Technology Acquisition Kaizen
November 29, 2019
Background and Opportunity Statement
Background and Opportunity

• Software purchases greater than $5,000 are acquired by the business owner through the Purchasing Division, often with no assistance or involvement by the Corporate Service Department, Information Technology Division (CS-IT) until installation is required.

• Issues, related to support and integration, often arise on hardware purchases due to the late involvement of CS-IT in assessing requirements. There are 10 to 12 requests of this nature per year (for both hardware and software).

• There is also a lack of clarity of the roles and responsibilities within the process, as well as visibility to timing and milestones when hardware like laptops or personal computers are being replaced on a lifecycle basis.
Opportunity Statement and Scope

The core team developed the following opportunity statement, while initiating a Kaizen to streamline and improve these processes and routines:

“Streamlining the process in the Region to acquire and deliver technology solutions into the Durham ecosystem.”

Scope
Start: User identifies technology need.
End: Solution is implemented/post warranty period.

There are two key elements within the process to review:
• Annual replacement/refresh of hardware and
• Ad hoc requests for software/hardware less than $5,000 in procurement value.
The team completed a Supplier, Inputs, Process, Outputs, Customer (SIPOC) to better understand the stakeholder groups and details of transaction within the process.

<table>
<thead>
<tr>
<th>S - Suppliers</th>
<th>I - Inputs</th>
<th>P - Process</th>
<th>O - Outputs</th>
<th>C - Customer</th>
</tr>
</thead>
</table>
| • Requesting group  
• Individual user  
• Corporate initiative | • Help ticket  
• Email/meeting  
• Purchase request  
• Business plan  
• Other | 1. User identifies need for hardware or software | • User group awareness | • User group  
• Requestor  
• Program manager |
| • Supplier  
• User  
• Procurement | • Over $5,000 competitive bid form  
• Supplier proposal  
• Legal & Risk recommendations | 2. User research & assessment | • Recommendation from Procurement  
• CS-IT  
• Legal & Risk recommendation of terms & conditions and insurance requirements  
• Sole source form | • User group  
• Program manager |
| • Supplier  
• User  
• Procurement | • Legal & Risk recommendations  
• One of three documents becomes the input: sole source, competitive bid or request for proposal  
• Statement of work (SOW)  
• Consulting services agreement (CSA)  
• Licensing  
• Data security assessment  
• Network & basic standards sign-off | 3. Identification, validation, consultation & procurement | • Signed CSA  
• Insurance finalized  
• Risk & Legal approvals  
• SOW has a high-level implementation plan  
• Notice of award in some situations | • User  
• Program Manager  
• Vendor  
• Risk  
• Legal  
• Purchasing  
• Procurement  
• Council as required |
| • Program manager  
• User or business unit  
• Outsourced suppliers  
• Project manager | • SOW  
• CS-IT service representative  
• Intake and project charter  
• IT help request  
• Project team  
• General resources | 4. Implementation of product | • Project management standard documents  
• Training documentation if relevant | • User  
• CS-IT  
• Procurement if required |
In addition, the team worked with a representative customer base to determine customer requirements, and how to measure a successful process.
Current State
• Based on complexity and size, lead-times could be as high as 375 days.
• There is considerable variability in process cycle time.
Current State Process – CS-IT Replacement

Need Identification, Research and Assessment Phase
- Maximum lead time is 35 days -

1. Four year hardware lifecycle report sent to business units every March - One week -

2. User Group provides budget for the following year. - Six weeks -

Process stops until budget opens next year

Budget is released.

Consultation and Procurement Phase
- Maximum lead time is 131 days -

3. CS-IT review of order status and notification of outstanding orders with user throughout the year. - One to six months -

4. User Group completes vendor order forms. - One to two weeks -

5. CS-IT administrator receives order forms. - One day -

6. CS-IT administrator places orders with vendors. - One day -

7. CS-IT receives, configures and then installs orders to unit. - One month -

Total maximum lead time is up to 186 days across a one year timeline

Notes:
- Full process begins in September of previous year.
- Process is effectively stopped until budget is approved for upcoming year.
- Once budget is released, users can initiate orders.
- CS-IT is only advising and does not control when users orders are being placed after the budget is released.

- In the case of replacement hardware, the lead-times could be as high as 186 days across a one year time line.
- There is considerable variability in cycle time.
• 22 challenges were identified by the team. They focused on three areas specific to software/hardware requests and hardware replacement.
  • No standard process to submit requests.
  • Lack of clarity of date and timelines.
  • Analysis within the business units take more time due to competing work tasks.
  • Inability for client or CS-IT to track projects to implementation.
  • Challenges identified are primarily within the defects and waiting waste type.

<table>
<thead>
<tr>
<th>Number of Waste Points</th>
<th>Percentage of Total</th>
<th>Waste Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>40%</td>
<td>Waiting: associated with the lack of clarity within the process.</td>
</tr>
<tr>
<td>8</td>
<td>36%</td>
<td>Defects: create rework which delays the process.</td>
</tr>
<tr>
<td>3</td>
<td>14%</td>
<td>Inventory: slowing process down.</td>
</tr>
<tr>
<td>1</td>
<td>5%</td>
<td>Motion</td>
</tr>
<tr>
<td>1</td>
<td>5%</td>
<td>Excessing Processing</td>
</tr>
<tr>
<td><strong>22</strong></td>
<td></td>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>
• **Request Process** - Users identifying their request needs, researching available options and making the final selection accounts for 20% of the total lead time.

• **Replacement Process** – Majority of the total lead time for the process is related to consultation for a user’s replacement hardware.

• These were the two sections that were identified as the key challenges and will be the focus for areas of improvement within this project.

<table>
<thead>
<tr>
<th>Technology Acquisition</th>
<th>Technology Acquisition</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Request Process Excerpt -</td>
<td>- Replacement Process Excerpt -</td>
</tr>
</tbody>
</table>

**Need Identification, Research and Assessment Phase**

- Average maximum lead time is 75 days.
- Total lead time for entire process is 375 days.

**Consultation and Procurement Phase**

- Maximum lead time is 35 days.
- Total lead time for entire process is 186 days.
Future State Prototype
In consideration of the identified challenges, a future state for the request process is proposed. The future state process focused on improvements to the need identification, research and assessment phase of the process.
In consideration of the identified challenges, a future state for the replacement process is proposed.

The future state process focused on improvements to the consultation and procurement phase of the process.

**Future State Prototype – CS-IT Replacements**

- **Need Identification, Research and Assessment Phase**
  - Maximum lead time is 35 days

- **Consultation and Procurement Phase**
  - Maximum lead time is 25 days

- **Deployment and Support Phase**
  - Maximum lead-time is 20 days

1. One month prior to budget deadline (mid-September)
2. User groups review and adjust requirements. - Three weeks -
3. User submits budget and advises CS-IT of any adjustments - Three weeks -
4. Check to confirm budget is approved as expected and submit order forecast to vendor. - One week -
5. Orders initiated based on timing provided by user group and available capacity to deploy. - Two weeks -
6. Order detail sent to CS-IT administrator to place orders. - Two weeks -
7. Replacement orders received and deployed. - One month -

**Total maximum lead time is up to 80 days across a one year timeline**

Notes:
- Full process begins in September of previous year.
- Process is effectively stopped until budget is approved for upcoming year.
Lean Thinking allows for proactive involvement of CS-IT to ensure accurate and high-quality specifications for needs and for timely delivery of solutions. Benefits Include:

- Increased communication.
- Standardization of routines.
- Workload balancing.
- Triage for optimal request flow.
- Deployment signal to initiate consultation with relationship manager.
- To ensure forms and documents are free from errors, quality checks can be built into the forms.

Current State:
- No clarity of the requirements needed.
- Requirements not based on request need.

Future State:
- CS-IT engaged at the start of the process.
- Proactive development and planning.
Future State Benefits – CS-IT Request Process

CS-IT Request Process

• Standardized process across all requests:
  • All ad hoc requests to be initiated through a IT Helpdesk request via a ticketing process.
  • Request then triaged by a project coordinator to appropriate CS-IT contact (who becomes the request’s relationship manager).
  • Relationship manager completes assessment with user group with a complete and accurate intake process specific to the user’s need.
  • The finalized request is then is passed onto Procurement for execution.

• Increased accuracy and timeliness will reduce overall process lead time in the need identification, research and assessment phase from 75 days to 32 days.

• With an average of 10 ad hoc technology related requests per year, there is opportunity for large savings from a IT Helpdesk capacity standpoint that could be applied to another processes where it is needed.

• Tracking of all activity will allow for continued pro-active involvement by CS-IT, as well as trending and tracking for the end user.
CS-IT Replacement Process

- Standardized process for all replacement hardware and software:
  - Replacement needs will be led by CS-IT Service Delivery.
  - CS-IT will provide notification to business users on lifecycle management required for budgeting, as well as to pre-plan and advise on timely and accurate order placement across a yearly cycle.
- Delivery of replacement hardware will be managed by a third party through coordination of a CS-IT lead and user group lead to avoid bottlenecking of activity.
- These changes to the process should reduce overall lead time for the first two phases from a maximum of 166 days to 60 days. This is waiting time not required by the process anymore as the CS-IT lead is driving and directing actions earlier in the process.
- Detailed tracking could be leveraged by both CS-IT and the user for better tracking of key milestones.
New Tools to be Created

• Develop new ticketing routine for requests to assist IT Helpdesk.

• Development of a “technology request form” as a pre-intake function in order to gather the all relevant information early in the process.

• Refine replacement reporting to reflect yearly requirements with recommended ordering dates.

• Tracking for Requests:
  • Initial Phase - Develop short term Excel tracking sheet.

• Tracking for Replacements:
  • Initial Phase - Use ticketing, excel tracking sheet or perhaps work with vendor to provide visibility into order status.

• Develop a process scorecard for process health measurement.
Closing Remarks
In Summary

• Through the Kaizen performed in relation to CS-IT’s technology acquisition processes, areas of improvement and possible solutions have been identified for both the request and replacement processes.

• A key theme for both the existing request and replacement processes was a need for CS-IT to be involved in the process from the start in order to eliminate additional work effort later on in the process.

• Should the new process recommendations proceed, the key to implementing the new process is user awareness. Users will need to be informed of this through the various communication channels available.

• A secondary theme identified was the concept of a user being able to track the status of their request or replacement order which could eliminate unnecessary IT Helpdesk requests and increase end user satisfaction.