

# Bots and Artificial Intelligence

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# First... The articles

- Data Driven Decision Making from the datapine Blog
  - Good overview, little depth
  - Obviously a sales pitch
- 3 Things AI Can Already Do
  - Good information



# Data-Driven Decisions

- Really innovative... back in 1975
- Understanding (and investigating) the relationships between data is key
- Common uses
  - Simple data that needs to be accessible – dashboards!
  - Defined investigations – make vs buy decisions
  - Data exploration



# Yeah, we got data!

- Test scores
- Survey feedback – students, parents, staff
- Demographics
- Grades
- Attendance
- Discipline
- Suspension/referrals



- Household income
- Parents' education levels
- Number of people in household
- What student eats
- Course selection
- Health information
- After school sports and activities
- Accounting and financial data

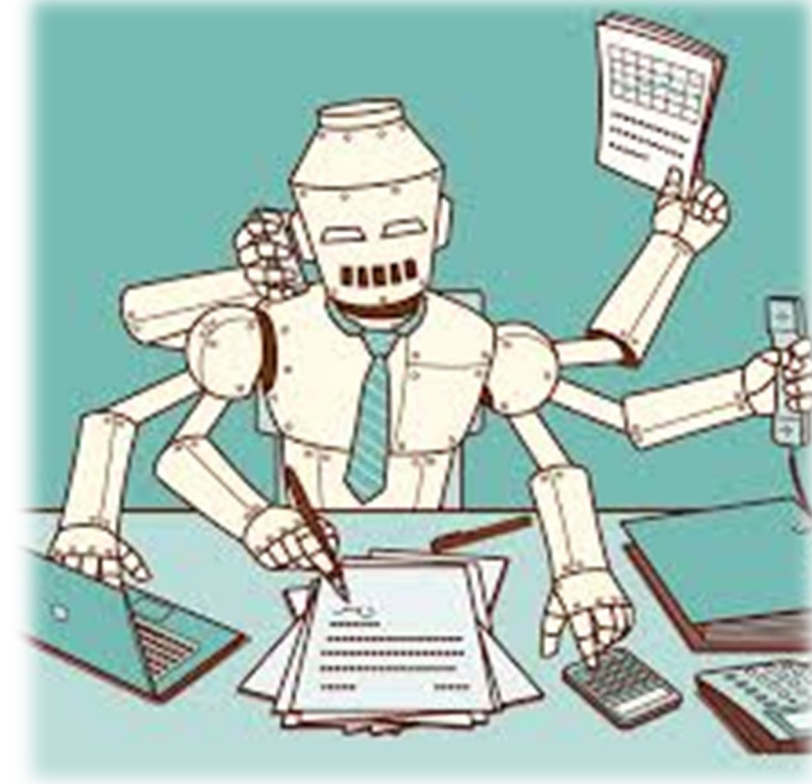
# Simple Data Accessibility Dashboards

- These are easily programmed
- May be imbedded in your ERP/ERM
- May include analysis across multiple systems
- Quick access to data needed repeatedly



# Defined Investigations

- Common make vs buy decisions
  - Buy vs lease
  - Costing out options, such as bus stop placement
- Involve all interested groups
- Identify all variables
- Be aware of interested groups that stand to gain or lose
- Get everyone's feedback on final review





# Data Exploration

- Challenge: capture and link all data
  - Financial data
  - Student information system
- Look for outliers and trends by conditioning certain fields

# Real, Actual Examples that Really, Actually Exist!

- Identify students at risk of losing a grade, dropping out
- Link student data
  - Grades
  - Attendance
  - Discipline/referrals/suspensions
  - Socio-economic/demographic factors





# Real, Actual Examples that Really, Actually Exist!

- Analyze your schools' master schedules
- Schedules not set consistently before school starts indicates staff not effective or significant challenges, such as late enrollments or students being shifted by district-level staff
- Review course request satisfied data
  - High percent maximizes student engagement
  - Look for disparities by race, gender, etc.
- Review course retainage – Are students proceeding to next course after prerequisite?



# Real, Actual Examples that Really, Actually Exist!

- Analyze your expense data by various categories
- Group schools/departments into categories and look for outliers
- Elementary school with very high educational consultants
- Purchase order change orders
- Duplicate payments
- Vendors with same address as employee
- Vendor only doing business with one school
- Existing vendor banking changes



# DANGER! DANGER! DANGER!

- You must know the data well to properly analyze it
- Beware of preconceptions
- Beware of politics clouding or overriding the data-based decision
- How consistently and easily are your Principals using the data?
- Is the data definitive?



# Artificial Intelligence

- Applied machine learning
  - Use purchases or click history to predict/recommend additional purchases
  - Targeted advertising
  - Decision-tree style customer service chatbots
  - Decision-tree style service assignments
- Outputs depend on current body of inputs, which naturally update as population shifts



# Artificial Intelligence

- Robotic Process Automation

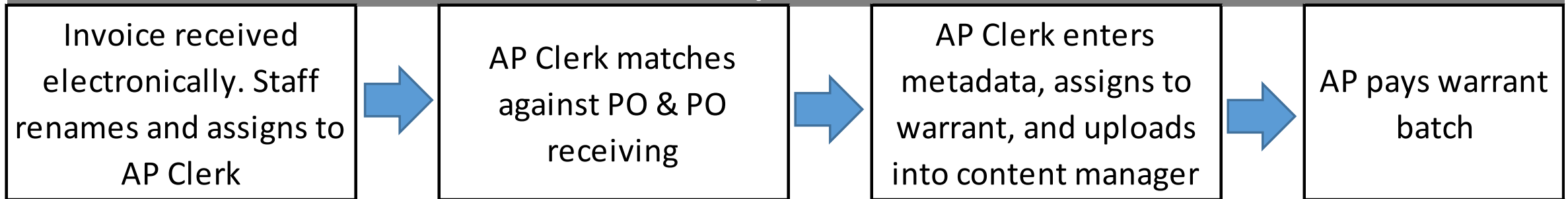
- Robotic? Yes. Intelligent? Not really
- Convert the manual, data entry tasks to robotic tasks so employee can focus on adding intelligent value to process
- Don't rule out business process changes if it creates overall efficiency
- You've gotta be the subject matter expert and know the process completely



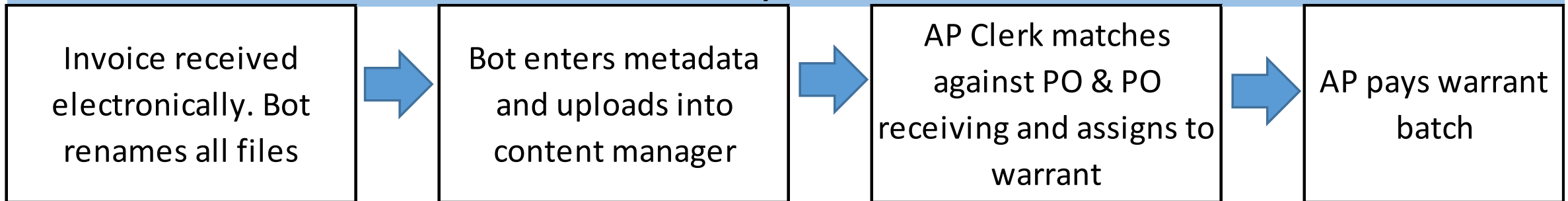
# FYI JCPS AI RPA ICYMI



## *Old process*



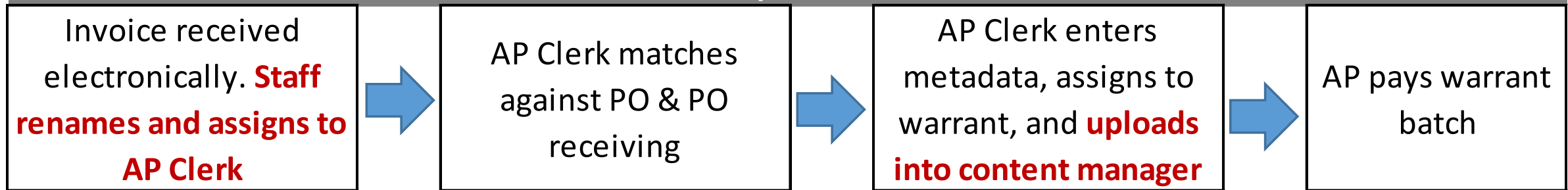
## *New process*



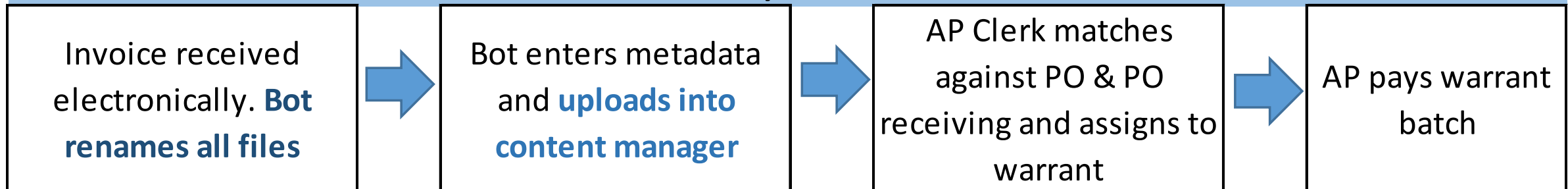
# FYI JCPS AI RPA ICYMI



## Old process




## New process



← Back to message

Last changed: Tuesday, March 5, 2019

 HJ\_NonPo\_Inv.pdf  
46 KB

# HAMMOCK JUNGLE

## INVOICE

<b>BILL TO</b> KnowledgeLake 6 CityPlace Drive Suite 500 St. Louis, MO 63141	<b>SHIP TO</b> KnowledgeLake 6 CityPlace Drive Suite 500 St. Louis, MO 63141	<b>Invoice #</b> 9017604  <b>Invoice Date</b> 03/01/2019  <b>Customer ID</b> KLU55555
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AUTHORIZATION	FOB	SHIP VIA	TERMS
H. Scoprio	Destination		Net 15

QTY	ITEM	DESCRIPTION	DISCOUNT %	UNIT PRICE	TOTAL
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## Upload

HJ\_NonPo\_Inv.pdf

Content Type

Non PO Invoice

VendorName

Hammock Jungle

VendorID

HJ0001

InvoiceNumber

9017604

InvoiceAmount

\$1,157.50

Date

6/25/2019

Cancel







# Artificial Intelligence and Data-Driven Decisions

## Data-Driven Decisions

- Vetting the underlying data is the hardest part
- Consistent application is difficult
- Critical tool that you MUST use, but be cautious

## Artificial Intelligence

- Already mainstream
- Many repetitive tasks or conversations are perfect applications
- Not considered a staff replacement, but could help with so many staffing issues



# Thank you!

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