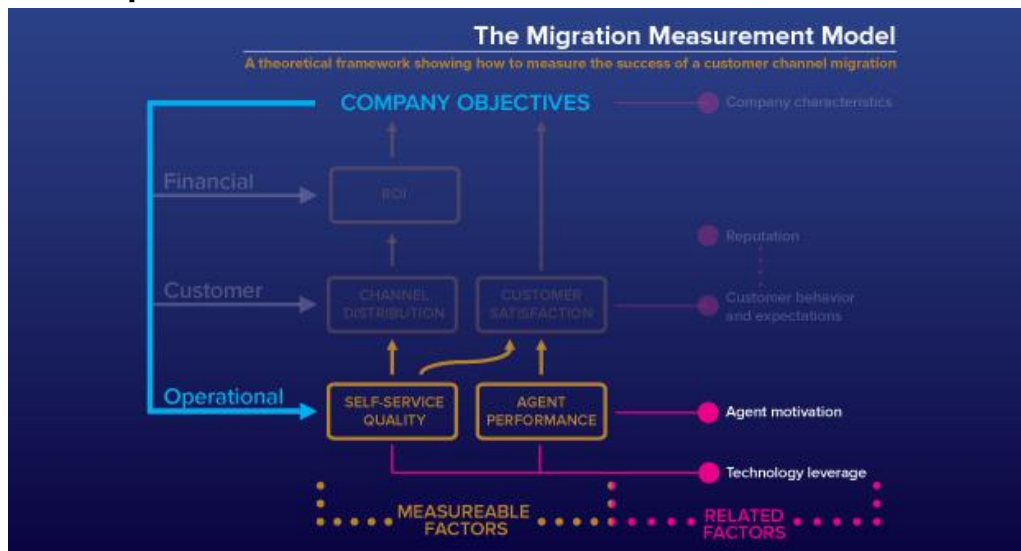
The Migration Measurement Model - highlighting Operational Measurements.

4.4.1. Technology Leverage

Due to a large number of acquisitions during the last few years, Active has had difficulties in tracking activities and measuring results within customer support. The reason is that every product that got acquired had its own way of tracking activities and results, with different technologies and management. The work to simplify data collection became easier during the summer in 2013, when a common CRM system was installed. Web analytics was implemented in February, soon after the help portal was launched. Technological issues and discrepancies in Active's database complicated the measurement process, and few methods for measuring the success of the migration were implemented when the project started. Due to this, all desired metrics could not be collected, which impacted the final design of the Migration Measurement Model. When it comes to operational measurements, however, self-service quality and agent performance were tracked with several methods which assured accuracy.

4.4.2. Self-Service Quality

In order for Active's customers to solve their problems on the help portal, they must use the search function and find relevant articles or videos. If they succeeded to find a document that addressed their problems, next step is to make sure that the article or

video actually solved the problem. Two metrics to measure self-service quality are presented below: participation rate and search quality.

Participation Rate

A high participation rate means that a great number of cases handled in customer support can be solved through self-service. The easiest way to start measuring the participation rate is through CRM, by letting an agent report if a case could be related to an article or not, every time he or she closes a case. This should only be applied to non-critical cases that don't need assisted support. If this feature is not available, this has to be done manually in retrospect, which was the case at Active. In March 2014, one hundred closed cases were read through and analyzed in order to see if they could have been solved through self-service, and if so, if an article already existed in the knowledge base or would need to be created.

The results showed that 83% of the articles already existed in the help portal, but were not used by the customer - the participation rate was 83%.
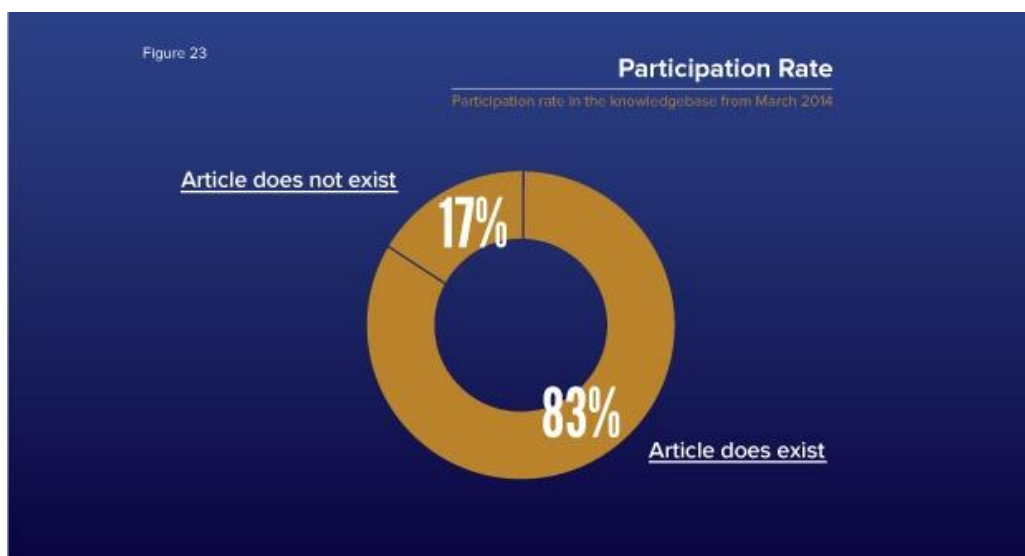

Figure 23. *Participation rate in the knowledge base from March 2014.*

Every month agents have meetings with the team manager to discuss eventual suggestions for improvement in ActiveWorks and ideas for new articles. The ideas for articles are sent to a Content Manager, who then creates the video or article together

with a team. Today the speed to post a new article is not known, but the Content Manager estimates that it can usually take 2 or 3 months from the time the need is discovered.

Search Quality

Search quality is an important measure to ensure that the articles in the knowledge base have a high quality and solve the customer's problem. A couple of approaches to determine search quality and search success were tried at Active.

Feedback Button

The easiest and most direct way is to give customers a prompt on every knowledgebase article that says "This article solved my problem: Yes/No." The problem with this approach is the response rate, which is often very low, and therefore not always accurate or representative. However, if an article receives a large number of no-answers, it is an indication that something is wrong with the article and it has to be updated or improved. At Active, this method required the involvement of developers and could therefore not be implemented in time before this thesis was finished. This idea will be ready to use before the end of this year.

Web Analytics

The most exact approach is to use web analytics and see how many articles a visitor opens before he or she leaves the site, without contacting support. Analyzing Active's help portal showed that 15% of the customers left the site immediately after the first search, indicating that they probably found their answer right away, and 20% had to refine the search before they left the site. The rest of the visitors had to contact customer support after trying to search; on average, 1.5 search results pages were visited during each search session before support was contacted. Another advantage of this method is that it indicates which articles lead to the most "Contact Us" clicks, and therefore should be replaced or improved.

Survey

The most detailed way to gain insight into the customer's experience with the site is to send out a survey after each interaction with customer service. In this survey, a question asking "Before you contacted us, did you try to use the help portal?" could be included. If the answer is yes, the customer was a channel switcher and could give feedback why or she had to call. If the answer is no, the survey can present a link to the portal and encourage the customer to use it next time. This idea was presented to

Active and will be implemented during 2014. In order to find data in time for this thesis, these questions were instead asked manually by agents when they had incoming calls from 50 different customers. The short survey showed that only 20% of the customers were aware of the help portal; half of them had not used it since they preferred to call in and talk with a customer, and the other half had tried to self-serve but could not find the answer they were looking for.

4.4.3. Agent Performance

When it comes to the agent performance, managers at customer support wish to evaluate agents on efficiency and customer satisfaction. The latter can be measured through the satisfaction survey, the Agent Satisfaction score, while the former can be measured by the average handling time. Another important factor that affects both the customer satisfaction and efficiency is the percentage of First Contact Resolution (FCR), when the customer's issue is resolved during the initial contact.

Agent Satisfaction

As concluded in chapter 4.3.4., Agent Satisfaction has the highest correlation to overall customer satisfaction. Migrating customers to a non-assisted channel means that this link will disappear, the agent is no longer doing the work, and other factors have to be improved in order to balance the overall satisfaction. Manages at Active today do not follow up on Agent Satisfaction, in contrast to the wider NPS, and it is up to each agent to look up what scores they receive. The scores in Agent Satisfaction from phone, chat and email showed high values both before and after the migration, indicating that the Active's customers are generally happy with the agents in customer support – no matter if they are asked to self-serve.

Agent Efficiency

There are many ways to measure agent efficiency. At Active, this is done today by counting the number of closed cases per day. Every agent is required to close at least 15 cases per day. In March 2014, the average was 13 cases per day. Many agents revealed that they feel stressed to reach the limit, leading to more mistakes and not enough time spent with each customer. Sometimes, many calls have to be escalated and cannot be closed until days, or weeks later. If an agent does not reach the goal for several days during a short period, the team manager will assign them more tasks and cases to take care of.

Another efficiency measure is average handling time, i.e. the length of a phone call or chat. Average handling time is an interesting metric to study once self-service is implemented. In the first phases, the handling time often decreases as agents easily can find answers to the customers' questions in the knowledgebase, indicating the effectiveness of the knowledgebase. In later phases, when the knowledgebase is adopted externally, the handling time could increase as the amount of less complex calls are being handled through self-service. At Active, it is known that chat is more efficient than phone, while email requires the longest handling time. Web analytics show that a customer who uses self-service leaves the portal after an average of 5 minutes, which is more efficient than a chat that usually takes over 8 minutes. This indicates that self-service is not only beneficial for the company, but also for the customer who will get an answer faster. Unfortunately, data regarding handling time from February and March could not be retrieved from Active before the thesis was finalized, which is why no comparison could be made before and after the migration.

First Contact Resolution

When an agent finishes a conversation with a customer through phone, chat or email, he or she can report if it was a First Contact Resolution. Even though this data collection requires just one click, very few agents at Active actually reported if it was a FCR or not. When the customer surveys were launched in 2014, the question "Was this issue resolved or not?" was included in the questionnaire, which meant that the customers now could report if the case was solved at first contact. The customers at Active who did not get an answer to their question at initial contact were on average 30% less satisfied than the customers who reported that their issue was solved. Apart from resulting in more dissatisfied customers, FCR also contributes to higher costs, since the agents have to spend time handling the case again.

In March 2014, 80% of the customers claimed that their issue was resolved at the initial contact. However, internal data shows that almost 45% of the cases were reopened by the customer, which means that these cases were not solved at first contact. So why did 45% of the customers contact customer support again, even though 80% of all customers think their case is initially solved?

After talking with agents in the support center and exploring the CRM system, it was concluded that agents often close a case after they have sent their solution to the customer via email. However, if the customer replies, no matter if he or she says "Thank you" or "I don't understand, please explain again", the CRM system

recognizes the email and counts the case as reopened. Another reason why customers contacted the support after they filled in that their issue was resolved in the survey can be that the customer survey is sent out directly after initial contact with Active when the agent closes the case. By the time the customer is filling out the survey, some customers might not have tried to implement the solution or seen the effects of it. If they did not succeed in solving their problem with the solution provided, they will contact customer support again and ask for further help.

4.4.4. Agent Motivation

Agents at Active admit that it is often a very stressful to work in customer support. Every agent has a minimum number of 15 cases to solve per day, which is often not reached. Every day, an agent has to handle customer inquiries through chat or phone for 5 hours and through emails for 3 hours. Since it requires some time to close tickets, escalate cases or report bugs, only around 1.5 of those 3 hours are actually used for answering emails. This is one reason why the waiting time for email is sometimes higher than the goal of 24 hours, leading to low Time to Respond scores in the surveys. Many agents also stated that it was hard to handle multiple chats at the same time, or to work with the CRM system while they are in the phone with a customer.

When self-service was launched, few agents knew all the benefits with the help-portal and did therefore not promote it to customers. Without training and communication from the management, the agents did not feel encouraged to talk about it when a customer called in. Many agents also pointed out that most customers are not technology driven and just prefer to call in, which is why they do not even try to promote the help portal. A majority of the customers who contact support through phone are helpless and/or frustrated, which makes the agents prioritize giving a direct answer instead of referring to the self-service.

4.5. Evaluation - Did Active Reach Their Goal?

Active's goal with the migration to self-service was to reduce the incoming errands with 25%. In the lack of further instructions, it is here assumed that this number has to be compared with last year's activities, since the type and amount of incoming cases depend on seasons. By March 2014, one month after the implementation of the help portal, the number of cases per customer had decreased from 0.80 to 0.50, compared to March 2013. This is a decrease with 37.5%, indicating that the goal was reached. This may, however, be influenced by product updates, market needs or factors unrelated to the new help portal. The number of customers increased by 63% only between January

and March 2014, potentially leading to the assumption that these customers may have not set up their events yet, and they may contact customer support in the following months. The conclusion is that Active is on right track short term, but data from a longer time period after the migration has to be collected to gain more insight.

When this thesis was finished, three months after the help portal was launched, two other products at Active had already replicated the help portal and implemented it successfully. By the end of the year, Active Endurance and Camp are aiming to have their customers fully migrated to self-service and chat, with the phone as communication channel removed for a large majority of the customers.

5. Analysis of the Case Study

The analysis focuses on interpreting the results of the case study by studying each part of the Migration Measurement Model. It is discussed how well the model could be applied to the case study and why the results showed what they did. The most important findings from the case study are uncovered and investigated closer to create a basis for recommendations in the following chapter.

5.1. The Company

Company Objectives

By applying the Migration Measurement Model at Active, it could be concluded that the overall goal was not easy to measure when all the circumstances were not known. The reduction in incoming errands has to be compared with previous years, due to seasonal changes, and with regard to the change in number of customers. Not only that, trends and product features must also be considered. By April 2014, two months after the start of the migration to self-service, few people were aware of the success of the migration. The progress towards the goal was not measured, and no deadline was expressed from the management. To not set up a time frame for the migration was probably the first and largest mistake by Active. A goal should be time specific, in order to keep things on track and to know when results should be achieved. Furthermore, before Active's migration goal was set, it was not clear what the cost savings would be. It was assumed that self-service would lead to cost savings, but no analysis was made regarding the current costs per channel. Since the objective was to save costs, a specific cost savings plan should have been made before the migration began.

After the migration, Active realized that the migration involved more factors than just costs. Suddenly, they had to consider the type of customer satisfaction they were aiming for, and how cost and satisfaction should be balanced. Leaving out customer satisfaction from the migration can lead to problems in the long run, when customers go to competitors because they do not get the service they expect. In order to find appropriate metrics, it is clear that Active needs goals that are more specific, related to both cost, service and operations. When the long-term goal is set, a company has to determine out how to get there by defining objectives. Objectives have to be specific, measurable, action-oriented, realistic, and time specific. This would make it easier to design the correct metrics with help from the Migration Measurement Model.

5.2.   Financial

Return on Investment

The only goal Active has today with the migration is financial, but only one financial metric is tracked - the salary for each agent. The number of self-service completions or savings in time and money are not considered or related to the investment in the help portal. Before an investment in self-service technology is carried through, a positive return on investment should be ensured. An estimated pay-back time should be presented since that would influence the deadline for the goal.

5.3.   Customer

Reputation

A company's reputation is hard to measure since it is an external factor that cannot be explained or presented in numbers, and there is no standard to compare with other companies. At Active, many employees had different opinions of why and how customers chose Active's solutions. A large market research was not performed, which why assumptions had to be made from interviews and comments from customers and employees. Both employees and customers were aware of competitors with cheaper and/or more flexible products, but they all agreed that Active is today the biggest provider of event management solutions with the longest history and highest level of expertise. In the beginning of the 2000's, customers chose Active because of their size and personal service. Today, however, when new technologies are emerging, customer preferences have changed and service is not always the first criteria. Before migrating customers, a company should understand their position and reputation in the market. If the biggest reason why customers chose a certain company is to talk with call center agents, a migration to self-service could damage the company's reputation.

Customer Behavior and Expectations

Without knowing the customer and their experience with the product, many metrics will not make any sense. Most of the incoming calls to the support center concerned questions about the software product ActiveWorks - when customers set up their events and encounter problems. When the customers have failed using one of Active's products, they might not feel the desire to use another product by Active like self-service to solve their problem. This can be one reason why many customers prefer to call instead of using the self-service.

Most customers will not start using self-service if they are already content with the traditional service they have. Active had a hard time to make customers go to the help portal, and many customers did not even know that the function existed. An effective way to ensure users find the self-service is to make the service available when the need arises, that is directly from the product that the self-service supports; ActiveWorks. Today a customer has to make at least three clicks to get from ActiveWorks to the help portal, illustrated in appendix D. When the customer gets there, he or she might already be a bit frustrated, leading to less time spent on the help portal. This would, in turn, possibly lead to a call to customer service, a long waiting time before the agent picks up the phone and often lower satisfaction in the end. To increase the satisfaction, an important factor is to lower the customer effort, meaning that a customer should find the help portal easily. In general, when migrating customers to a new channel, it is important for a company to understand that most customers will not switch channels if the estimated customer effort is higher.

During the work with this thesis, agents were asked to talk with customers about the help portal to get feedback and collect data. It turned out that most of the customers were not aware of the help portal since they were so used to calling in. After hearing about it from the agent, many customers in the survey were willing to try it before they called next time. Therefore, promoting the self-service through the phone is a great opportunity to make customers adopt the new channel. To sum up, understanding customer behavior and why customers adopt channels can improve the success of the migration.

Channel Distribution

Even though Active has a goal to reduce the total number of incoming errands, this measure can be deceiving in the short term due to fluctuations from month to month. More interesting in this situation is the percentage of non-critical issues, such as How-To/Training-questions, which should decrease after the migration to self-service. However, due to the large number of channel switchers and the lack of awareness of the help portal amongst customers, any decrease could not be noticed. The number of cases per customer has decreased compared with 2013, but this is assumed to mostly be a result of the large increase in the number of customers in 2014 - customers that not yet have set up their events or encountered problems. The conclusion is that channel distribution should be measured in the long term, with special attention to what types of issues are being migrated to the new channel.

Customer Satisfaction

The only metric from the customer survey that is followed on a higher level is NPS, used by the management to measure customer loyalty and often showed in reports and presentations to executives. Team managers within customer support follow up detractors (customers that give a score between 0 and 6) by calling them back and asking if they can help further. To ask a customer if he or she is willing to recommend the company to a friend or colleague is a great measurement of the satisfaction with a company at large, but it does not relate directly to the customer service. If the goal is to measure the satisfaction with the service the customer just received, questions should be asked about the agent, such as waiting time, etc. If NPS is asked in a survey regarding customer service, most customers will point out the likelihood to recommend the company concerning the customer service. The risk is that NPS mostly will reflect what happened during the session with an agent. If a company wants a proper measure of NPS, it should be asked in a separated brand survey regarding the overall experience with the company and not directly related to a unique contact session.

The other six questions from the customer survey are not frequently used or studied at Active, even though they contain great information about the customers' expectations and needs. After performing the regression analysis it could be concluded Agent Satisfaction was the factor that mostly contributed to the overall satisfaction. It can be hard to increase Agent Satisfaction, since it, for example, involves motivation, mood, attitudes and personal chemistry. Active does not execute any agent surveys today and the turnover rate amongst support agents is said to be high, even though exact numbers are not known.

Time to Resolve and Time to Respond were the most positively correlated factors to customer satisfaction, even more than Quality of Resolution. Unlike Agent Satisfaction, these factors are easy for a company to change or improve. Low scores in Time to Respond was discovered both in phone and email. What is interesting to note is that Active is almost always meeting goals; they respond to most emails within 24 hours and phone calls within 2 minutes. Since Active is a global company with offices in both America, Europe and China, emails and chat could easily be handled 24/7, reducing both waiting time and handling time. Phone calls are harder to outsource to other offices, since most of the customers are American and most likely would prefer to talk with someone with the same native language. The greatest dissatisfaction in Time to Resolve concerned emails and invoice issues. By letting agents get access to payment information and refund permissions, they could solve many of these cases

without having to escalate them to the account managers. When it comes to non-critical cases, a better internal use of the knowledge base would lead to faster replies through email and chat.

A way to increase the satisfaction in phone could be to let the customers enter their account information before they are routed to an agent. As of today, it can take an agent several minutes to find the customer's account, since it requires the customer say or spell the name of the event and event organizer. Bad connection, accents and events that are hard to spell can make the communication difficult. Typing in an account number in the phone would save a significant amount of the agent's time and the customer could perceive the waiting time as shorter, since they do something while they are waiting. Informing about the help portal was also earlier suggested as a way to make the customers aware of self-service and possibly leading them try the site before the agent picks up the phone.

To sum up, asking customers detailed questions about their interaction with customer support could lead to many new realizations and recommendations. What is worth noting is that the above analysis is based on only two months of data, since the customer surveys were not implemented before February. More trustworthy conclusions would be made by collecting data from a longer time period, indicating the magnitude and significance of the change in satisfaction scores.

5.4. Operational

Technology Leverage

One of the most important factors to ensure before the Migration Measurement Model can be used is the ability to track activities and results. The measurement process will be a lot easier if all data is available and easy accessible, preferable through a CRM system. Active implemented many technological improvements during 2013, such as chat and a new CRM system, but there are still many features that could facilitate the measuring and tracking performance. Many different sources had to be used in order to find all the relevant data for the Migration Measurement Model, such as old and new tracking systems, websites, databases and reports from phone providers. Furthermore, the agents at the support center claim that a lot of data has to be entered manually and that many tasks could be automated. Many customers have pointed out that ActiveWorks is a very outdated product which is hard to understand and use. After all, a lack of understanding of how to use Active's product is the main reason why

customers contact support, based on How-To/Training questions. To answer these questions, an agent often has to explain exactly where the customer should click, by using and looking at the same product as the customer.

In order to simplify the measurement process in the Migration Measurement Model, a company should ensure that the technical abilities are known before initiating the migration. Both agents, customers and managers will profit from a system that is easy to use and that displays relevant data.

Self-Service Quality

While call statistics and handling times are easy to measure with a CRM tool, it is harder to define and determine the self-service success, especially for a non-transactional and anonymous site. Active uses web analytics, which can be a great tool for collecting information if the data is tracked correctly. For example, it is easy to think that anyone who views content and then leaves the website is counted as a successful visit, but this does not mean that they solved their problem. Self-service success in Active's case means that customers can resolve their issues without assistance, i.e. that a visitor to the help portal viewed one or several articles and left the site without contacting customer support. It was hereby assumed that every customer that went to the site had a problem that they had to solve, and that they did only leave the site when they had found a solution, either assisted or non-assisted. It is, however, important to understand that this might not be the case for every support organization. For certain products, customers could for example find a solution by searching the web, or maybe they would just let the problem go unsolved if they could not find an answer.

When tracking web statistics, the behavior flows can sometimes be so complex that it is nearly impossible to see if a customer left the portal satisfied. The only way to find out would be to implement a pop-up or feedback button where the visitor can evaluate his or her visit on the site or, for a transactional site, to let the customer log in to the portal. The most reliable way to ensure self-service success is to use several methods and metrics, all together indicating why and how customers solve their problems.

Agent Performance

Active is today measuring the rate of First Contact Resolution in two different ways, from customers and from agents, both of them showing different results. Data from customer surveys in March indicate that almost 80% of the cases were FCR, while

internal data from agent reports in the CRM system show that the same number was 55%. It was discovered that very few agents at Active knew what FCR was or how to report it, making the data inaccurate. Some agents simply use scripted agent questions, such as "Have I successfully addressed all your needs?" and "Is there anything else I can help you with?". This does not ensure that a case is solved, since customers might contact the support center again with a related problem.

A closer analysis showed that it was not primarily the agent's fault that the data was inaccurate. It was the CRM system that inaccurately changed many of the cases to reopened. Using agents to report FCR requires that the agent report the case as completed, when it is closed. At the same time they usually fill in other information about the case, such as category and description of case. If a customer sends an email with a question, the agent will most often reply with a solution or a link to an article in the help portal, and thereafter close the case as FCR (if the agents is aware of this option). However, since the system counted every email in a conversation, even "Thank you" as a reopened case, the data showed a very low rate of FCR.

Handling time is a commonly used efficiency metric, also at Active. Unfortunately, data was missing to make any conclusions about the effect on handling time after the migration, and it usually takes Active 2-3 months to receive this data from the phone provider. In addition, the time spent on each email is not recorded today and the metric does not always depend on the agents' efficiency, since agents revealed that handling two cases at the same time through chat can be confusing and that they do not feel that they get a direct contact with the customer. It is often harder to understand the customer's problem in written text and it can also be tricky for the agent to understand the customer's mood and level of frustration. Agents say that it is hard to get customers to close or leave a chat conversation, since they are often very slow at answering and they usually want to try the solution before they go offline.

The analysis about agent performance gives valuable information about how efficiency metrics and quality metrics should be used within a company. Some performance metrics are not suitable for a company to use, especially if they give wrong information or the data cannot easily be retrieved. For certain call centers, efficiency might be the most valuable factor, while other support organizations prioritize satisfied customers. Before a support organization decides which metrics to use in the Migration Measurement Model, all possible metrics should be evaluated and tested.

Agent Motivation

After talking with several employees at Active, it was discovered that there seemed to be two different ways of seeing and explaining customer support. On one side of the company, often from managers on a higher level, it was argued that customer support is a cost that should be diminished since the support organization does not make any money. The other side of the company held the stance that customer support is a part of the product the customers buy from Active, which means that the service is already "included in the price" and adds value. It was also mentioned that, since most customers have questions about how to use the product, it should be the software product that changes or improves, not the customer service. These contradictions are likely a result of the management's lack of downward communication, and the agents' confusion with the new migration project.

As a consequence, Active seems to suffer from low engagement from agents regarding the self-service. Many agents consider the help portal to be inefficient, and few are aware of new features or changes in technology or processes in the system. Not a single agent that was interviewed knew the goals or objectives with the self-service, and they did not always have the motivation or information to promote the self-service to customers. Sayings amongst the employees at Active reveal that the company's clients are adverse to technology, which makes most agents treat the customers as web avoiders - why they don't mention the self-service. Many sales managers, which are the first people customers are in contact with before they set up an event, often promotes Active as a "customer service driven company" and they tell the customers to call in as soon as they have a problem, as customer service has been one of the most competitive traits since Active was founded.

When the objective and strategy for a company's migration is set, it is important to clarify the goal and benefit for the management, employees and support agents. It is not enough to buy a self-service technology and implement it. A company needs to establish it within the whole organization. Otherwise, there is a risk that the service just exists, without being used or adding value to the organization. The acceptance and support from the employees has to be there as well, or agents could turn hostile since the new feature might suggest they could lose their job. Furthermore, if agents push the use of self-service to customers, the integration and adoption from customers will come faster. The progress towards meeting migration goals should be displayed and explained to agents, which would increase their motivation and increase their motivation to give input on customers and suggestions for improvements.

6.   Conclusions

This chapter starts with recommendations for measuring and managing Active's migration, followed by general recommendations and requirements for implementing the Migration Measurement Model. A discussion whether the purpose of this thesis was fulfilled or not, with comments on credibility and future recommendations, are provided thereafter.

6.1.   Recommendations to Active

6.1.2. The Company

Set Clear Goals and Specific Objectives

Active needs goals that are more specific, related to both cost, service and operations. A suggested goal for the support center at Active could be to "Lower the support cost by $5 dollar per customer during 2014, with increased efficiency and customer satisfaction". Since this goal is anchored in assumptions about the business, the market, and the technology environment, it should undergo review and renewal half-way through the year. Two suitable objectives for Active could be "Move 50% of all non-critical cases to self-service" and "Reduce time to respond customers to 1 minute via phone and 12 hours via email".

6.1.3. Financial

Use the ROI model

By using the ROI model presented in appendix C, the involved managers will get a better overview of the return on investment and expected payback time. With this information as a foundation, a suitable deadline for the goal and objectives could be set, preferably at least 1.5 years ahead.

6.1.4. Customer

Understand Customer Behavior and Lower Customer Effort

With the rapid technology development and new competitors entering the market, it is important for Active to understand why customers choose Active's products and what criteria they value. For example, is customer service important for customers, or a low price? What is Active's reputation today and what do customers say? These are questions that Active should ask in annual market research surveys. Once the customer's expectations are known, Active should focus on understanding the

87

customer's journey from when they encounter a problem to when they find help in order to lower the customer's effort. A majority of the customers are on ActiveWorks when they contact customer support for help, which is why a link to a related article on the help portal should be found directly there, instead of making the customers leave the site and search on the help portal. In Figure 24, the orange circles show where a customer can click to get help today, leading them to leave the site and make at least three clicks before they can hopefully find an article, as shown in appendix D. The red circle is a recommendation to where the customer with one click could be directed to a relevant article, extracted from the knowledgebase, instead of finding a link to the start page of the help portal.
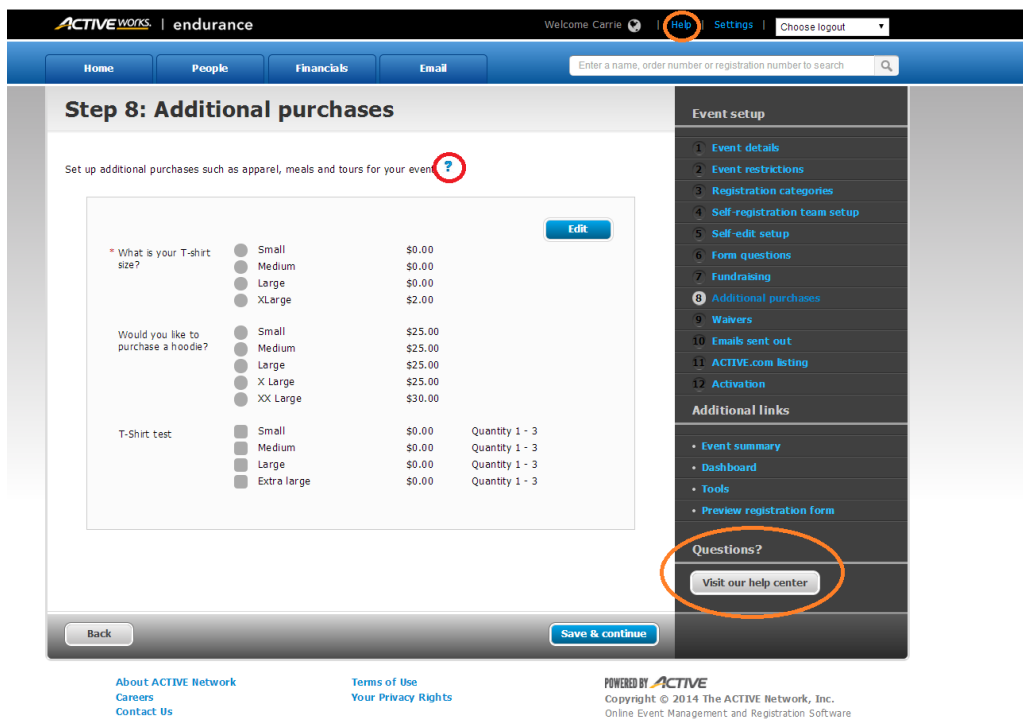
Figure 24. *A suggestion on how to integrate articles from the help portal with ActiveWorks.*

The above suggestion was recommended to Active during the work with this thesis, but it would require the product developers at Active to change the product. The developers were not interested in doing this, which is why the suggestion could not be implemented. As previously discussed, many actions are not possible without

88

integrating everyone – from every part of the organization – in company goals and objectives.

 A more simple solution to make more customers aware of the help portal would be to put a link to the portal in the auto reply that is sent out after a customer contacts customer support. Not only would this increase the traffic to the portal, it could also increase the possibility that a customer finds an answer before a reply from customer support is returned. With regard to the low satisfaction scores in the email channel, often due to the time to respond, this solution could increase the overall customer satisfaction. This was implemented in the end of March and, together with other small changes during the same period (such as replacing phone numbers with links to the help portal on several web pages), increased the daily number of visitors to the help portal by 40%. By letting agents promote the help portal to customers that call in and by installing an automatic voice that talks about the help portal while the customer are waiting in the telephone queue, the speed of adoption of the new channel could increase.

Choose Right Customer Metrics
Instead of NPS, a question about the help portal should be added to the customer survey. By asking the customer if he or she has used the self-service and why a contact with customer support still had to happen, feedback could be collected and the awareness of the portal could increase. NPS is an useful metric, but it should be used in another survey or market research regarding the brand and business as a whole. This recommendation will be implemented in the near future, according to Active.

Analyze Customer Surveys
The survey factor today that receives the lowest scores amongst customers is Time to Respond and Time to Resolve, both positively correlated to customer satisfaction. These factors are easy to improve by offering email and chat service from Active offices in Europe or Asia, making the support center available 24/7. Since most questions relate to How-To/Training, many agents without training or experience working in the San Diego headquarters could answer these questions by sending the customers links to the help portal. In April 2014, this recommendation was implemented and the chat service became available 24/7.

To decrease the resolution time even further, agents could get the full allowance to handle invoice and remittance issues. The efficiency and waiting time in phone could

be improved by letting customers enter their account information and provide information about the help portal while waiting in queue. Many customers are dissatisfied with a waiting time as long as two minutes before an agent picks up the phone, or with waiting 24 hours to get an email reply - even though that was below the waiting time goals for the support center. Arguably, the objectives in customer service are set too low - if the goal is to keep customers satisfied. The goals within customer support should be adapted to and customized for the customers. By connecting waiting and handling time to each case and analyzing what the time limit is for when a customer gives a "satisfied" score, a more useful goal could be set for the support center.

Measure Agent Satisfaction and Motivation

In order to increase the customer's satisfaction with an agent, the underlying reason why an agent get high or low scores from customer surveys should be explored, just as with waiting time and handling time. A suitable way to do this for Active is to carry out personality tests or surveys where agents can explain their behavior or well-being in the call center. By doing this, agent motivation and personal characteristics could be explored - maybe leading to a recognized need for training or different employee benefits or settings. Every agent should be skilled in handling angry customers, since theories claims that angry customers often switch providers.

6.1.5. Operational

Communicate Objectives with Stakeholders

By communicating the importance of the migration to self-service within the company, hopefully more agents will collaborate to build and improve the knowledge base, and promote it to customers. A question should only be answered once, and the solution should be used often. Additionally, the goals and objectives should not only be communicated downwards, but also upwards to managers. Since self-service adoptions may extend across years, support for the migration can fade if the numbers do not look "attractive". When all stakeholders, including customers, understand how the benefits evolve, it is easier to gain and sustain the enthusiasm and commitment to a migration.

Make Agents Report and Increase FCR

Active needs a way to track FCR, which should first and foremost be done by agents when they close a case. It is suggested that the agent, after receiving a "Thank you" email as a response to a solution, check the FCR box again, and then closes the case.

This requires that all the agents are aware of the benefit and importance of measuring FCR. A way for agents to increase the FCR is to know related problems to each question, avoiding the likelihood of sequential questions. If the agent knows that customers usually have related problems with a question they just asked, the agent could spend time to explain this issue before it becomes another contact to customer support in the future. A way to simplify this is to have a knowledge base with related articles or videos, showing what documents a visitors usually views during the same session. Due to the seasonal variation in the type of incoming cases, the support center can more or less foresee what kind of questions that will come each month. In May, for example, customers usually ask questions related to event set-up, and in September they ask for refunds. By asking customers during a call if they have thought about what is coming next, a future question can possibly be avoided. The support center could also send out emails to the customers with links to common seasonal questions each month. Today it takes a Content Manager 2-3 months to upload an article or video, after the need is discovered. This is too long, especially since many similar questions come at the same time when customers encounter problems related to new products or updates. After 3 months, the product might already have changed. With a quicker upload time, the help portal will be more alive and relevant.

Use Handling Time Carefully

Instead of measuring agent efficiency by average handling time, it was concluded that the number of cases closed per time period is a better efficiency metric at Active since the exact handling time could not be measured for all channels and the data was lagging. Active has today a goal that every agent should close at least 15 cases per day, which is not always fulfilled. The number of cases per day can often be misleading, since many cases have to be escalated and cannot be closed directly. Instead, "closed cases per week" is suggested as a metric to measure agent efficiency. The exact goal for number of cases should be closely investigated and related to each individual agent in terms of experience, what type of cases they handle and how many hours they work.

Collect Feedback on the Help Portal

With direct feedback from the customers it would be easier to measure self-service success, improve the help portal and update articles. This can be done through many ways, for example through surveys, pop-ups or feedback buttons that ask the customer if the article was helpful. The best result should come from combing results from web analytics and direct customer feedback. This recommendation lead to a decision to add a feedback button under each article in the help portal, and it will be implemented

during the summer of 2014. As mentioned earlier, Active will soon also implement a question about the help portal in the customer survey.

Use Technology to Interact and Track

As a leader in event management technology, Active should further develop their abilities to interact with customers and track activities in a simple and modern way. Relevant reports, integrating the tracking of cases, finances and web analytics should easily be extracted regularly. In order to improve the agent's performance, new technologies and solutions should be considered. One example is assisted browsing or co-browsing, where the agent can share the computer screen with the customer and walk through the solution with him or her - instead of explaining where to click over phone. Another solution that might prevent the customer from contacting support at all is products similar to walkme.com, an automated guidance system that enables site visitors to enter questions and then takes them to specific responses without forcing them to a help portal where they have to search a knowledge base. The system uses interactive on-screen step-by-step instructions displayed as pop-up balloons. The appeal of such a system is that it enables customers to continue self-service on the web without having to leave the web site to watch video tutorials or read help pages and articles.[3]

6.2.   Recommendations for Implementation

Before the Migration Measurement Model is implemented and used, one must consider the challenges and the work that will occur. From experience with the case study, three tasks stood out as particularly important in order to achieve a successful implementation: choosing objectives, choosing metrics and collecting data.

6.2.1. Choosing Objectives

Choosing objectives within customer support that aligns the business goals can be difficult, especially since decisions often come from executives that are not aware of eventual consequences. ROI analyses are useful tools when it comes to financial objectives, but by only measuring handle time or call deflection, underlying reasons why calls are avoided and agents are more effective are not explored. Instead, a company has to look at the factors that make employees smarter and happier, products better or the self-service more satisfying for customers to use. The difficulty of assigning ROI to so-called "soft" metrics means that ROI analyses often don't capture

---

[3] More information is available on: www.walkme.com.

the value of critical benefits like customer loyalty or improved products. This indicates that the Migration Measurement Model is not only valuable for the support organization, but also for the executives who formulate the business goals. As expressed in the theory, parts of the model can be excluded if they are not relevant for a company or do not fit within the business goals. However, by continuing to measure each factor in the model, results can show that variables other than costs are interesting. For example, a regression analysis from the customer surveys in this case study revealed what factors make a customer satisfied. In the end, having satisfied and loyal customers might be more profitable for a company than cutting costs in customer support.

6.2.2. Choosing Metrics

The hardest and most time consuming part of the model is to evaluate and choose metrics, since it depends on what data is available and what results the management wants to see. Many of the presented metrics from the case study can be used in several parts of the model. One example is self-service completion - indicating how many customers solve their problem without assisted support. This is a financial metric, since every deflected customer saves the company a contact to support. In another way, it is also an indication of the quality of the help portal which can be used by developers or content managers to see what functions or articles on the site give the best effect. Lastly, the self-service completion is also a metric that gives information about channel switchers, since it is assumed that every customer who does not succeed to self-serve will end up contacting customer support. Channel switchers are usually less satisfied, but could also give great feedback on what went wrong on the site and what could be improved. To sum up, the distinction between financial, customer and operational measurements is not the main objective of the Migration Measurement Model. The point is to give a broad picture of different factors that determine the success of a migration, and to limit the number of metrics to 2-3 per category. If the same metric is used several times, it should be used for different purposes and have a bearing on the outcome and eventual following actions taken. Therefore, all links (arrows) in the model are not unique, but they show the major connections. For example, satisfied customers could be linked to financial results (such as increased loyalty and profitability), but increased customer satisfaction is here seen as an objective separate from others, which is why it is directly linked to company objectives.

6.2.3. Collecting Data

Something that can make it very hard to measure the success of a migration is if baseline measurements are not taken before the project starts, which was the situation in this case study. The managers wanted to see financial results directly, and did not let the knowledge base mature internally before it was used externally. For example, already three hours after the help portal was launched, managers reached out to hear about the results. Consequently, different metrics from different adoption phases had to me measured. The best way to measure the success of a migration is to follow the project for at least 1.5 years since many results will not be positive until the self-service is fully adopted and matured. It is recommended to first migrate the customers in one part of the organization, in this case study for two of the company's products, before spreading it to the whole organization. This increases the security of the investment and helps the management understand its value and potential.

On the technical side, the boundaries of the case can be difficult to define, which poses difficulties in terms of deciding which sources of data to incorporate in the Migration Measurement Model and which to exclude. Many areas are connected to a migration in different ways, but few are actually measuring its success. During the case study several ways to improve the adoption of the new channel came up, such as design suggestions and channel steering, but the goal of this thesis is first and foremost not to increase the adoption - it is to measure the adoption and give recommendations based on that. Data from the company in this case study was analyzed in many ways, until a few of them were chosen to be a part of the Migration Measurement Model. Access to case study setting is a demanding part of the research process, since the right to use to documents, people and settings can generate problems in terms of confidentiality. It is recommended that the researcher be involved in the company settings and have a close communication with people who are deeply involved in the migration project. By talking with employees from many parts of the company, the researcher can get a comprehensive picture of the company, its customers and processes.

6.3. Fulfillment of Purpose

The purpose of this thesis was to develop a theoretical framework that enables a company to measure the success of an initiative that migrates customers from one channel to another, in order to improve or upgrade the way of handling customer support between the company and its end customers. By iterating between theory and case study, a model could be developed and metrics constructed. The Migration Measurement Model covers many different factors when analyzing the activities and

processes in a support organization. The first part of the model creates a deeper understanding of the objective with the migration, the company characteristics and the features of each provided channel. After gaining this understanding, the model moves on to measure the desired objective(s), combining financial, customer and operational perspectives. In the end, a company should have a clear picture of how successful they are in fulfilling the objective with a migration and what they need to improve. The Migration Measurement Model was applied at a company and recommendations were given. The purpose of the thesis was thereby fulfilled.

6.4.   Comments on Credibility

The developed model is aimed to be as general as possible, but the reliability of some findings is hard to fortify with only one case study. For example, a large number of measure points could not always be used due to lack of available data from the company, and the credibility of some findings can be questioned. One example is questionnaires, surveys and interviews that were used to collect data from customers. Due to restrictions from the company, no more than one e-mail every third month could be sent out, and support agents did not want to "waste" their time asking questions to customers about the help portal, since the agents were stressed and interrupted frequently in their work. Furthermore, questionnaires offer little opportunity to check the truthfulness of the answers given by the respondents. Because the author did not meet the respondents and because the answers were given at a distance, it could not be identified if the answers were genuine or not. Moreover, the data from the customer surveys was taken right after the month's end, but it could be possible that more data came in afterwards as customers took some time to respond surveys.

Most measurements presented in this case study are compared with the activities and results from the same time one year ago, since the same type and amount of issues were handled during that time. However, the system for tracking results and activities was not as developed as it is today, why many metrics missing from 2013 and prior. Therefore, in order to see the effect of the migration, a few metrics are not compared with the previous year, such as distribution amongst channels and customer surveys. The distribution amongst channels was not tracked in the old CRM system, i.e. before the summer 2013, and the customers surveys were not fully implemented until February 2014. Inconsistent measuring should be avoided in the Migration Measurement Model since many metrics are correlated.

The case study in this thesis focused on both processes, relying on qualitative and interpretive methods, and measurable end-products, based on quantitative data and statistical procedures. Case study theory building is usually a bottom up approach such that the specifics of data produce the generalizations of theory. In this thesis, a general idea of the theoretical framework was created before all the data from the case study was collected, making it hard to know what parts of the case study contributed to the model. Many recommendations were implemented as soon as they came up and a few of them had to be removed, which created confusions as some parts of the thesis had to be re-written. In this thesis it is not described how the evaluation process to choose metrics was designed, even though that was the most time consuming part of the project. The reason is that it is a very complex process that looks different for every company. It was not considered to give any value to the thesis and the framework. Another suitable way to develop the theoretical framework could have been to carry out hypothesis tests before the case study was made, and then revise it when all data was analyzed. In this case, however, enough data could not be collected to statistically prove hypotheses. In order to do that, more time and further cases studies would have been needed. Although the case study in this thesis is in some respects unique, it is also a single example of a broader perspective.

6.5. Recommendations for Future Research

An interesting area for future research could be to develop the Migration Measurement Model further and see how the measurements could be adopted to customers and products by segmentation. The presented Migration Measurement Model is primarily suitable for larger companies with direct contact with their end users who want to migrate them from an assisted channel to a non-assisted channel. It is not discussed how the model could be designed to fit different customers and products. Before executing a migration, an appropriate channel design should be planned. The channel design is an interesting subject that questions what channels a company should provide and how to steer the customers to the right channel. By investigating how the Migration Measurement Model could be adapted to different channel designs, the long-term success and relevance of a migration would be secured.

An important factor for the success of self-service on the web is content optimization and user experience, which could have been analyzed further in this thesis. How can a company optimize the content on a help portal? How can customers and their needs be analyzed, and what statistics should be collected? Any person that ever has used self-service knows that it can be overwhelming with innumerable pages of FAQs, video

tutorials, articles, live training sessions, etc. With more and more companies are migrating their customer to self-service, a study about web self-service interfaces and content optimization could be valuable.

Finally, the Migration Measurement Model could be further developed and designed as new technologies and methods for tracking customer self-service activities are invented and implemented by companies.

7.   References

Alcock, T. & Millard, N. (2007). *Self-Service – But is it good to talk?*. BT Technology Journal, 25(3-4), 313-320. [2014-02-12]

Ansari, A., Mela, C. & Neslin, S. (2008). *Customer Channel Migration.* Journal of Marketing Research, 45(1), 60-76. [2014-01-20]

Balanced Scorecard Institute (no date). *Balanced Scorecard Basics.*[Electronic]. Available: https://balancedscorecard.org/Resources/. [2014-04-21]

Banfi, F., Gbhoue, B. & Schneider, J. (2013). *Higher Satisfaction at a Lower Cost: Digitalizing Customer Care.* [Electronic]. *Recall no. 22 – Digital Marketing by McKinsey.* Available: https://tmt.mckinsey.com/content/publications/. [2014-02-20]

Becher, J. (2005). *Why Metrics-Centric Performance Management Solutions Fall Short*. DM Review, 15(3), 35-37. [2014-04-16]

Benda, J. (2004). *Transforming the Help Desk*. Certification Magazine, 6(8), 52-55. [2014-03-18]

Bobbit, L. & Dabholkar, P. (2001). *Integrating Attitudinal Theories to Understand and Predict Use of Technology-Based Self-Service: The Internet as an Illustration.* International Journal of Service Industry Management,* 12(5), 423-450. [2014-01-20]

Campbell, D. & Frei, F. (2010). *The Cost Structure, Customer Profitability, and Retention Implications of Self-Service Distribution Channels: Evidence from Customer Behavior in an Online Banking Channel.* Management Science, 56(1), 4-24. [2014-02-18]

Comaround (no date). *Sju steg för att lyckas med Zero Level support.* A whitepaper by Comaround. Available: http://www.comaround.se/konceptet/kunskapsbank/whitepapers. [2014-04-13]

Convergys (2008a). *Service Levels: One Size Does Not Fit All*. [Electronic]. Available: http://www.convergys.com/insights/research/downloads.php. [2014-02-18]

Convergys (2008b). *First Call Resolution: Its Measurement and Impact.*[Electronic]. Available: http://www.convergys.com/insights/research/downloads.php. [2014-02-18]

CRM Media (2013). *How to Deliver Exceptional Multichannel Service and Support.*[Electronic]. *CRM Media Best Practices Series,* vol. 30. Available: http://www.destinationcrm.com/BestPractices. [2014-02-18]

CRM Media (2014). *Creating an Intelligent Contact Center of the Future by Starting Today* [Electronic]. *CRM Media Best Practices Series, vol. 18.* Available: http://www.destinationcrm.com/BestPractices. [2014-03-05]

CRM Media (2014). *Customer Analytics & Business Intelligence.* [Electronic]. *CRM Media Best Practices Series,* February 2014. Available: http://www.destinationcrm.com/BestPractices. [2014-03-06]

Cugini, A., Caru, A. & Zerbini, F. (2007). *The Cost of Customer Satisfaction: A Framework for Strategic Cost Management in Service Industries.* European Accounting Review, 16(3), 499-530. [2014-01-19]

DB Kay & Associates (2003). *A Balanced Scorecard for Customer Support. Building the Business Case for Improving Problem Resolution.* [Electronic]. Available: http://www.dbkay.com/content/bscPaper.pdf. [2014-02-25]

Denscombre, Martyn. *The Good Research Guide*. Maidenhead: Open University Press, 2010.

Dixon, M., Freeman, K. & Toman, N. (2010). *Stop Trying to Delight Your Customers*. Harvard Business Review, 88(10), 22-23. [2014-02-13]

Dixon, M., Toman, N. & Delisi, R. (2013). *Why Your Customers Don't Want to Talk to You*. Conference Board Review, 50(4), 12-17. [2014-02-11]

Fidelity Investments (2014). *Research - Markets & Sectors - Information Technology.* [Electronic]. Available: https://www.fidelity.com. [2014-06-17]

Gelbrich, K. (2009). *Beyond Just Being Dissatisfied: How Angry and Helpless Customers React to Failures When Using Self-Service Technologies*. Schmalenbach Business Review, 61(1), 40-59. [2014-03-27]

Georgesen, J. (2008). *Recommendation Metrics – Which One Should You Recommend?.* [Electronic]. A Point of View Paper by Convergys. Available: http://www.convergys.com/insights/research/downloads.php. [2014-02-18]

Georgesen, J. (2010). *Agent Performance Management: Critical Leverage in Improving Customer Satisfaction.* [Electronic]. A Point of View Paper by Convergys. Available: http://www.convergys.com/insights/research/downloads.php. [2014-02-18]

Gupta, B., Johnson, B. & Pramidi, S. (2005). Infosys: *The Challenge of Self-Service in Telecom.* [Electronic]. Available: http://www.infosys.com/industries/communication-services/white-papers/documents/selfcare-pov.pdf. [2014-02-11]

Hastings, H & Saperstein, J (2010). *How Cisco Creates New Value Via Global Customer Service*. Thunderbird International Business Review, 52(5). [2014-02-25]

Heskett, J., Jones, T., Loveman, G, et al. (2008). Putting the Service-Profit Chain to Work. Harvard Business Review, 86(7/8), 118-129. [2014-05-14]

Hilton, T., Hughes, T., Little, E. & Marandi, E. (2013). Adopting Self-Service Technology to do More with Less. Journal of Service Marketing, 27(1), 3-12. [2014-2-11]

ICMI (International Customer Management Institute) (2010). *What's Wrong With Customer Self-Service? Quick Wins For Contact Centers to Improve Customer Satisfaction and ROI*. [Electronic]. Available: http://www.imci.com/. [2014-03-02]

ICMI (2013). *4 Challenges of Customer Self-Service*. [Electronic]. Available: http://www.imci.com/. [2014-03-02]

Jerath, K., Kumar, A. & Netessine, S. (2012). *An Information Stock Model of Customer Behavior in Multichannel Customer Support Services.* INSEAD Working Papers Collection, 73, 1-33. [2014-03-12]

Kaplan, R., & Norton, D. (1992). *The Balanced Scorecard – Measures That Drive Performance*. Harvard Business Review, 70(1), 71-79. [2014-04-21]

Kauffman, R. & Lally, L. (1994). *A Value Platform Analysis Perspective on Customer Access Information Technology.* Decision Sciences, 24(5), 767-794. [2013-03-05]

Kay, B. (2007). *KCS Measurement Matters – The Benefits and Organizational Measures of Knowledge-Centered Support.* [Electronic]. Written for CSI - Consortium for Service Innovation. Available: http://www.serviceinnovation.org/included/docs/kcs_benefitsandmeasures.pdf. [2014-02-18]

Kernaghan, K. (2013). *Changing Channels: Managing Channel Integration and Migration in Public Organizations*. Canadian Public Administration, 56(1), 121-141. [2014-02-05]

Klaus, P. & Maklan, S. (2012). *Towards a better measure of customer experience.* International Journal of Market Research, 55(2), 227-246. [2014-02-04]

Klie, L. (2012). *In High Tech, Social CRM is All the Rage*. CRM Magazine, 16(10), 18. [2014-03-17]

Klie, L. (2013). *Keeping Up With the Digital Migration*. CRM Magazine, 17(11), 23-37. [2014-01-20]

Kumar, A. & Telang, R. (2011). *Does the Web Reduce Customer Service Cost? Empirical Evidence from a Call Center. Information Systems Research*, 23(3), 721-737. [2014-03-05]

Lamont, J. (2014). *Creating a Positive Customer Experience*. KM World, 23(2), 8-9. [2014-03-02]

Leggett, K. (2011). Choosing the Right Customer Service Metrics Requires Alignment to Your Brand. *Forrester Blogs: KateLeggetts Blog.* [Electronic]. Available: http://blogs.forrester.com/. [2014-03-22]

Leggett, K. (2013). Top 15 trends for customer service in 2013.*Forrester Blogs: KateLeggetts Blog.* [Electronic]. Available: http://blogs.forrester.com/. [2014-03-22]

Meuter, M., Ostrom, A., Roundtree, R. & Bitner, M. (2000). *Self-Service Technologies: Understanding Customer Satisfaction with Technology-Based Service Encounters.* Journal of Marketing, 64(3), 876-876. [2013-02-17]

Meuter, M., Bitner, M., Ostrom, A. & Brown, S. (2005). *Choosing Among Alternative Service Delivery Modes: An Investigation of Customer Trial of Self-Service Technologies.* Journal of Marketing, 69(2), 61-83. [2014-01-20]

Morris, T. (2012). *15 Customer Service Metrics to Measure*. Parature – Customer Service Software That Revolves Around You. [Electronic]. Available: http://www.parature.com/15-customer-service-metrics-measure/. [2014-03-05]

Morris, T. (2013). *Your Customers are Channel Surfers: Don't Turn Them Off*. Parature – Customer Service Software That Revolves Around You. [Electronic]. Available: http://www.parature.com/customers-channel-surfers-dont-turn/. [2014-03-05]

Perez, J. (2013). *How to Measure & Calculate Web Self Service Success Rates*. [Electronic]. *Customer Experience in the Cloud* .Available: http://customerexperienceinthecloud.com/. [2014-02-28]

Petouhoff, N. (2009). *The ROI of Online Customer Service Communities.* [Electronic]. A Study by Forrester. Available: http://www.lithium.com/pdfs/whitepapers/Forrester-ROI-Online-Support-Communities_s3NR5PeZ.pdf. [2014-03-17]

Reena, J. (2009). *Building a Social Network That Pays*. BusinessWeek, Issue 4139, p66. [2014-03-10]

Rumburg, J. (2012). *Customer Satisfaction |Metric of the Month*. [Electronic]. MetricNet – Performance Benchmarking. Available: http://www.metricnet.com/metric-of-month-customer-satisfaction. [2014-03-10]

Salesforce (no date). *Bring Your CRM to the Future.* [Electronic]. Available: https://www.salesforce.com/crm/. [2014-03-17]

Sousa, R. & Voss, A. (2006). *Service Quality in Multi-Channel Service Employing Virtual Channels*. Journal of Service Research, 8(4), 356-371. [2014-03-05]

Sousa, R. & Voss, C. (2012).*The impacts of e-service quality on customer behavior in multi-channel e-services*. Total Quality Management, 23(7), 789-806. [2014-02-06]

Valentini, S., Montaguti, E. & Neslin, S. (2011). *Decision Process Evolution in Customer Channel Choice*. Journal of Marketing, 75(6), 72-86. [2014-03-05]

Verrill, A. (2013). How to Calculate (and Maximize) the Value of Your Self-Service Channels. *CSI (Customer Service Investigator) Software Advice.* [Electronic]. Available: http://csi.softwareadvice.com/how-to-maximize-the-value-of-self-service-0713/. [2014-02-28]

Wilhite, T. (2006). *Making a Metric*. Industrial Engineer, 38(4), 24. [2014-03-12]

Yang, S., Lu, Y. & Chau, P. (2012). *Why do customers adopt online channel? An empirical investigation of two channel extension mechanisms.* Decision Support Systems, 54(2), 858-869. [2014-03-05]

Zendesk (2013). *The Zendesk Benchmark Q2 2013 – In Focus: Customer Self-Service.* [Electronic]. Available: http://cdn.zendesk.com/resources/whitepapers/Zendesk_Benchmark_2013Q2.pdf. [2014-02-22]

Interviews:

Bianca Marino – Sales Manager, Active Network

Karen Schultz – Senior Manager, Active Network

Carrie Holburn – Agent, Active Network

Monica Manning – Agent, Active Network

Rachana Metha - Global Analytics Manager, Active Network

Candice Clark – Supervisor, Client Support, Active Network

Dennis Triplett – SVP Services and Support, Active Network

Ryan Lyster – Customer Experience Program Manager, Active Network

Ben Doctor – User Experience (UX) Manager, Active Network

Jonathan Guidry - Customer Care Analyst, Intuit Inc

All interviews were held between 14th of January and 2nd of May, 2014

Appendix

Appendix A. The Customer Survey

1. Please rate your satisfaction with your OVERALL customer service experience. (0 being Very Dissatisfied and 10 being Very Satisfied)

0	1	2	3	4	5	6	7	8	9	10	N/A
○	○	○	○	○	○	○	○	○	○	○	

2. Please rate your satisfaction with the AGENT who assisted you with your issue. (0 being Very Dissatisfied and 10 being Very Satisfied)

0	1	2	3	4	5	6	7	8	9	10	N/A
○	○	○	○	○	○	○	○	○	○	○	

3. Please rate how strongly you agree with the following statements (0 being Strongly Disagree and 10 being Strongly Agree):

	0	1	2	3	4	5	6	7	8	9	10	N/A
I reached support in a timely manner	○	○	○	○	○	○	○	○	○	○	○	○
Agent was professional and courteous	○	○	○	○	○	○	○	○	○	○	○	○
Agent had required product knowledge to assist me	○	○	○	○	○	○	○	○	○	○	○	○
My issue was resolved in a reasonable amount of time	○	○	○	○	○	○	○	○	○	○	○	○
I am satisfied with the quality of the resolution provided	○	○	○	○	○	○	○	○	○	○	○	○

4. How likely are you to recommend ACTIVE's products and services to your peers?

0	1	2	3	4	5	6	7	8	9	10	N/A
○	○	○	○	○	○	○	○	○	○	○	

5. Do you consider this issue to be resolved?

[Please Select] ▼

6. Please enter any additional comments about your support experience below.

Appendix B. Metrics for a Knowledge Centered Support

Title	Adoption Phase	Audience		Data Sources	View	Use/Comments
		Team	Individual			
Note: Activities should not have goals.						
Assisted (support center)						
Article create/ modify	2	X	X	KM tool	Trends	
Reuse of others Articles	3		X		Trends	
Participation	2	X	X	CRM and KM tools	Trends	
Incidents closed	1	X	X	CRM tool	Trends	Number of assisted support cases coming into the support center.
Web						
Sessions/sign ons	1	X		Web reports	Trends	Related to technical support issues
Searches/queries	1	X		Web reports	Trends	
Page hits/views	1	X		Web reports	Trends	
Incidents opened within 24 hours of web session	3	X		Web reports and CRM	Number	Link web session to incidents opened by individual
Avg # of page views/exception	3			Survey or usability studies, web analytics	Number	Some use exceptions/session
Community						
Sessions/sign ons/visits	3	X		Web reports	Trend	Health of community, trend compared to total potential population
Posts	3	X		Web reports	Trend	Health of community
Valued players	3		X	Manual	Trend	Number of designated "valued players" in the community

Demand based view - Whole system health (customer experience)						
Total support demand	3			CRM, Web, community	Trends	Support contribution to customer success. Customer experience - An approximation of the total customer demand for support
Demand satisfaction by channel	3	X		CRM and Web and community	%	Optimize the overall system - % of total demand satisfied through each channel.
Process - Support Center (assisted support)						
Time to resolve/relief	2 to 3	X	X	CRM tool		Not time to close, relief is the point at which the customer is offered an answer, fix or work-a-round
Known Vs new	3	X		CRM and/or KM	%	Helps you to understand the maturity level of the knowledgebase (KB) and web delivery in your organization. Ideal = 85% new; which means most known are being solved on web or in the community
Time to relief - known	3			CRM	Avg. minutes	An indicator to improve the effectiveness of KB. The faster staff are able to find content in the KB, the faster they can provide relief to a customer.
Time to relief - new	3			CRM	Avg. minutes	Indicator of effective problem solving.
First technical contact resolution	3	X	X	CRM tool	%	These measures are impacted by a successful self-service model, as self-service becomes more effective First contact resolution will decline and cost/incident will go up - this is a good thing as total support costs should be going down

Cost/Incident (and/or exception)	4	X	X	CRM and financials	$	
Citations (Reuse by others)	3 to 4			KM tool	Number	Articles created, articles modified (citations for each)
Time to publish	2 to 3	X		CRM and KM tools	Avg minutes	Helps assess the flow of content to self-service by measuring the average minutes to get articles visible through self-service. Typically measured from time stamp of "relief given" to the time stamp for when the article was "published"
Collaboration (assisted support)						
Team health	4	X		Survey	% satisfied	Used to identify areas for improvement. Trust, conflict resolution, commitment, accountability, focus on results
Organizational network Analysis	4	X		Manual	Network map	Identifying coach candidates and indicators of overall network health
Communications and Alignment						
Employee understanding	2		X	Survey	Score, trend	Assess effectiveness of management/leadership
Employee buy-in	2				Score, trend	Assess effectiveness of management/leadership
Communications effectiveness	2				Score, trend	Assess effectiveness of management/leadership
Article Quality						
Customer success with self-help	3	X	X	Web and manual	%	Can be measured "explicitly" by using a survey, but can also be a derived metric based on user click paths. Did they log a case after their self-help session within a

						defined period of time?
Diversity of source; internal, external	3	X		CRM, KM, Web, Community	%	Indicator of health of the whole system. % of total KB content from each source
The value of the KB	4	X		CRM, Web	$$	Self-service success on issues customers would have opened an incident about had they not found something helpful
Value of an article - internal use	3	X		CRM, Web	Score	Assesses the value of specific content. To calculate, assign points to an article for activities that imply value. For example, when it is linked (solves) an incident - weighting may be applied based on severity, impact or importance
Value of an article - Web use	3				Score	Assesses the value of specific content. Example, assign points to an article when it is the last article viewed in a success self-service experience (see click stream analysis - success)
Customer satisfaction with KB use vs. without KB use	4	X		Survey and CRM/KB		Incident based customer satisfaction - compare satisfaction when an article was used to solve the incident to satisfaction when an article was not used
Web Success						

Customer use of web first	3			Survey, web analytics	%	% of customers who went to the web site first, before contacting assisted support. Measured through a survey (usually pop-up, sampling)
Customer success on the web	3			Survey, web analytics	%	% of customers who went to the web site and solved their problem. Measured through a survey (usually pop-up, sampling) or click-stream analysis
Customer visit without incident opened	3				%	Customer visit/session and no incident opened in X amount of time (examples of X range from 8 hours to 7 days). Variation on this is to assign points to all articles viewed in a session when no incident was open within X amount of time
Value of web						
Triangulation method						Assesses the value of the web . There is no one measure we can use to assess the value of the web - we have to look at the web from three different perspectives to get a true representation.
1. Click stream analysis	2			web analytics	%	First side of the triangle - Where traffic is going - to and from. % of users that are successful vs. unsuccessful
2. Customer experience	2			Survey	% satisfied	Second side of the triangle - What customers are saying about you
3. Case/incident volume	2			CRM, financial reports	#	Third side of the triangle - Incident volume - Case rate normalized; to total revenue or # of customers

Community Success						
% posts with community response	3		X		%	Individual who nurtures community
Time to response	3		X		Avg. minutes	
Health of community	3	X	X	Survey	Index	Level of trust
Reach	4		X	Network analysis	Index; size and diversity	Assess the effectiveness of the community. Two dynamics of reach - 1. How big is the audience involved in the network, 2. Diversity of the players in the network
Relevance	4			Network analysis, survey	Index	Assess the health of the community. How often do people find content or people that are relevant to what they are looking for?
Loyalty						
Customer loyalty	3	X		Survey	Score	See "Net Promoter"
Renewals	3	X	X	CRM tool	%	
Employee loyalty	3	X	X	Survey	Score	Loyal employees contribute to loyal customers
Collaboration/team health	3	X		Survey	Score	
Employee turnover rate	3	X		HR reports	%	
Community health	3	X		web reports/surveys	Score	Online forums
Organizational Learning						
Time to fill knowledge gaps on the web	3	X		Web analytics, click stream analysis	Avg. min/days	

Metric		X		Source	Unit	Description
% of issues promoted by support implemented by Development	4	X		Manual	Issues promoted vs. implemented	Indicator of health of relationship with Product Management and Development/Engineering
Time to cure (time from id to removal of problem)*	4	X		CRM, KM and release dates		Support's ability to work with product management and development/engineering to improve products based on customer experience (includes documentation)
Time to proficiency – new analysts	2	X		Manual	Weeks/months	Current compared to baseline. New people
Time to proficiency – experienced analysts, new products/technologies	3	X		Manual	Weeks/months	Current compared to baseline. New products
Time to adopt/install	4	X			Trend, install rate of new release/product	Customer confidence in support is one driver of time to adopt
Financial						
Total support costs as a % of total company revenue	3	X				
Support margins (contract revenues)	3	X		Financial systems	%	Support costs as a % of revenue (or install base, or product shipped)
Cost/exception	3	X			$	Across all channels cost to resolve exceptions
Cost/incident (assisted)	2	X			$	Support center
Cost/incident - known (assisted)	3	X			$	Support center
Cost/incident - new (assisted)	1 to 3	X			$	Support center

Appendix C. ROI Calculation

		Per month	1st year	2nd year	3rd year
Number of self-service users	*Visits with search*	1390	16680	33360	50040
Number of resolved issues through self-service	*Users that leaves the help portal without contacting support*	438	5256	10512	15768
Self-service completion	*Number of self-service users that don't contact support after a web session*	32%	32%	32%	32%
Time savings per case	*Average handling time in hours per case*	0.5	0.5	0.5	0.5
Support costs per agent	*Hourly salary*	$20	$20	$20	$20
Maintenance cost					
Hours per month	*Time to update and maintain the help portal*	180	2160	4320	6480
Cost	*Support costs per personnel*Maintenance hours*	$3,600	$43,200	$86,400	$129,600
Total time savings					
Time to solve cases by an assisted channel	*Hours*	219	2628	5256	7884
Saved time	*Hours*	39	468	936	1404
Saved agent costs	*Cases that agents did not have to solve*	$4,380	$52,560	105120	$157,680
Costs	*Cost for implementing the portal ($90,000) + maintenance ($3,600/month)*	$93,600	$136,800	$180,000	$223,200

ROI		-95%	-61.58%	-41.60%	-29.35%

Payback period	*Investment/cash flow per year*	9.62

Appendix D. The Customer Journey

Step 1. *The customer is on ActiveWorks and encounters a problem when, for example, setting up additional purchases (in this case T-shirts) for the upcoming event.*

Step 2. *The customer hopefully sees "Help" or "Questions?", here encircled in orange, which is clicked on.*

Step 3. *The customer lands on an external page, where one of 29 products has to be chosen in order to be directed to the right support page.*

Step 4. *The customer is now on the help portal and can start searching for an article or video in the knowledgebase.*