## Lean Six Sigma Green Belt Mini-Project for ITP 303

# IT Support Productivity Improvement


Prepared by Alex Huerta
ahuert11@calpoly.edu, (818) 272-0059
Winter 2019, ITP 303-80

## EXECUTIVE SUMMARY

The organization I chose to work with was the Infiniti of Thousand Oaks car dealership in California. INFINITI of Thousand Oaks carries an impressive selection of new and pre-owned cars, crossovers and SUVs. No matter what vehicle you might have in mind, they've got the perfect fit for you. For the past 5 years, Jose Luis Huerta Martinez Jr. has served as the IT Systems Administrator for Infiniti of Thousand Oaks. Due to budgetary reasons, and workload, Jose runs the IT department by himself. Not only is Jose responsible for all IT support issues, he is also responsible for maintaining the Infiniti of Thousand Oaks website, marketing designs, online sales, special projects and other admin duties.

Recently, end-users (employees of the Infiniti of Thousand Oaks dealership) have been complaining about the delays that they have been experiencing regarding issues they have reported to Jose (the IT department). End-users have been complaining about the total time it takes from when they reach out to Jose to when the issue is actually resolved, claiming that some issues should not be taking as long as they have been. They also complain about the lack of communication and transparency between the IT department and the end-user during the resolution process, claiming they would like to know what is going on during their repairs/resolutions and have an explanation as to why it took as long as it did.

To address the current problem with the IT resolution process I applied the DMAIC process and used the following tools: Project Charter, Process Flow Chart, CTCQ Tree Diagram, Trend Chart, 5-Why Analysis, 2 Means t-Test, Corrective Action Matrix, Standard Work, Lessons Learned, and the Project Closeout. As a result of the analyses conducted, I was ultimately able to identify the true root cause of the problem; there is no organized system in place for Jose (IT) to monitor all active reported issues. After identifying the root cause of the problem, I was able to propose an appropriate solution, identify the characteristics the solution should have, and create documentation for the implementation and maintenance of the solution. The implementation of an organizational/ticketing system should address the current problem and help achieve the initial project goals to improve IT resolution productivity and transparency.

## RECOMMENDATIONS

1. Ensure that end-users adhere to the new IT support system process and abandon all behaviors from the outdated system. When managing the IT support ticket queue, validate that all IT related issues are in the ticket queue.

2. IT needs to make actively monitoring as well updating every ticket in the queue and providing status updates a priority in their workload. This needs to be done daily, IT should check the ticket queue and ensure that any unclosed tickets have at least one status update from the current date at the time.

3. Every month IT should analyze the data gathered by the Ticketing queue to prepare reports for management (productivity, workload, etc.) to ensure the new process is achieving the initial project goals. Also helps to identify potential reasons for increases/decreases in productivity.

4. IT needs to clear space on company google drive when the system reaches capacity. Every year, storage space on the drive should be checked, and adjusted accordingly so the new IT support system does not experience any halt or delay in work flow.

## ELEVATOR SPEECH:

*My name is Alex Huerta.*
*I worked with the Infiniti of Thousand Oaks dealership, CA for my LSS Mini-Project.*
*My improvement project focused on their IT support process.*
*The problem with the process is that turn-around times to resolve issues are taking too long.*
*In order to tell whether the problem is reduced or eliminated I measured how many issues are reported daily, the type of issues being reported, and average turn-around times.*
*My analysis showed that the root cause of the problem was that there was no formal way to keep track of IT issues.*
*To address the root cause, I recommended that the organization implement a ticketing queue, to streamline the submittal process of IT issues, improve traceability and productivity.*
*One of the key learnings from this project is that organization and documentation will directly affect productivity.*

# DEFINE

## Tool 1: Project Charter

***Why Tool Selected:*** The project charter is a key instrumental tool in the Define phase of the DMAIC process, it clearly outlines the current situation and defines the mission/problem, project scope, business plan, key customers, team members, deliverables, expectations and helps establish a timeline for the project to help stay on track. This is why I chose the project charter as the first tool for my project in the define phase, it was a great way to initiate the project and establish documentation for what it is to come.

### PROJECT CHARTER

**Project Name:** *(1)*
**IT Support Productivity Improvement**

**Business/Location:** *(2)*
Infiniti of Thousand Oaks, CA

**Team Leader:** *(3)*
Alex Huerta - ahuert11@calpoly.edu
(818) 272-0059

**Champion:** *(4)*
Jose Luis Huerta Martinez Jr. - jlhuerta1991@gmail.com
IT Systems Administrator (Infiniti of Thousand Oaks)

**Project Description/Mission:** *(5)*
Partner with Jose to improve productivity regarding the turn-time of issues reported to the IT department at the Infiniti of Thousand Oaks dealership.

**Problem Statement:** *(6)*
Recently, end-users (employees of the Infiniti of Thousand Oaks dealership) have been complaining about the delays they have been experiencing regarding issues they have reported to Jose (the IT department). End-users have been complaining about the total time it takes from when they reach out to Jose to when the is issue is actually resolved, claiming that some issues should not being taking as long as they have been. They also complain about the lack of communication and transparency between the IT department and the end-user during the resolution process, claiming they would like to know what's going on during there repairs/resolutions and have an explanation as to why it took as long as it did.

**Business Case:** *(7)*
Currently there are no major projects that Jose is working on, so he would like to take advantage of this "down-time" to improve his current work environment. Also, given Jose's IT experience, he predicts that this project should be cost-effective, and believes the benefits (increased productivity) outweighs the costs (little to zero $).

**Deliverables:** (8)
Improve resolution turn-time of issues reported to the IT department. Improve traceability of reported

**Goals/Metrics:** *(9)*
Improve IT resolution productivity and transparency.
Average time (hrs/days) to resolve IT issues.

**Process & Owner:** *(10)*
IT issue resolution process. Infiniti of Thousand Oaks IT department (Jose).

**Project Scope Is:** *(11)*

Improve the time it takes to resolve all **IT** issues reported from all Infiniti of Thousand Oaks employees.

**Project Scope Is Not:**
Understanding, resolving, or improving any NON-IT related issues.

**Key Customers:** *(12)*
Infiniti of Thousand Oaks - Employees
Infiniti of Thousand Oaks - Customers

**Expectations:** *(13)*
Faster resolution turn-times for issues, 1 business day avg. turn-around, keep end-users in the loop.

| **Milestones:** *(14)* | | **Completion Dates:** (15) |
|---|---|---|
| **Project Start:** | 2/10/19 | |
| Define | | 2/15/19 |
| Measure | | 2/20/19 |
| Analyze | | 3/1/19 |
| Improve | | 3/8/19 |
| Control | | 3/12/19 |
| **Project Completion:** | 3/14/19 | |

**Expected Business Benefits:** *(16)*

| | |
|---|---|
| | Hard Cost |
| | Soft Cost |
| | Revenue |
| X | Speed |
| | Compliance |
| X | Intangible |

Quantify

| 1-Time | Annual |
|---|---|
| | X |

Explanation

Benefits will include improved resolution turn around time and traceability for issues submitted to the IT department, increasing their productivity. This will ensure that all employees are having their issues resolved faster and in-turn will increase overall employee productivity throughout the year.

**Team Members:** *(17)*

Alex Huerta, Jose Luis Huerta, John Randal

**Expected Resource Needs (Internal/External):** *(18)*

Minimal purchases of IT resources may be required

**Risk Assessment:** *(19)*

Minimal to no monetary cost. Improving the current IT process could involve a complete re-design of the current structure, end-users (employees) may have trouble adjusting to new process and guidelines.

**Prepared By:** *(20)*

Alex Huerta

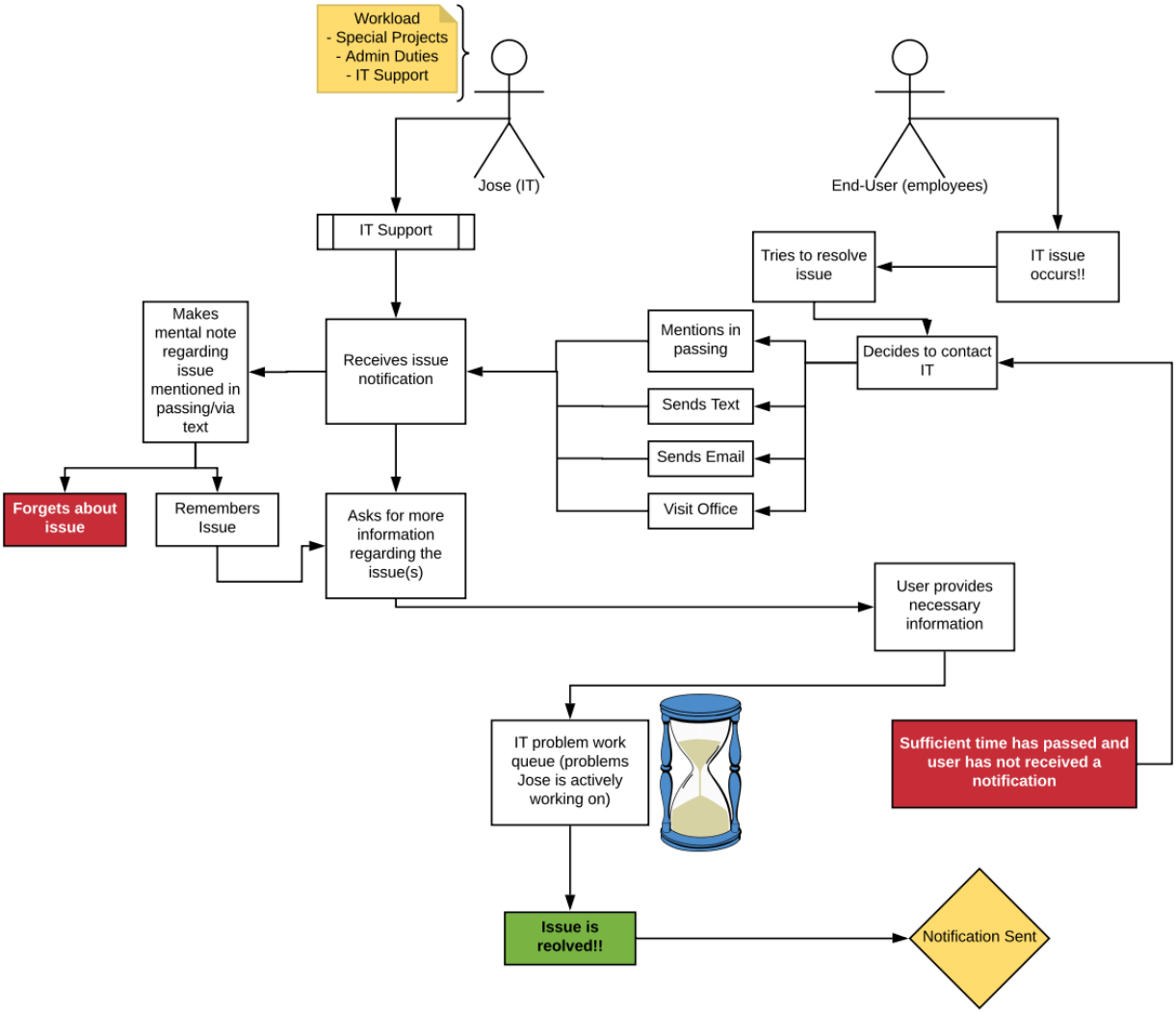
**Date (Last Revision):** *(21)*

2/28/19

***Interpretation:*** Once I had an idea of a process to improve (IT resolution productivity), the project charter helped me solidify what the problem is (turnaround times) and how to proceed regarding process improvement. The project charter defined every major aspect of this project that I will need and will act as a checklist throughout the project to ensure meeting all desired milestones.

## Tool 2: Process Flow Chart

***Why Tool Selected:*** Before going about improving a process it is important to document, outline, and analyze the current process to identify where and how the issues are occurring. Below I have outlined the current process employees tend to follow when they run into IT related issues, from when the issues occur to when they are resolved (computer, printer, fax, etc.).

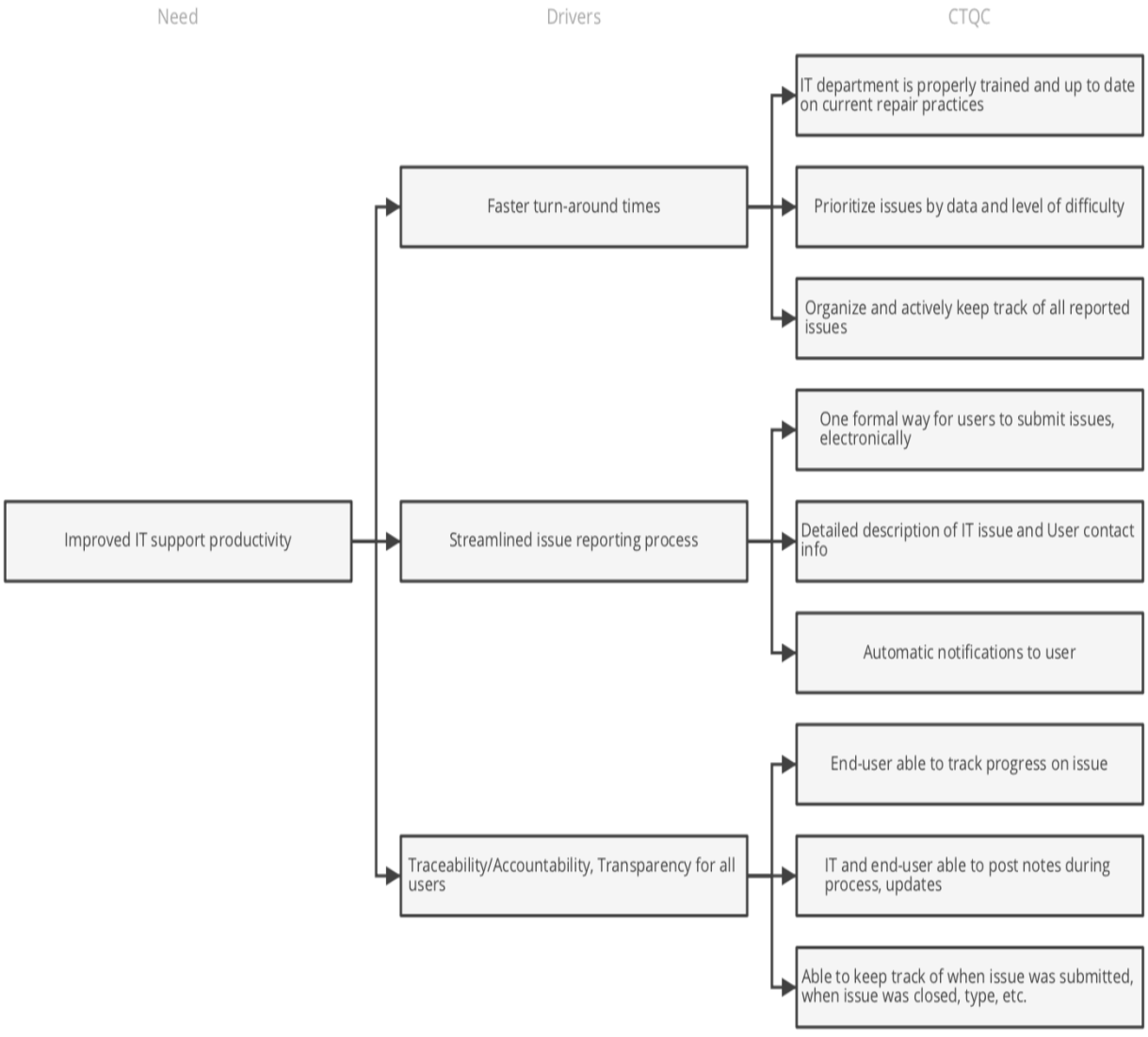



***Interpretation:*** By outlining each step, I was able to understand the process, see what steps take up the most time, and get an idea of where to make improvements. After constructing the flow map, I was able to see how inefficient the current process is. There is no formal way to submit issues, nor a formal method to keep track of issues. According to the flow map, this may cause the IT department to forget about issues communicated via quick verbal interactions or text, ultimately leading the end user to repeat the whole process again.

## MEASURE

### Tool 3: CTCQ Tree Diagram

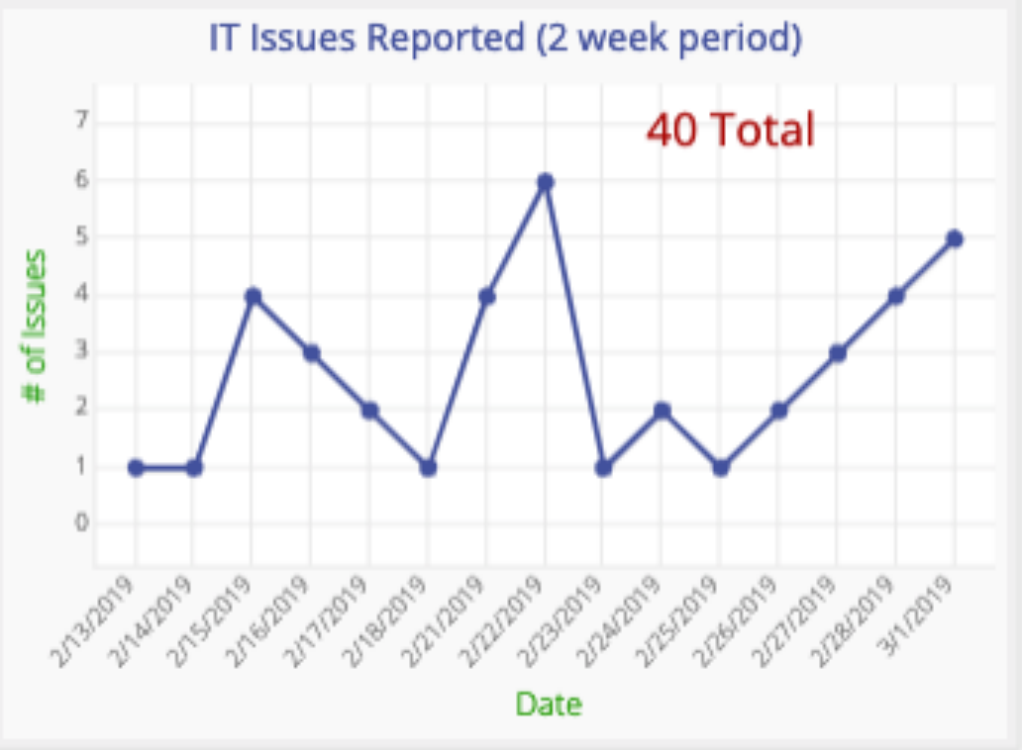
***Why Tool Selected:*** The CTCQ diagram identifies the specific tasks that must be completed in order to reach a goal, it moves from general "WHATs" to specific "HOWs". The diagram shifts from the "need" to "drivers" to "CTQs", the diagram helps to turn the "need" into characteristics that are easier to measure. I chose to use this tool in the measure phase after analyzing the current IT support process, with the Process Flow Chart, because it's a great way to measure how the IT support process can actually be improved.




***Interpretation:*** With the creation of the CTCQ diagram I was able to uncover three driving factors that will pave the way to reach the overarching goal. Through the use of the three drivers, I was ultimately able to construct nine Critical to Quality Characteristics that will be used when forming a possible solution in the later phases.

**Tool 4: Trend Chart**

***Why Tool Selected:*** To better understand the performance of a process, it is first necessary to examine data from that process. Displaying data over time is one of the better ways to do so. Trend charts are used to show trends in data over time, particularly during the measure phase of the DMAIC cycle. I chose to use this tool to measure how many issues are reported to the IT department to understand the magnitude of the work load the current process faces, in order to recommend an appropriate solution later on.




***Interpretation:*** I partnered with Jose (IT department) to manually record all of the issues that were reported over a two-week period (2/13 – 3/1). The trend chart shows that there was a total of 40 issues reported, the chart also displays how many issues were reported each day in the two-week period. After analyzing the data, Jose and I determined that the IT department doesn't face a relatively high workload. There were a few days where no issues were reported at all and there were never more than 6 issues reported in a day. The workload Jose faces would be described as minimal in the industry, however, when you are just one person it can be a lot. As far as recommending potential solutions, there should be no need for expensive software/hardware, as the current workload does not merit it.

## ANALYSE

### Tool 5: 5-Why, 1-How

***Why Tool Selected:*** The 5-Why analysis is used to move past potential indicators and comprehend the true root cause of a problem. According to Lean Six Sigma practices, by asking "Why?" five times, successively, you should be able to dive into a problem deeply enough to understand the ultimate root cause. After identifying the weak points in the current process with the Process Flow chart and CTCQ diagram, I decided to conduct the 5-Why analysis to uncover the true root cause.

**Failure Mode**

End-users believe issues reported to the IT department are taking too long to resolve.

**Department or Area**

IT Support

**Equipment**

N/A

**5-Why Analysis**

**Why #1**

In IT, some issues take longer to resolve than others. At times Jose doesn't prioritize issues by difficulty, which could be useful and improve his turn-around time, as user's typically wait some time for Jose to address their issue(s).

**Why #2**

A sufficient amount of time is wasted trying to contact the IT department and making sure the issue is on their radar.

**Why #3**

The lack of communication between Jose (IT) and the end-user can often cause Jose to forget about issues mentioned to him and fall off his radar.

**Why #4**

There is no formal way to submit issues, which makes it harder to contact IT, relay the issue at hand, and provide status updates to the user during the process.

**Why #5**

There is no organized system in place for the Jose (IT) to keep track of all active reported issues.

**continue**

N/A

**Temporary Countermeasures**

**Description**

Start to establish an organizational system or ticketing queue to monitor all active issues reported (on paper).
Establish one method to submit issues to streamline the issue submittal process.
Prioritize issues by date and difficulty.
Set clear expectations with users and keep them updated.

**Date temporary countermeasures were applied**

03/01/2019

**Final Countermeasures**

**Permanent corrective action**

Finish establishing organizational system or ticketing queue electronically to improve efficiency.
Incorporate the new submittal process in the system software, so will be able to keep the user up to date.
Ensure Jose and end-users adhere to the new system.

**Metrics and specifications**

1. System is electronic to streamline issue submittal process and communication between IT and user.
2. Users submit detailed descriptions of issues.
3. System can report efficiency data, avg. turn-time.
4. Strive to reach a turn-time avg. of 1-2 days.
5. Actively monitor the new system queue daily, to ensure all issues are attended to.

**Date of permanent corrective action**

03/05/2019

***Interpretation:*** After conducting the 5-Why analysis, I was able to understand that the root cause leading to long turn-around times for IT related issues was due to there not being an organized system in place for Jose (IT) to monitor all active reported issues.

Although some issues do take time to repair, there was still a lot of unnecessary time being wasted. The analysis revealed that issue submittal needs to be streamlined and transparency/communication with users needs to be increased, both of which can be addressed with an inexpensive organized/ticketing system.

**Tool 6: 2 Means t-Test**

***Why Tool Selected:*** As a result of the 5-Why analysis, I found out that there is no organized system in place for Jose (IT) to keep track of all active reported issues. In order to find out if the implementation of an organizational/ticketing system will increase productivity regarding turnaround times for issues submitted I decided to conduct a 2 Means t-Test. Calculating the average turn-around time of all issues recently reported, then by adjusting the time for issues that could have been resolved quickly by an organizational/ticketing system, and comparing it to the new average, I should be able to see if it will decrease the turnaround time.

| | |
|---|---|
| **Conclusion** | At the 5% level, do not reject the null hypothesis. The mean of 'Ticketing Queue' is less than or equal to the mean of 'Regular'. |
| **Null Hypothesis** | The mean of 'Ticketing Queue' is less than or equal to the mean of 'Regular'. |
| **Alternative Hypothesis** | The mean of 'Ticketing Queue' is greater than the mean of 'Regular'. |

**Hypothesis Test Results**

| | |
|---|---|
| Lower Cut-off < Test Statistic < Upper Cut-off | -Inf < -2.321 < 1.665 |
| p-value > alpha | 0.9885 > 0.05 |
| 95% Confidence Interval | (-18.41, Inf) |
| Degrees of freedom | 78 |

**Sample Summary**

| | Ticketing Queue | Regular |
|---|---|---|
| Count | 40 | 40 |
| Mean | 11.74 | 22.46 |
| Standard Deviation | 12.68 | 26.32 |
| Variance | 160.7824 | 692.7424 |


***Interpretation:*** Using the same data collected for the trend chart, Jose provided me with the accurate closing times of each issue, which he had to manually record. After Jose closed all the tickets, he collaborated with me to identify how much time he could have saved on specific issues, had there been an organizational/ticketing system in place. After collaborating, I had two sets of data, the “Regular” turnaround times, and the “Ticketing Queue” turnaround times (represents turnaround time if there is a system in place). At first glance, we saw that the average turn-around times and standard deviations for “Ticketing Queue” were significantly lower than “Regular”, roughly 50%. To confirm our initial suspicion that the implementation of an organizational/ticketing system will increase productivity, I conducted the hypothesis test above for the two means. With a P-value of 0.9885, at the 5% level, we do not reject the null hypothesis. The mean of “Ticketing Queue” is **less than** or equal to the mean of “Regular”. Given the results, it would be in the best interest of Infiniti of Thousand Oaks to implement an inexpensive organizational/ticketing system.

## IMPROVE

### Tool 7: Corrective Action Matrix

***Why Tool Selected:*** I chose to use the Corrective Action Matrix because it serves as a guideline for the major actions that need to be taken to improve the IT support process and holds people accountable. It has been said that no action is effective unless it is implemented, and no action gets implemented unless someone is responsible to make it happen.

| Team Name: | Infiniti of Thousand Oaks | | | Revision Level: | |
|---|---|---|---|---|---|
| Team Leader: | Alex Huerta | | | | |
| Date: | 3/2/19 | | | | |
| Reference Number | Action | Person Responsible | Target Date | Effectiveness | Current Status |
| 1 | Brainstorm how to implement an organizational/ticketing system at minimal costs. | Jose/Alex | 3/3/19 | Use of free services as google sheets, and exhausting resources the company already pays for (website, web addresses, handles) ensuring minimal/no cost. | Completed |
| 2 | Get approval from Infiniti of Thousand Oaks management to implement an IT Support system process for all employees to follow | Jose | 3/4/19 | Ensures end-users will have to follow any rules and regulations regarding the new process. | Completed |
| 3 | Build, code, design the new system process. Implement a ticketing system, system automates reports, stream lines communication with notes and notifications. Bring it all online. | Jose/Alex | 3/9/19 | The literal embodiment of the system process. Ensures that there will be an actual functioning solution. | Completed |
| 4 | Provide necessary documentation on the new system process for all users. | Jose | 3/10/19 | Ensures that end-users will know how to use the new system process. | Completed |
| 5 | Ensure that end-users are adhering to new system and abandoned the outdated process, as well Jose (IT). Must actively monitor all issues in new system. | John Randal/ Infiniti of Thousand Oaks Management | 3/11/19 - Continuos | Ensures the most success for the new system and increases productivity. | Started |
| 6 | Periodically (weekly/monthly) use new system to generate productivity reports regarding average turn-around times. | Jose | 3/25/19 - Continuos | Ensures that the new system has met, or is on track to meet the initial productivity goals. | Not yet started |

***Interpretation:*** This tool is important because it outlined all of the actions in the scope of the project (from proposing ideas to maintaining the new process), assigned due dates and held people accountable. While building the matrix I realized that the most difficult part of this project will be developing the actual system and bringing it online, hence the week due date, 2nd hardest will be to ensure users follow the new process.

## Tool 8: Standard Work

***Why Tool Selected:*** At this point in the project, I have identified the true root cause of the of the problem, identified the best solution, and designed it. Now, to ensure the new process has the most success possible I decided to use the Standard Work tool because it provides major steps to be followed regarding the improved process and aids in the continuation of employee understanding and cooperation.

**UNTOUCHED**

| USERS | DEPARTMENT | STATUS | ISSUE ID | DESCRIPTION | Submitted |
|---|---|---|---|---|---|
| Alex | YELLOW | Untouched | ITH505 | need help setting up email on new computer | 3/8/2019 9:28:49 |
| Tera | RED | Untouched | ITH503 | for some reason I cant get into some websites FedEx says " Your request failed to pass our security check." and a couple others are killing me but this one is important | 3/6/2019 9:12:56 |
| Alex | YELLOW | Untouched | ITH501 | New finance printer not printing. | 3/5/2019 12:23:47 |
| Chris | YELLOW | Untouched | ITH499 | MY EMAILS ARE NOT SENDING, THIS IS CHRIS DURAN | [redacted] |
| Tiffany | RED | Untouched | ITH497 | dealer track is not allowing me to close out any counter tickets. They are all showing in "[redacted]" status. | [redacted] |

**TO-DO LIST**

| USERS | DEPARTMENT | STATUS | SUBMITTED | DESCRIPTION | NOTES |
|---|---|---|---|---|---|
| Edwin | YELLOW | On Hold | [redacted] | My computer continues to freeze every morning. It takes like 10 15 minutes to load | Need to complete revision of batch file in the Group Policy. |
| Edwin | YELLOW | On Hold | [redacted] | Computer slow | Needs revision of GPO |
| Jose | GREEN | In Progress | [redacted] | Build reviews page | |
| Jose | BLUE | On Hold | [redacted] | New Camera System | |
| Patty | YELLOW | In Progress | [redacted] | Install software update ipad | |

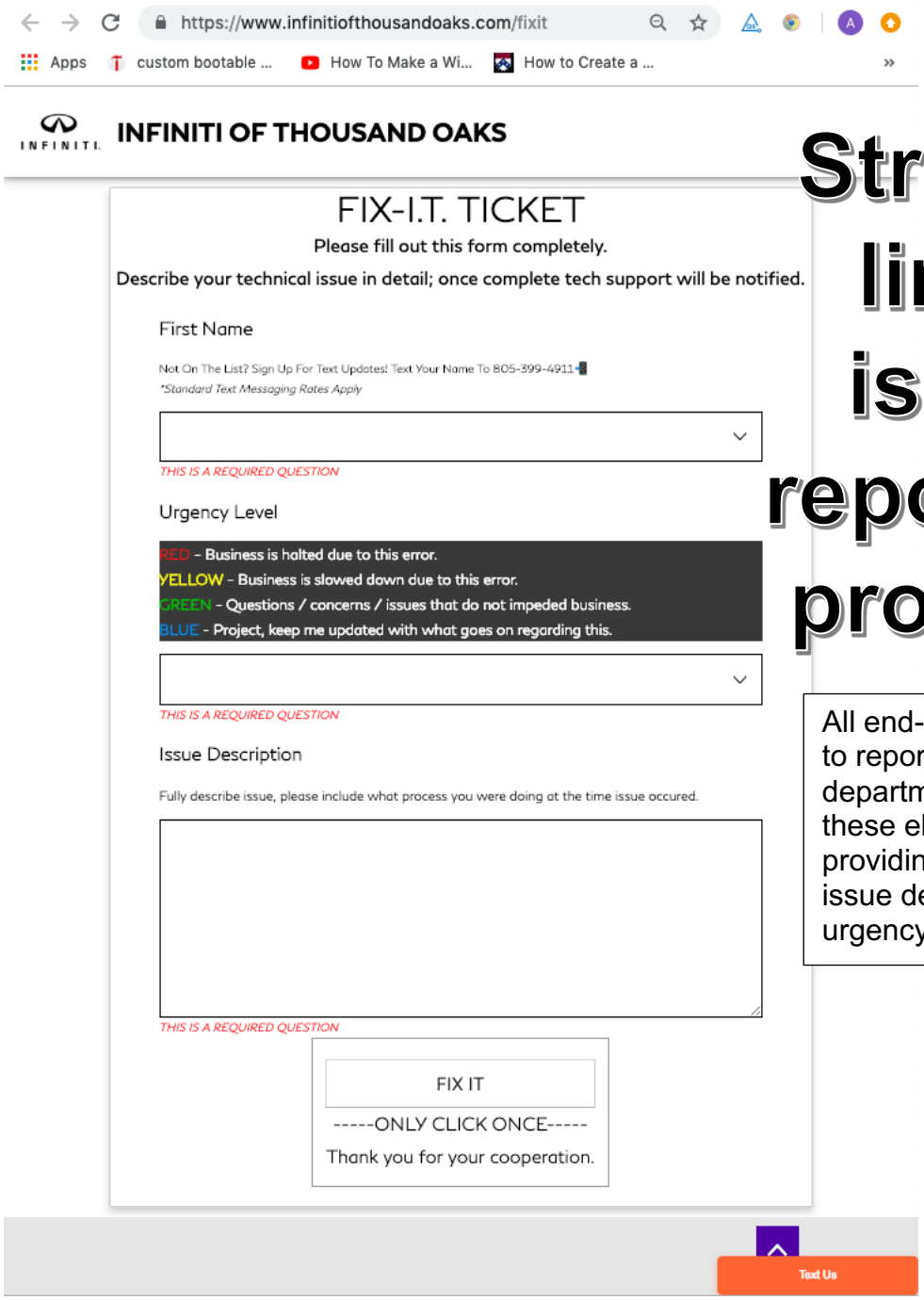
**COMPLETE** 330:13:24

| USER | ISSUE ID | DESCRIPTION | NOTES | COMPLETED | TIME |
|---|---|---|---|---|---|
| Tiffany | ITH75 | Printer is printing a line down the middle of all papers that a being copied in cashiers office. I will text a example picture. | Replaced Drum, Belt unit needed | [redacted] | 52:05:05 |
| Hannah | ITH102 | Email is not working, need to send an email out asap | Restarted Windows Live Mail process | [redacted] | 0:02:00 |
| Dylan | ITH100 | Printer in sales prints blank | Added user to admin group on local pc to use grapevine, changed user pw, restarted Print Spooler, and showed user how to restart Print Spooler service in case of future occurance. NOTE: [redacted] on IE | [redacted] | 0:10:00 |
| Priscilla | ITH115 | I cannot log in my computer. It's telling me "The Group Policy Client Service failed the login. Access is denied." I need to log in to see our service scheadule and book appointments. | Priscilla rebooted and pc came online just fine | [redacted] | 0:00:00 |
| Sandy | ITH85 | Need to change the user name for Dylan's old computer to Alex new user name and change Leigh's old computer to Dylan's user. | Made user profiles, need to have users Alex R. and Dylan Y. migrate onto new profiles. | [redacted] | 20:51:30 |

| Users | Email-to-Text |
|---|---|
| Brian | [redacted]@txt.voice.google.com |
| Celeste | [redacted]@txt.voice.google.com |
| Chris | [redacted]@txt.voice.google.com |
| Danny | [redacted]@txt.voice.google.com |
| Drew | [redacted]@txt.voice.google.com |
| Edwin | [redacted]@txt.voice.google.com |
| Hannah | [redacted]@txt.voice.google.com |
| Julio | [redacted]@txt.voice.google.com |
| Kim | [redacted]@txt.voice.google.com |
| Patty | [redacted]@txt.voice.google.com |
| Priscilla | [redacted]@txt.voice.google.com |
| Tiffany | [redacted]@txt.voice.google.com |
| Virginia | [redacted]@txt.voice.google.com |
| Jose | [redacted]@txt.voice.google.com |
| Michele | [redacted]@txt.voice.google.com |
| Jon | [redacted]@txt.voice.google.com |
| Dylan | [redacted]@txt.voice.google.com |
| Sandy | [redacted]@txt.voice.google.com |
| Alex | [redacted]@txt.voice.google.com |
| Alba | [redacted]@txt.voice.google.com |
| Tera | [redacted]@txt.voice.google.com |
| Rob | [redacted]@txt.voice.google.com |
| Dennis | [redacted]@txt.voice.google.com |
| Brandy | [redacted]@txt.voice.google.com |
| Vanessa | [redacted]@txt.voice.google.com |
| Fidel | [redacted]@txt.voice.google.com |

# IT Support Ticket Queue

IT monitors and updates issue(s) DAILY, keeping users up-to-date.




# Stream-lined issue reporting process

All end-users must agree to report issue(s) to the IT department by submitting these electronic tickets, providing contact info, issue description, and urgency level.

***Interpretation:*** The two components above are the main practices that need to be followed by the IT department and end-users. Jose (IT) will need to ensure that he monitors and updates all issues, DAILY, keeping users up-to-date by providing notes and status updates. On the other side of the IT support process all end-users must submit issues to the IT department by filling out the electronic tickets that will be sent to the ticket queue, providing contact info, an issue description, and urgency level. The last task is for Jose (IT) to periodically check the average turn-around time for issues, via the ticket queue, to ensure compliance with process goals.

## CONTROL

### Tool 9: Lessons Learned Tool

***Why Tool Selected:*** I decided to use the Lessons Learned tool, in the format of a Roses/Onions list, because it's a useful tool for the Control phase. The tool helps to outline all the pros and cons that will result from the new process. It isn't until this point in the project, after the new system has been implemented, where all the possible outcomes, good and bad, can be determined. After determining the possible outcomes, you can effectively plan a strategy to prevent/minimize the negatives.

| ***Roses*** | ***Onions*** |
|---|---|
| • Stream-lined issue reporting process<br>• Increased communication, transparency, and accountability between IT and end-users<br>• Minimal/No monetary cost<br>• Generating IT Support Productivity reports and data has become easier due to system keeping track of all data (turn-around times, total number of issues submitted, type of issues, etc.)<br>• Increased Productivity; faster turn-around times for issues. | • End-users have to learn a new process<br>• IT has to learn a new system (develop & maintenance)<br>• IT Support productivity may decline during project (allocation of resources) |

***Interpretation:*** After identifying all the Roses and Onions that will result from implementing the new IT support process, I was able to demonstrate that the benefits outweigh the costs. Also, by identifying the Onions, Jose and I were able to implement the following counter measures to reduce/prevent the negatives:

1. Provide as much possible documentation on the new system and process, to facilitate user education during the transition.
2. IT should thoroughly test and familiarize themselves with the new system before going live with the users.
3. Notify end-users ahead time of the possible decrease in productivity during the project, so users may plan accordingly.

## Tool 10: Project Closeout

***Why Tool Selected:*** The Project Closeout is the process of confirming with the customer of the project that their requirements have been met and no further development processes are necessary. I chose to use this tool last in my project because it's one of the best ways to end a project, leaving instructions on how to maintain and service the new process.

| | | | | |
|---|---|---|---|---|
| Date: | 3/15/19 | Signature Block<br>Project Manager:<br>Alex Huerta<br>Date:<br>3/15/19<br>Customer Representative<br>Jose Luis Huerta Martinez Jr.<br>Date:<br>3/15/19 | | |
| Project Name: | IT Support Productivity Improvement | | | |
| Project Description: | Improve productivity of the IT department by implementing a formal ticketing queue to streamline the issue submittal process, increase communication and transparency with the end-user, and improve the turn-around time regarding issues submitted. | | | |
| Project Manager: | Alex Huerta | Phone: | (818)272-0059 | |
| Project Sponsor: | Jose Luis Huerta Martinez Jr. | | | |
| Customer Contact: | Infiniti of Thousand Oaks | Phone: | (866)278-9955 | |
| Requirement | Description of how the requirement is measured | Target | Value | Date |
| Continue to ensure that end-users adhere to the new IT support system process and abandon all behaviors from the outdated system. | Manage IT Support Ticket Queue and validate that all IT related issues are in the ticket queue. | Ensures that Jose (IT) has one organized place to locate all active issues, maintains organization, aids productivity. | TBA | 3/15/19 |
| IT needs to make actively monitoring as well updating every ticket in the queue and providing status updates a priority in their workload. This needs to be done daily. | Every day IT needs to check the ticket queue and ensure that any unclosed tickets have at least one status update from the current date at the time. | Ensures that end-user are kept inside the loop during the repair process, increasing transparency and accountability. | TBA | 3/15/19 |
| IT needs to keep monitoring there average turn-around time for how long it takes issues to be resolved. Generate reports for management. | Every month IT should analyze the data gathered by the Ticketing queue to prepare reports for management (productivity, workload, etc) | Ensures that the new system achieves the initial project goals. Identifies reasons for increases/decreases in productivity. | TBA | 3/25/19 |
| IT needs to clear space on google drive when the system reaches capacity. | Every year, storage space on the drive should be checked, and adjusted accordingly. | Ensures the new IT support system does not experience halt or delay in work flow. | TBA | 3/15/20 |

***Interpretation:*** With regards to my project there are 4 major tasks that need to be followed after the project's development stage to ensure maximum efficiency and success. By ensuring that end-users adhere to the new system, ensuring IT actively monitors the ticket queue, ensuring IT keeps track of the new systems productivity, and ensuring the new system is maintained properly, the new IT support process should be able to operate at full capacity and meet all productivity goals.

**APPENDIX**

# Shingo Model Assessment

This data supports the work of Central Coast Lean in building a community of lean practice.

* Required

## Applicability Information

Provide some information on the organization (e.g. Company, department, area, team) to which this assessment applies.

Organization name (optional)

Your answer: Infiniti of Thousand Oaks dealership

Activity Identifier (i.e. LSS project, workshop, forum, Summit, survey, other)

LSS Green Belt Project
LSS Black Belt Project
LSS Mini-Project
Forum
Summit
Workshop
Lean community survey
Other:

Industry *

Your answer: Sales/Information Technology

Level *

Entire organization
Division
Department
Function
Team
Other:

## Dimension 1: Cultural Enablers

Rate your agreement with each statement based on your organization's cultural enablers.

On-the-job coaching in lean practices is a daily part of our organization's culture. *

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Formal lean training and education are ongoing and updated. *

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

There is a process of flow where suggestions are processed quickly and feedback is received by the originator. *

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Our organization has a safe and clean workplace where safety and environmental standards are continuously improving. *

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Our organization's recognition system focuses on performance that encourages ideal behavior and is frequent, timely and specific. *

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

## Dimension 2: Continuous Process Improvement

Rate your agreement with each statement based on your organization's continuous improvement process.

Our current state and future state is an ongoing continuous cycle that is actively pursued with a visual, detailed action plan and timeline. *

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Our standards and work instructions are simple and visual for all work processes. They are routinely updated with improvements and are followed with regard to timing and sequence. *

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Managers and supervisors routinely observe the actual process in order to gather factual data to understand the problems and opportunities. *

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Our improvements are made by following a scientific method (PDCA, DMAIC, or A3 thinking). There is a coaching process in place for problem-solving and problems are addressed in the lowest possible level of the organization. *

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

All problems, defects and abnormal conditions are signaled and stopped immediately at the point of occurrence and the root cause is pursued. *

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

## Dimension 3: Enterprise Alignment

Rate your agreement with each statement based on your organization's enterprise alignment.

We have a structured process for aligning goals and strategic priorities that is simple and visible at all levels of the organization. *

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Leaders hold to guiding principles through hard times. *

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Support functions are seamlessly integrated to aid operations in creating value. *

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Information systems provides a direct flow of pertinent information that is easily accessible and usable across the extended enterprise (no shadow systems or spreadsheets). *

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Leaders and managers have a standard work process that enables them to monitor and maintain company alignment. *

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

## Dimension 4: Results

Rate you agreement with each statement based on your organization's measurement system.

Measures are simple and there is a common understanding of what is measured and why it is measured. Measures are directly tied to the organization's overall objective. *

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Measures are used to drive improvements. *

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Performance measures drive the right behaviors. *

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Tracking boards are routinely used for open discussion and feedback so that adjustments can be made. *

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Principles, systems and tools are aligned to help achieve performance targets. *

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Other comments

Your answer

## Identification Information (optional)

This information allows Central Coast Lean to contact you for clarifications or to share summary data (anonymous) feedback.

First Name (optional)

Your answer: Alex

Last Name (optional)

Your answer: Huerta

Email (optional)

Your answer: ahuert11@calpoly.edu

**Amount of tickets submitted, data** (Trend Chart: 2/13 – 3/1)

Provided by Jose

| Date | # Tickets |
|---|---|
| 2/13/19 | 1 |
| 2/14/19 | 1 |
| 2/15/19 | 4 |
| 2/16/19 | 3 |
| 2/17/19 | 2 |
| 2/18/19 | 1 |
| 2/21/19 | 4 |
| 2/22/19 | 6 |
| 2/23/19 | 1 |
| 2/24/19 | 2 |
| 2/25/19 | 1 |
| 2/26/19 | 2 |
| 2/27/19 | 3 |
| 2/28/19 | 4 |
| 3/1/19 | 5 |

**Turnaround Times for each Ticket** (2 Means t-Test)

Provided by Jose

Raw Output

| Date | Hours |
|---|---|
| 2/13/19 | 75.00 |
| 2/14/19 | 48.00 |
| 2/15/19 | 47.00 |
| 2/15/19 | 0.17 |
| 2/15/19 | 0.08 |
| 2/15/19 | 0.10 |
| 2/16/19 | 0.50 |
| 2/16/19 | 0.08 |
| 2/16/19 | 71.50 |
| 2/17/19 | 29.00 |
| 2/17/19 | 45.00 |
| 2/18/19 | 39.43 |
| 2/21/19 | 7.00 |
| 2/21/19 | 30.00 |
| 2/21/19 | 42.36 |
| 2/21/19 | 60.00 |
| 2/22/19 | 70.00 |
| 2/22/19 | 0.50 |
| 2/22/19 | 0.50 |
| 2/22/19 | 1.50 |
| 2/22/19 | 0.50 |
| 2/22/19 | 75.00 |
| 2/23/19 | 4.00 |
| 2/24/19 | 0.60 |
| 2/24/19 | 0.60 |
| 2/25/19 | 1.00 |
| 2/26/19 | 5.00 |
| 2/26/19 | 0.50 |
| 2/27/19 | 0.50 |
| 2/27/19 | 23.94 |
| 2/27/19 | 52.08 |
| 2/28/19 | 2.00 |
| 2/28/19 | 7.00 |
| 2/28/19 | 6.00 |
| 2/28/19 | 18.00 |
| 3/1/19 | 20.00 |
| 3/1/19 | 10.60 |
| 3/1/19 | 25.60 |
| 3/1/19 | 2.00 |
| 3/1/19 | 75.80 |

After Time edits

| Date | Hours |
|---|---|
| 2/13/19 | 30.00 |
| 2/14/19 | 24.00 |
| 2/15/19 | 28.00 |
| 2/15/19 | 0.17 |
| 2/15/19 | 0.08 |
| 2/15/19 | 0.10 |
| 2/16/19 | 0.50 |
| 2/16/19 | 0.08 |
| 2/16/19 | 48.50 |
| 2/17/19 | 15.00 |
| 2/17/19 | 25.00 |
| 2/18/19 | 19.43 |
| 2/21/19 | 7.00 |
| 2/21/19 | 15.00 |
| 2/21/19 | 20.36 |
| 2/21/19 | 10.00 |
| 2/22/19 | 20.00 |
| 2/22/19 | 0.50 |
| 2/22/19 | 0.50 |
| 2/22/19 | 1.50 |
| 2/22/19 | 0.50 |
| 2/22/19 | 15.00 |
| 2/23/19 | 4.00 |
| 2/24/19 | 0.60 |
| 2/24/19 | 0.60 |
| 2/25/19 | 1.00 |
| 2/26/19 | 5.00 |
| 2/26/19 | 0.50 |
| 2/27/19 | 0.50 |
| 2/27/19 | 23.94 |
| 2/27/19 | 15.08 |
| 2/28/19 | 2.00 |
| 2/28/19 | 7.00 |
| 2/28/19 | 6.00 |
| 2/28/19 | 18.00 |
| 3/1/19 | 20.00 |
| 3/1/19 | 10.60 |
| 3/1/19 | 25.60 |
| 3/1/19 | 2.00 |
| 3/1/19 | 45.80 |