Garbage In, Gargage Out: Quality of Data

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How Good is Your Data???

» What does your data look like today?
» What data do you review regularly?
» How do you get better data?
» What data do the top performers track?
What Should I Review?

» Who enters data?
» Who screens data?
» Who completes data?
» Who reviews data?
» Who recommends/make changes?
» What story do I want to tell?
» Where am I going? What are my goals?
Who Enters Data?

» Who can create records?
» Requesters?
» Site Admins?
» Technicians?

Are you capturing your work/data?
Who Screens Data?

» Do you have an approval process?
» Do you review data before you start the work?

Does your staff have the data they need to complete work?
Who Completes Data?

» Are you still on paper?
» Who can complete work?
» Do you review work before it’s moved from complete to closed?

Are you capturing the data to give you the reports you need?
Who Reviews Data?

» Are you running reports?
» Does your staff use data in their meetings?
» Do you know where you stand internally and amongst your peers?

*Do you have the metrics and KPIs to improve?*
Lots of Data You Can Track

*some examples…*

<table>
<thead>
<tr>
<th>Location</th>
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</tr>
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<tbody>
<tr>
<td>Requester</td>
<td>Equipment</td>
</tr>
<tr>
<td>Dates</td>
<td>Project</td>
</tr>
<tr>
<td>Estimates Hrs/Costs</td>
<td>Classification/Type</td>
</tr>
<tr>
<td>Actuals Hrs/Costs</td>
<td>Description</td>
</tr>
<tr>
<td>Craft</td>
<td>Action Taken</td>
</tr>
<tr>
<td>Purpose</td>
<td></td>
</tr>
<tr>
<td>Budget</td>
<td></td>
</tr>
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What some of our client check???

» Randomly review WOs
» Looks at data entered
» Always looking to improve quality
» Surveys
Craft List... Are there too many Choices???

Too many crafts = Confused requesters...
Craft List… Are there too many Choices???

Maintenance Help Desk: Click on the problem type below that best describes your issue.

- Bleachers
- Equipment
- General Maintenance
- Key and Lock
- Playground
- Carpentry
- Event Setup
- Grounds
- Moving
- Plumbing
- Custodial
- Fire Protection
- Health/Safety
- Heating/Ventilation /Air Conditioning
- Painting
- Roof
- Electrical
- Food Services
- Supplies

Much simpler view...
Miscellaneous and General Maintenance???

Top Ten Types of Work

- General Maintenance: 17%
- Plumbing: 16%
- Heating/Ventilation/Air: 14%
- Key and Lock: 13%
- Electrical: 12%
- Carpentry: 7%
- Grounds: 6%
- Custodial: 5%
- Miscellaneous: 5%
- Doors and Hardware: 4%

Shouldn’t be in your top ten of Crafts used...
Transactions?

» Do you look at Labor Hours to make sure you don’t have more than 8 hours on a labor transaction?
  » Some data entry issues come from people entering date in hours field

» Do you review Material Costs
  » Explore Cost to make sure data entry issues

Look at Transaction Reports and Sort Z-A by Hours and Cost?
Transactions in the Dude

<table>
<thead>
<tr>
<th>ActualHours</th>
<th></th>
<th>ActualCosts</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total count</td>
<td>9,231,767</td>
<td>17,156,331</td>
</tr>
<tr>
<td></td>
<td>Sum</td>
<td>50,276,611,568.85</td>
<td>10,764,281,677.40</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>5,446.04</td>
<td>627.42</td>
</tr>
<tr>
<td></td>
<td>Min</td>
<td>-30</td>
<td>-17487.89</td>
</tr>
<tr>
<td></td>
<td>Max</td>
<td>50005000.192</td>
<td>5468889178.74</td>
</tr>
</tbody>
</table>
## Web Browsers

<table>
<thead>
<tr>
<th>Browser</th>
<th>Unique Version Detected</th>
<th>Earliest Version Detected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chrome</td>
<td>351</td>
<td>10.x, released 2011</td>
</tr>
<tr>
<td>Safari</td>
<td>108</td>
<td>4.0, released 2008</td>
</tr>
<tr>
<td>Firefox</td>
<td>103</td>
<td>2.0, released 2006</td>
</tr>
<tr>
<td>IE</td>
<td>6</td>
<td>6.0, released 2001</td>
</tr>
</tbody>
</table>
Null Values
Null Values
Dude Intelligence: Dashboard’s

» Data Quality Checks
» MISSING ASSIGN
» MISSING CRAFT
» MISSING PURPOSE
Equipment

» Next Level
» Start getting some equipment details
» Corrective Maintenance
» Preventive Maintenance
Surveys

Survey requester

Setup MySchoolBuilding
Setup Requester Survey

Simply paste the URL of your survey in the "3rd party survey tool URL" box.

Survey Frequency
☑️ 100 % of incidents to send to
I
Status to send on  Closed

Survey Email Subject
☑️ Automated survey email

Survey Email Introduction Text
You may setup a Requester survey email to be sent automatically when work is completed.
set up a Requester survey email to be sent automatically when work is completed.10/05/2015 5:35 PM

3rd Party Survey Tool URL
https://google.com

Survey Email Signature Text
Thank You, User 10/05/2015 5:35 PM
Surveys

From: SchoolDude Message Center <message.center@smtp.schooldude.com>
To: Naveen Kurvi

Subject: Automated survey email

PLEASE DO NOT RESPOND TO THIS E-MAIL DIRECTLY!

You may set up a Requester survey email to be sent automatically when work is completed. set up a Requester survey email to be sent automatically when work is completed.10/05/2015 5:35 PM

Incident 726310 Submitted on: October 5 2015

Incident Description: Sprint 4 Demo Description

Assigned To:

Action Taken:

Click here to take the survey: https://google.com

Thank You, User18/05/2015 5:35 PM
Surveys

Incident ID 726316
Requested 10/5/2015
Description manual email sent

E-Mail To naveen.kurivi@schooldude.com
(Note: You can type in email addresses manually.)
Your Name: tex07 M
Your Email: tex07michigan@gmail.com
Subject: Automated survey email
Message: You may set up a Requester survey email to be sent automatically when work is completed. Set up a Requester survey email to be sent automatically when work is completed. 10/05/2015 5:35 PM
Incident 726316 Submitted on: 10/5/2015
Incident Description: manual email sent
Assigned To:
Action Taken:
Click here to take the survey: https://google.com
What Do we do with Dude Data?

» Key Success Indicators (KSIs)
  » Entrenchment Factors
  » Campus Champions

» Key Performance Indicators (KPIs)

» Trends (Last 3 Years by Month)

» Comparative Maps

» Operations Dashboard

» Custom Dashboard
What’s a KPI?

Key Performance Indicators, commonly known as KPIs

Quantifiable measurements that display a detailed view of performance. They are commonly used by organizations to evaluate the level of success of a particular activity.
KPIs Can Help

» What are my vital signs?
» How do they compare to others?
» Which ones need attention and focus?
» Where am I?
» What is possible if we improve them? So what if I do?
What KPIs Can’t Do

» Alone, they are not the answer
» They often lead to the answer ….
  » Who is best?
  » How did they do that?
  » What did they have to change?
  » How long did it take them?
  » What did they gain when they did?
What Are Your Top Challenges?

- Inability to track data and report consistently: 69%
- No preventive maintenance program in place: 63%
- Non-visibility of maintenance needs: 63%
- No centralized process for streamlining work: 59%
- Slowed customer service responsiveness: 49%
THE VALUE OF KPIs

1. SET STANDARDS
   Know where you stand and set standards going forward.
   - Set clear, measurable goals
   - Gain perspective on your progress by comparing with your peers
   - Be a part of a community working to make their schools better every day

2. STOP GUESSING
   With better data you can make better decisions.
   - Feel more confident in the steps you’re taking
   - Isolate problems and test solutions for impact
   - Make investments in the areas with the greatest need and maximize savings long term

3. SHOW PROGRESS
   Prove the difference you and your team can make.
   - See your accomplishments over time
   - Protect your team and promote their hard work
   - Make a compelling case for more resources
kpi categories

**MAINTENANCE**
Building systems, equipment, and work processes

**PREVENTIVE**
Scheduled maintenance of building systems and equipment

**INVENTORY**
Property, including goods in stock and building contents

**SAFETY**
Safety plans: mobile-readiness, currency, and accessibility

**TECHNOLOGY**
IT staff, resources, and work processes

**FACILITY USE**
Use of facilities for internal events and external rentals

**ENERGY**
Building consumption and costs

**TRIP**
Transportation staff, resources, and costs
**kpi categories**

**What will these KPIs allow me to do?**

- **maintenance**
  - Increase maintenance staff efficiency and overall productivity, streamline workflows, improve customer engagement and satisfaction, capture and show productivity gains, and track overall health of your maintenance program

- **preventive**
  - Determine success of your preventive maintenance program, transition to being more proactive, reduce backlogged work, increase life expectancy of equipment, and decrease catastrophic failures

- **inventory**
  - Gain confidence that your stock of inventory is ‘just right’—neither too much unissued inventory or not enough, isolate wasteful areas, and determine if you are giving the best service at the lowest overhead cost

- **safety**
  - Compare the types of safety plans that are mobile-ready to all of your plans, determine the number of stakeholders that have access to the plans, track the frequency of reviews and revisions
kpi categories

What will these KPIs allow me to do?

- **technology**
  - Justify the technology resources you have and make a case for more, determine responsiveness to IT requests, streamline your incident report and response process, improve customer engagement and satisfaction, and increase transparency and communication with customers.

- **facility**
  - Compare number of facility rentals versus peer institutions, increase cost-recovered through rentals, track paid and open invoices, determine if your facility use policy is effective, and enhance the efficiency of the request system by streamlining customer engagement.

- **energy**
  - Reduce overall energy consumption, compare with peers to find energy savings opportunities, improve consumption management process, visualize energy trends throughout the year to determine additional savings.

- **trip**
  - Measure cost per trip, compare transportation usage and expenses with peer institutes, rank driver wages with peer institutes.
# THE TOP 10 CRITICAL KPIs YOU NEED TO KNOW

<table>
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<tr>
<th><strong>Ratio of preventive work orders (PM) to all work orders</strong></th>
<th><strong>what it measures</strong></th>
<th><strong>why it matters</strong></th>
<th><strong>HOW TO IMPACT</strong></th>
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<td>How much of your resources are allocated to preventive and proactive work vs. reactive work</td>
<td>Implementing a preventive maintenance program can reduce catastrophic failures by 60% and decrease costs of work orders by an average of 30-40%.</td>
<td>Implement and use a preventive maintenance program (PMDirect).</td>
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| **Work hours per employee per week** | "Wrench turning time," how productive and efficient your staff is during hours spent on work orders | When technicians are logging in regularly, productivity increases by an average of 25%, or 3-4 additional hours per week. | Get your technicians and supervisors logging in to CMMS regularly. Go mobile: Implement smartphones, tablets, etc. |

| **Energy cost per student per year** | How your energy costs per student compare with energy costs per student nationally, based on building types similar to yours | You can't control the price of energy, but you can control how much you use. Subtle consumption changes can return significant money to your budget. | Implement programs that emphasize behavioral changes to decrease consumption: turning off lights, closing windows. |

| **Dollars invoiced per student per year for facilities** | How much of the costs you are getting back when the community uses your facilities for events | Facilities expenses affect your budget, even for after-hours events. Are you billing the community to help cover these costs? | Create a pricing structure to bill the community when they use your facilities for events. |

| **Current replacement value and facility condition index** | How much it would cost to replace your facilities in its current state, and the percentage of your current replacement value that needs repair/replacement | Know what you need to prioritize and when. Have the confidence to ask for more resources. | Implement preventive maintenance programs and capital forecasting. |

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**Energy cost per student per year**

**Ratio of preventive work orders (PM) to all work orders**

**Work hours per employee per week**

**Energy cost per student per year**

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<td>Work orders from request portals</td>
<td>How many work order requests are submitted from the MySchoolBuilding on-line request website vs. entered by operational staff</td>
<td>Require all faculty and staff to submit requests electronically to gain efficiency. Provide resources and training.</td>
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<td>Incidents completed in one day or less</td>
<td>How many completed/closed IT incidents that were completed in one day or less</td>
<td>Streamlining the workflow process in ITDirect increases the efficiency and responsiveness of your organization, and also improves customer satisfaction.</td>
</tr>
<tr>
<td>Average inventory in stock per student size per year</td>
<td>How much inventory you have to manage and store</td>
<td>Evaluate which items are used frequently and which ones are not. Change purchasing routines based on what’s going in and out.</td>
</tr>
<tr>
<td>Average cost per trip</td>
<td>How much you’re spending on each field trip in the past year</td>
<td>Evaluate where the costs are coming from and look for opportunities to save money.</td>
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<tr>
<td>Number of total IT assets and percentage with expired warranty</td>
<td>How many IT assets are being tracked in an asset management solution and how many are past their warranty expiration date</td>
<td>Gain a high level overview and tracking capabilities for IT assets. Know how many need to be replaced.</td>
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**Require all faculty and staff to submit requests electronically to gain efficiency. Provide resources and training.**

**Leverage work queues and automated routing to increase efficiency in getting requests to the proper technicians.**

**Evaluate which items are used frequently and which ones are not. Change purchasing routines based on what’s going in and out.**

**Evaluate where the costs are coming from and look for opportunities to save money.**

**Gain a high level overview and tracking capabilities for IT assets. Know how many need to be replaced.**

**Make the case for upgrades and plan ahead for asset cycle times.**
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### Frank (aka The Tank), Old Dominion University

**Challenge**
Every summer Frank and his crew had drive shafts fail on their roof top units.

**Action**
He implemented PMDirect.

**Impact**
The summer following implementation, he and his crew didn’t have a single drive shaft fail.
Work hours per employee per week

**what it measures**

* "Wrench turning time," how productive and efficient your staff is during hours spent on work orders

**why it matters**

When technicians are logging in regularly, productivity increases by an average of 25%, or 3-4 additional hours per week.

**HOW TO IMPACT**

Get your technicians and supervisors logging in to CMMS regularly. Go mobile: Implement smartphones, tablets, etc.

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Sam Bays, Director of Operations, Broward County School District (258K students)

**Challenge**

Sam wanted to justify the cost of SchoolDude to his decision makers.

**Action**

Using this KPI, Sam determined that he could increase employee wrench-turning time by 1.5 hours per week/per employee.

**Impact**

As Sam says, "Do the math, 700 employees x 1.5 hours a week. That's huge!" This meant a big impact on the productivity and cost of operations providing a clear justification for the cost of SchoolDude.
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## Arkansas Districts

**Challenge**  
Arkansas District Schools needed help implementing the KPI Dashboard districtwide.

**Action**  
SchoolDude provided a webinar to explain the dashboard and used this KPI to show how the district could compare to the national average.

**Impact**  
They asked how to get their district to appear on the chart, which required implementing UtilityDirect. The entire district now has UtilityDirect and can both compare their energy costs with peers and maximize energy savings.
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**Debbie Gunn, Charleston County Schools, SC** *(43K students)*

**Challenge**
Debbie knew her district was losing big money on after-hour events, and her superintendent was not in support of implementing a cost-recovery program.

**Action**
Using this KPI, SchoolDude demonstrated that other schools around the country were profiting roughly $14 per student/per year because of their cost-recovery programs.

**Impact**
The superintendent immediately approved Debbie’s program, and with 43,000 students in the district that’s a total profit opportunity of $602,000.
Every KPI is a snapshot in time. Your data is continually updated along with your peers.

The black triangle represents your data. It’s where you are today, and will help you determine where you want to be in the future.

The red/yellow/green scale marked by the white triangles represents a sweet spot range in comparison to your peers.

Keep in mind, datasets may differ among KPIs since each is dependent on the number of schools using the solution.

Easily export the chart as a graphic to share with your staff and include in your own presentations.
NEW Data Quality KPI

» % of WO’s with Data Quality

» Location, Area/Room, Craft, Purpose, Assigned To, Description 20 Char. And (Either Labor Hours or WO Cost)

<table>
<thead>
<tr>
<th>Label</th>
<th>Your Value</th>
<th>Vertical</th>
<th>Median</th>
<th>Top 20%</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of WOs with Data Quality</td>
<td>100%</td>
<td>Government</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>
DON’T FORGET!

IN THE APP:
SESSION SURVEYS
& REQUEST MORE INFO