Working with Customer Success (CS) Team to collaborate with customers both in the business and information systems by analyzing data, solving problems and finding creative solutions.

By

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Performed at

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In partial fulfillment of the requirements of the Master of Health Informatics (MHI) Program,

Dalhousie University

Report of Internship for the period April 4, 2016 – July 8, 2016

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Acknowledgement and Endorsement

This report has been written by me and has not received any previous academic credit at this or any other institution.

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Executive Summary

This report describes the internship work performed by author at ResMed as a Junior Business Analyst, part of Customer Success Team under Healthcare Informatics department, during April 4, 2016 to July 8, 2016. ResMed is a global manufacturer of CPAP (Continuous Positive Airway Pressure) masks, machines and other products that diagnose, treat or help manage sleep-disordered breathing (particularly sleep apnea), chronic obstructive pulmonary disease (COPD), or other respiratory conditions. They have three main products for managing sleep apnea therapy, named U-Sleep, myAir and recently launched AirView. ResMed Halifax's flagship product, U-Sleep, is a solution that helps organizations to better monitor and manage how well their sleep therapy patients are following the recommended use of their therapy. The way U-Sleep works is by using the "Management by Exception" strategy, which allows companies to define rulesets for therapy compliance. The Customer Success (CS) Team works under global Healthcare Informatics (HI) Department and focuses on increasing customer adoption and promoting effective use of HI solutions through active monitoring and outreach.

This internship was composed of different parts and tasks. Initial tasks were more focused on getting the understanding of the processes, tools and data, later tasks were focused on the actual hands-on various projects. During this internship, author get chance to work on different projects like Capacity Model, Population Results, Churn Rate, Weekly Customer Insight Report/Customer Trending Reports, Operational metrics, Biweekly Salesforce.com log reports and Salesforce.com Development.

The experience gained by author during his internship at ResMed working as a Junior Business Analyst was very educational. During this internship, author get chance to implement the knowledge he learned during Master of Health Informatics into practice. Author utilize various skills and knowledge like SQL, Web Development, Statistical, Research Methods, Health Information Systems & Issues, Change Management and Organizational Management during this internship.

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Introduction:

Health informatics is changing the practice and delivery of health care by providing computer technology-based solutions to bridge the knowledge and information gaps experienced within the health care system (Dalhousie University, 2016). This report describes the internship work performed by author at ResMed as a Junior Business Analyst, part of Customer Success Team under Healthcare Informatics department, during April 4, 2016 to July 8, 2016. With this Master of Health Informatics (MHI) internship help the author to gain hands-on experience and get chance to use skills, education and knowledge, learned during MHI, in a real-world Healthcare Informatics.

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Role expectations of the internship at ResMed:

1. Gain strong understanding of U-Sleep data systems.
2. Shadow Halifax Data Analytics team to understand how data is shared.
3. Gain strong understanding of internal tools, reports and dashboards.
4. Gain strong understanding of success process and key customers.
5. Identify, track analyze and communicate team performance metrics to assist in continuous improvement.
6. Analyze success dashboard and reports to evaluate positive and negative trends for individual customers.
7. Prioritize customer needs based on trends.
8. Development of a Capacity Model.
9. Provide Customer Success Specialist with customer insights to assist and prioritize their customer outreach on a weekly basis.
10. Analyze success trends and produce population success results.
11. Provide population success results to manager on a biweekly basis.
12. Share population success results with Customer Success Team.

13. Provide suggestions on how to enhance Customer Success tools and dashboards.

Description of the organization

ResMed:

ResMed is a global manufacturer of CPAP (Continuous Positive Airway Pressure) masks, machines and other products that diagnose, treat or help manage sleep-disordered breathing (particularly sleep apnea), chronic obstructive pulmonary disease (COPD), or other respiratory conditions. ResMed is a leading developer, manufacturer and distributor of medical equipment for treating, diagnosing, and managing sleep-disordered breathing and other respiratory disorders. ResMed is dedicated to develop innovative products to improve the lives of those who suffer from these conditions, and to increase awareness among patients and care providers of the potentially serious health consequences of untreated sleep-disordered breathing. ResMed employs about 5,000 employees worldwide, operates in 100 countries and has manufacturing facilities in Australia, France, Singapore and the US. (ResMed, 2016)

ResMed Halifax (formally known as Umbian Inc.):

At ResMed Halifax, they design, develop and market health-monitoring software solutions to customers around the world. They have three main products for managing sleep apnea therapy, named U-Sleep, myAir and recently launched AirView. ResMed Halifax's flagship product, U-Sleep, is a solution that helps organizations to better monitor and manage how well their sleep therapy patients are following the recommended use of their therapy. The way U-Sleep works is by using the "Management by Exception" strategy, which allows companies to define rulesets for therapy compliance. By doing so allows the system to flag patients who follow or break the rules by trigging pre-set actions and notifications. The system also sends feedback to the patients by using one of the three methods: voice, SMS, and email. These notifications contain automated coaching messages for the patient, which can helps to improve the patient's therapy compliance. It also provides comprehensive reports to companies regarding the patients they manage. myAir is a personalized therapy management tool for patients with sleep apnea that encourages them to start and continue on CPAP therapy and resolve basic questions to increase their comfort. (ResmedHalifaxHumanResources, 2016)

Customer Success (CS) Team:

The Customer Success (CS) Team works under global Healthcare Informatics (HI) Department and focuses on increasing customer adoption and promoting effective use of HI solutions through active monitoring and outreach. Outreach is the process of spreading awareness of use of the company's product U-Sleep by actively distributing information to customers and helping them if their performance is poor/struggling or appreciating if their performance is good/excellent. Customer Success, right now, is only implemented for U-Sleep but there are other platforms which are in pipeline for success.

Figure 1: Organization Chart.

All the customers are divided into three tiers: Corporate, Target and Non-Target. Corporate and Target works on higher touch success model, which includes weekly/biweekly calls, emails and for certain customer monthly analytics reports. In this model outreach is sent directly to customers and strong customer relationships are formed. Non-Target works on lower touch success model which includes monthly emails and occasional calls to Territory Mangers (Sales Representatives) not directly to customers.

For Target and Corporate companies, they also receive a dedicated Solutions Consultant. Solutions Consultants complete the engagement process and introduce the Customer Success

Representative (CS Rep) for that particular account. The implementation team sets up the account and notifies the CS Rep. CS Rep starts engaging customers by scheduling a pre-training call and introduces the training team for customer training. After training is done, Solution Consultant hand-off that customer to the CS Rep and CS manages the account according to the outreach protocol.

Description of projects:

Capacity model

Objective: There were two objectives of this Capacity Model project, first was to understand the capacity to handle outreach for Corporate, Target and Non-Target customers, second was to predict the resource requirements going forward with launch of more platforms with more customers.

Approach: As the process of customer success varies with tiers, it was impossible to build one model for all, so author decided to build the three different models: Corporate Capacity Model, Target Capacity Model and Non-Target Capacity Model. In order to get started on this project, author started to understand the daily tasks of CS Reps and time required to complete those tasks. Author start with Non-target as the CS process was less complex and they were outreaching to Non-Target customers via email only and occasional calls to Territory Managers. Author build a template using excel identifying variables with range of time of pre-outreach, outreach and time to log the information in Salesforce.com, this range includes minimum time and maximum time required to do a particular task. With this exercise, author was able to determine the range of total time required per outreach.

Similar steps were implemented to build Target and Corporate model. CS process for Target and Corporate is different than Non-Target as they are high priority customers with customized U-Sleep accounts, so outreach to them include email, call and for certain accounts monthly analytics reports. Target and Corporate outreach also include some additional tasks like meeting with Solutions Consultants to discuss new account revisions, pre-training call with client and Solution Consultant, answering client questions including investigating problem etc. which make this CS process more complex.

With the help of information collected above, author was able to calculate some more variables like customer outreaches per day and per month. Based on above data, author built a model with some additional assumed variables like dedicated time per day by CS Reps to do outreaches. Model was built in such a way that if one change the value of any variables then total resources required will also change accordingly. The built model had some additional variables as well which directly affect the number of resources like % of increase time with more than one platform, frequency of outreach, number of customers and working days in month.

Application of Capacity model: With the help of this model, higher management can play around with variables and predict the number of resources they will need in future to handle specific number of customers with one or more platforms. Also numbers provided by this capacity model will be used to make important management decisions regarding staffing.

Figure 2: Capacity Model (blurred for information privacy)

Population results and Churn rate

Objective: Main objective behind this project was to analyze success trends and produce population success results to see the improvement on overall customer's performance as well as on specific customers with the implementation of Customer Success (CS) also to evaluate the churn rate.

Approach: This was a data analysis exercise done in excel by author. Data files used for this project was extracted from CS dashboard which gets updated weekly with data from SQL server. CS dashboard is composed of around 10 comma separated (.csv) and text separated (.tsv) files.

For this exercise, author used one of the .tsv file named Customer_Success_Overtime2.tsv. The information in that file was encrypted, with the help of Data Analyst, author understand each column of that file and how that column information was reflected in dashboard. This .tsv file did not have company name, start date, target status and CS Reps name but it had unique identifier company id. In order to add those things to selected .tsv file, author create his own Master Sheet which had all the missing information. With the use of VLOOKUP function in excel, author was able to populate those missing fields in selected file.

This file had weekly data for each company since they first launched with U-Sleep. For this exercise, author divided the data file into two; before CS and after CS. Before CS file contains data prior to launching the CS program June 2015 and after CS file contains data after launching the CS program in June 2015. By using these two files, author was able to produce population success results like how many Target, Corporate and Non-Target companies were there before CS and how many currently are there. Also, how many patients added to U-Sleep before and after CS? With this exercise, author was able to calculate average adoption and usage success metrics before and after CS. By using same approach, author produce before and after CS population results for few specific customers as well.

Figure 3: Population results and churn rate (blurred for information privacy)

Application of population results: With the population results higher management are able to see the positive impact of the CS program on companies overall performance. These population results demonstrate the success story and impact of Customer Success Program.

Churn rate: In order to assess the CS program impact on U-Sleep companies' retention, author did the churn rate analysis. Churn rate was calculated by suing a simple formula,

Churn Rate = number of inactive companies / number of active companies X 100

Where inactive company is that has not added any patients to U-Sleep for 90 days and active is that had added one or more patents to U-Sleep during those 90 days.

Findings of Churn Rate: Corporate and Target companies show the lowest churn rate which is expected based on higher touch success model and Non-Target companies show the highest churn rate based on a lower touch success model.

Weekly Customer Insight /Trending Report

Objective: Provide CS Reps with customer insights to assist and prioritize their customer outreach on a weekly basis.

Approach: This is a data analysis exercise as well. Author use the same data file extracted from CS dashboard. Same steps were followed as population results. The customer success dashboard is meant to provide the CS team a summary about the companies' activities of U-sleep usage and their performance. The dashboard is super user-friendly as one can apply various filters to it and select exactly what they want to see. Dashboard is showing data for only one week, once dashboard is updated, one cannot see the previous week's data for any company.

During frequent discussions with CS Reps, author came across the need which was not fulfilled by the CS dashboard that is having a historical view of each account since they start. Keeping this requirement in mind, author start working to develop Customer Insight/Trending Report. These weekly Customer Insight/Trending Report, which author sending to respective CS Reps, have capability to provide week over week historical view for every company in dashboard since the customer first launched with U-Sleep.

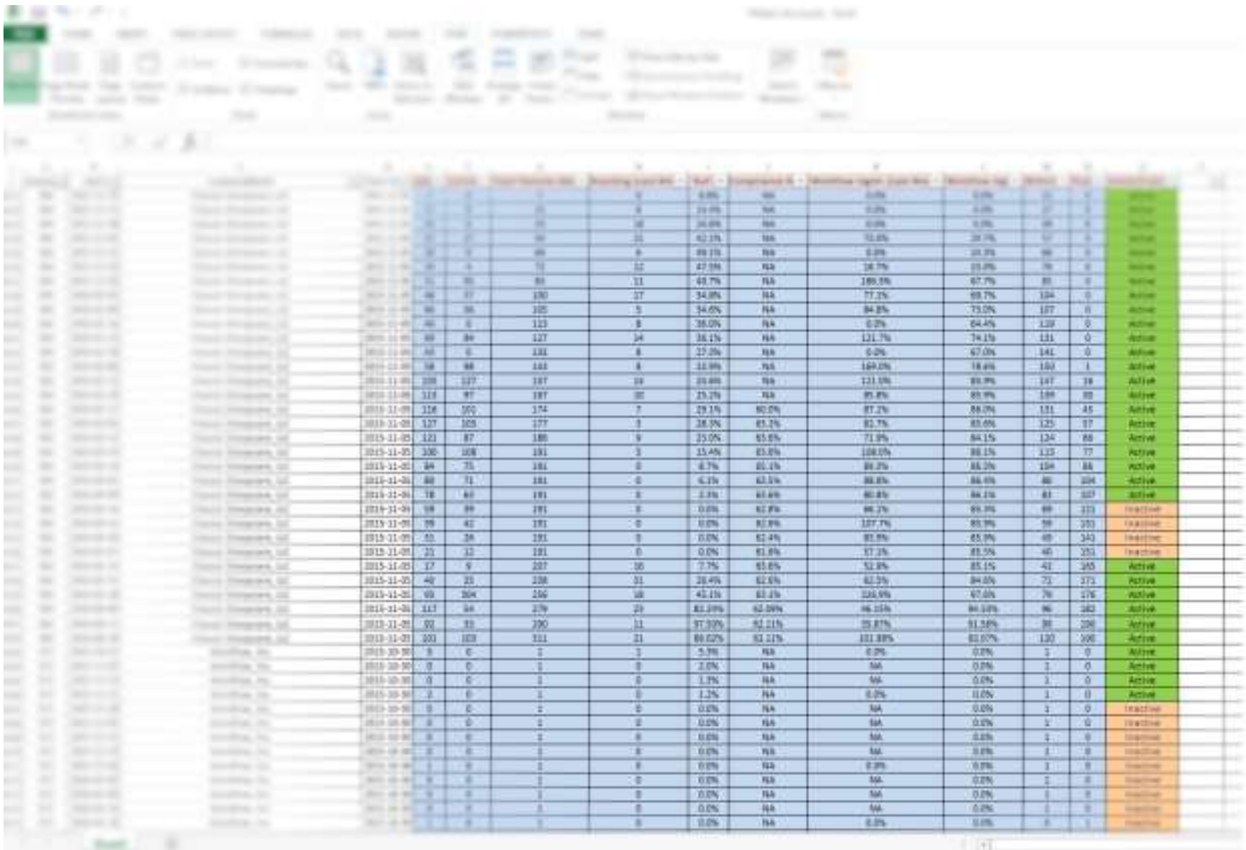

Figure 4: Weekly Customer Insight/Trending Report (blurred for information privacy)

Application: With this report, CS Reps, can identify the trends of performance of their customers. Any unexpected change can be noticed very easily. Increase or decrease in performance pattern is easily noticeable with these reports. This report provide CS Reps more points on call to talk about with customers.

Operational metrics and Biweekly Salesforce.com log report

Objective: Identify, track analyze and communicate team performance metrics to assist in continuous improvement.

Approach: There is no any performance metrics placed to measure the performance of the CS Reps. It is always better to have performance metrics placed as they help to drive improvements, increase in efficiency and will lead to do things in more organized way. Part of this exercise, author listed all the metrics by doing an academic research and meeting with other Managers who have something similar implemented for their teams. Most of the listed metrics are call centered based and which will be not applicable for CS team. One of the important difference between call center and CS process is that call centers receives calls from outside which make them inbound while CS process include outbound calls to customers. As mentioned above there is no metric in place right now so it will be hard for CS Rep to grasp those if management decided to place 2-3 metrics at the same time. Author, with the help of CS Manager, decided to implement only one performance metric, which is Productivity, for now and that will be enforced gradually.

To track this productivity of each CS Reps, author is pulling biweekly Salesforce.com log reports which shows how many calls they logged in Salesforce.com and how many emails they sent to customers are logged in Salesforce.com. Author is in the process of collecting the information that how many outreaches they supposed to do, so management will see how many one CS Rep supposed to do and how much he actually did.

In order to make this reporting process more efficient or produced reports to be more efficient, author is in the middle of Salesforce.com development project. Main purpose of this exercise is to encourage the full utilization of the internal tool called Salesforce.com. Other departments within the organization are utilizing Salesforce.com at its best. Going forward, higher management would like to see CS team as well utilizing Salesforce.com at its best. As a part of this process, with manager's approval, author submitted a Minor Change Request Form to Solutions Analyst, also author is working with Solutions Analyst to make Salesforce.com one stop for everyone in CS team and having CS Manger full visibility into it.

Application: With the help of biweekly Salesforce.com log reports, higher management will get the full visibility into CS Reps biweekly activities.

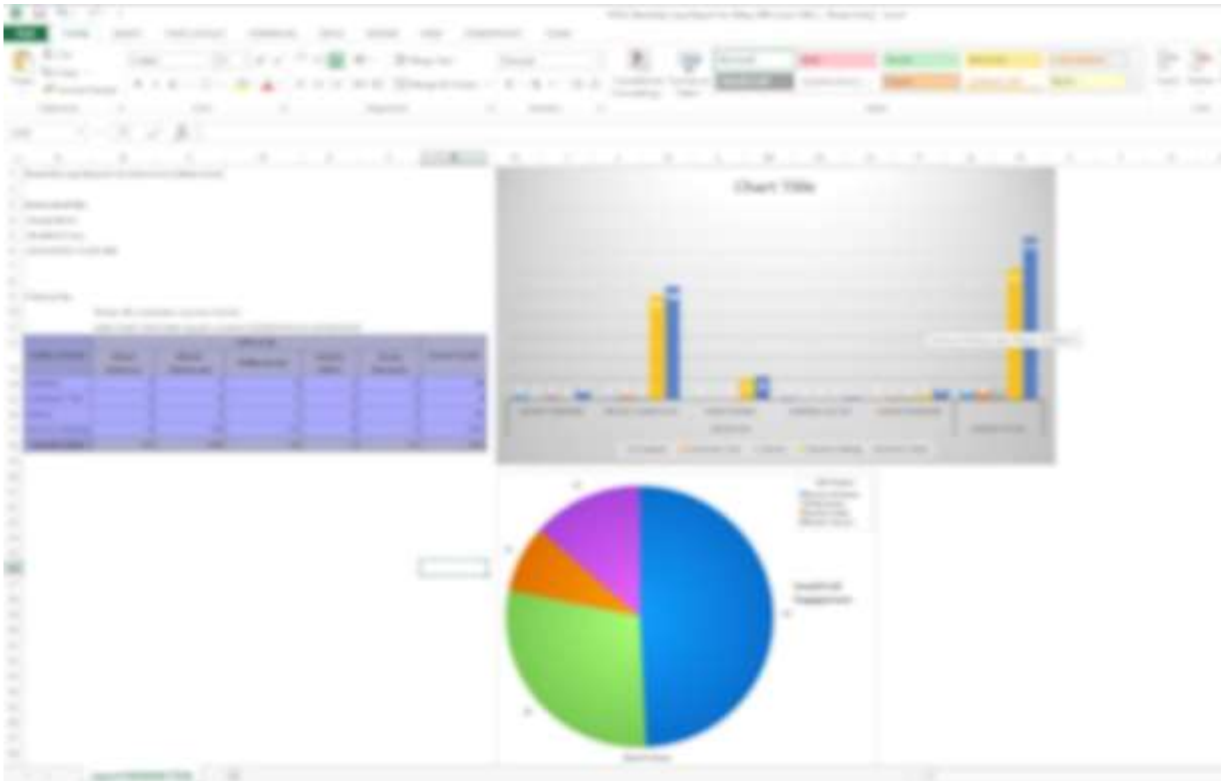

Figure 5: Biweekly Salesforce log report (blurred for information privacy)

Problem Analysis:

Description of Problem:

In the process of understanding of the dashboard, author had various discussions with CS Reps and came across various areas of improvement. One of the issues was that there was a need to have a new weighting system for CS score for customers which will reflect the exact performance. Score was given to customers out of 100, the score did not always reflect the actual accounts performance. The dashboard is trying to accomplish two things – provide an executive view to senior management (higher level view) and an operational view to CS Reps (detailed view).

Proposed Solution:

In order to overcome this problem, author suggested to have another internal dashboard for reporting purposes to higher management with different weighting system. The operational dashboard will reflect the more detailed view with more accurate performance prediction. Author was able to produce this dashboard with different weighting system in excel.

Health Informatics Principles and Internship Work:

As author was working under Healthcare Informatics department, he get chance to apply lots of Health Informatics principles in almost every project during his internship.

- Utilizing SQL knowledge taught in **HINF 6220 – Networks and the Web for Health Informatics** course allowed author to understand how data is extracted from U-Sleep database by running appropriate SQL queries.
- Having knowledge and understanding of web development, taught in same course **HINF 6220**, author was able to understand the web CS dashboard and was able to extract the exact dataset for various assigned projects.
- Statistical knowledge gained during **HINF 6030 – Statistics for Health Informatics** course helped author to perform statistical analysis for Population Results and Churn rate project.
- Research techniques studied in **HINF 6020 – Research Methods** course helped author to do academic research for Operational metrics project.
- The knowledge gained in **HINF 6110 - Health Information Systems and Issues** course allowed author to understand the information flow and the life cycle of the data generated.
- Principles learned in **HESA 5315 - Managing Change in Health Systems**, one of the elective course from the School of Health Administration, helped author during Salesforce.com development project.
- Principles learned in **HESA 5330 - Management & Design of Health Care Organizations**, another elective course from the School of Health Administration, helped author during Capacity Model project

Recommendations:

- Duplicate this process for other platforms when they get implemented and other teams as well if possible.
- Implement a new internal dashboard with new weights in order to calculate the exact score which will reflect actual performance of customers.
- Encourage the CS team to log everything in Salesforce.com which will allow higher management to have more visibility into their daily activities. In order to achieve this, going forward, development of Salesforce.com is necessary with some additional fields and CS team's own dashboard.
- Once development of Salesforce.com is done then compare the predicted numbers and actual numbers in Capacity Model.
- If response for Overall Customer Insight/Trending report is good, implement sending the Location Customer Insight/Trending report as per customer's request to have more visibility for them per location.
- Implement process to analyse Population Results and Churn Rate monthly or quarterly since the beginning for upcoming platforms, it will help to get understanding whether everything is going in right direction or not.

Conclusion:

The experience gained by author during his internship at ResMed working as a Junior Business Analyst was very educational. During this internship, author get chance to implement the knowledge he learned during MHI into practice. Author utilize various skills and knowledge like SQL, Web Development, Statistical, Research Methods, Health Information Systems & Issues, Change Management and Organizational Management during this internship.

The most rewarding part of working at ResMed was the satisfaction of knowing that all the hard work author put in all the projects was appreciated by the team and higher management.

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