

AI and Algorithmic Management Systems (AAMS)

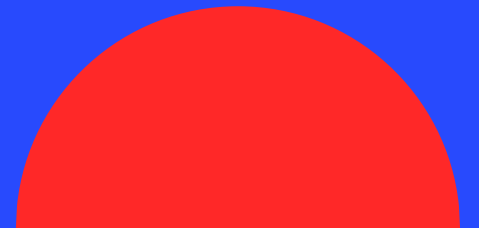
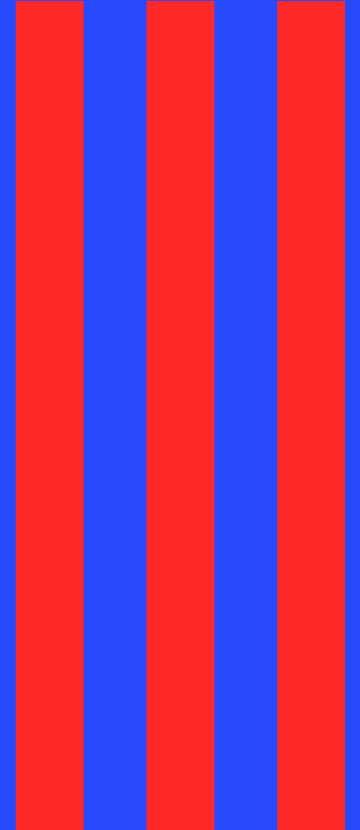
Functions, Prevalence, Bargaining

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What are AAMS?

- Core functions of management: 'coordinate, direct, evaluate and discipline' workers.¹ AAMS replace or support managers in each of these fields.
- Algorithms are simply mathematical rules which produce pre-defined outputs ('if $x = 1$, then $y = 2$ ').
- Basic algorithmic systems can be used by managers, for example, to monitor employee sick days and schedule a review meeting if they surpass a certain threshold – or to award bonuses automatically for good sales performance.
- Algorithms used for two decades to partially automate workflows, assign tasks to workers, report on performance, and enforce deadlines. Provided by major vendors like IBM and Oracle.

1. Crowley, M., Payne, J., & Kennedy, E. (2020). Manufacturing Discontent: The Labor Process, Job Insecurity and the Making of “Good” and “Bad” Workers. *Research in the Sociology of Work*, 221–247. doi:10.1108/s0277-283320200000034013 p.222

What changed?

- Managerial algorithms are being supplemented by big data analysis and powerful machine-learning (ML) technologies.
- ML is by far the most common form of artificial intelligence (AI) in widespread use.
- Increases in computing scale and power enable ML algorithms to sift through huge quantities of data from many sources.
- They can identify correlations between datapoints that humans may not think to test (for example, between performance scores in onboarding training and likelihood of staying in a job for more than 6 months).
- Firms are rushing to provide managerial applications based on this new technology.

How prevalent are AAMS?

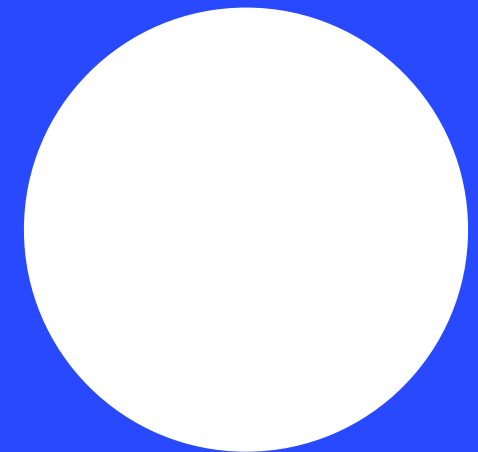
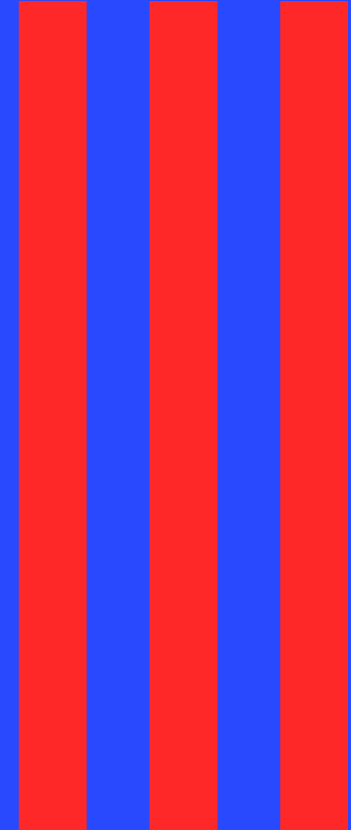
- Measuring rollout of AAMS is very difficult (due to knowledge gaps amongst workers, managers, and highly differential levels of engagement).
- Recent large-scale US and EU surveys suggest at least 14-20% of workers are now subject to AAMS management.
- BUT AAMS increasingly integrated into ERP and CRM (enterprise) software
- Some forms may be innocuous. However, growing concern that AAMS may harm employees and firms more generally.
- Not because they threaten to destroy substantial numbers of jobs: AAMS as an alternative to automation, which requires large and risky investments from firms in new equipment to eliminate human labour.

Risks of AAMS deployment

- Rather, AAMS threaten to:
- illegitimately surveil workers and their personal data,
- create a divide in access to knowledge between managers and workers,
- speed-up work to (or past) breaking point,
- take unaccountable operational decisions including productivity measurement, worker remuneration and even hiring and firing without sufficient human oversight.
- Further, AI and algorithmic management tools are often 'black-box' technologies... opaque by design -- and not well understood by managers who use them.

Snake oil?

- While apparently impressive, machine learning based AI systems commonly exhibit serious errors and fabrications in their outputs.
- This is because they are *not* 'intelligent' systems, but pattern recognition tools which base predictions and recommendations on correlations.
- 4 misuses of 'AI' include:
 - Given tasks which they are not actually able to perform (impossible tasks).
 - Second, they can be badly designed and implemented (engineering failures).
 - Third, they may hit unexpected barriers when deployed in the real world (post-deployment failures).
 - Fourth, they may have their actual capabilities overstated or misrepresented (hype).
- AAMS must 'taskify' and 'datify' work, which makes them vulnerable to 'Goodhart's law': '*when a metric becomes a target, it ceases to be a good metric*'.
- Managers using AAMS are often unaware of several or all these risks.



Salesforce CRM

- Salesforce is a customer relationship management (CRM) platform, which provides tools for businesses to coordinate engagement with customers to improve sales.
- It also provides a range of enterprise-wide functions from human resource management (HRM) to marketing and people analytics.
- The software is highly customisable, and users can access a marketplace hosting of thousands of third-party apps (AppExchange) which provide additional functions.
- Salesforce is the world's leading CRM systems provider, with approximately 23 per cent of the global CRM market and 150,000 firms using its software.
- Europe is Salesforce's second biggest market and accounts for 4.5 billion dollars in turnover, over a fifth of its revenues. Its major European clients include Santander, Ideal Standard and the Port of Rotterdam.

Salesforce CRM

- Salesforce can streamline and partially automate business processes and workflows, assigning tasks to particular employees and monitoring performance.
- It also provides managers with extensive data on performance of teams and individual employees.
- It integrates algorithms which systematise and quantify employee performance to generate metrics by which managers can measure and compare employee performance, along with machine learning and AI techniques to predict future productivity and identify weaknesses in employee performance.

'Einstein Prediction' scores for monthly/annual sales, calculated with machine learning algorithms based on past performance and leads identified. Managers can track actual ('closed only') sales values against these predictions and assigned quotas.

Forecasts > Opportunity Revenue
Milly Lopez ▼
 Last updated 10/18/2022 at 03:44 PM

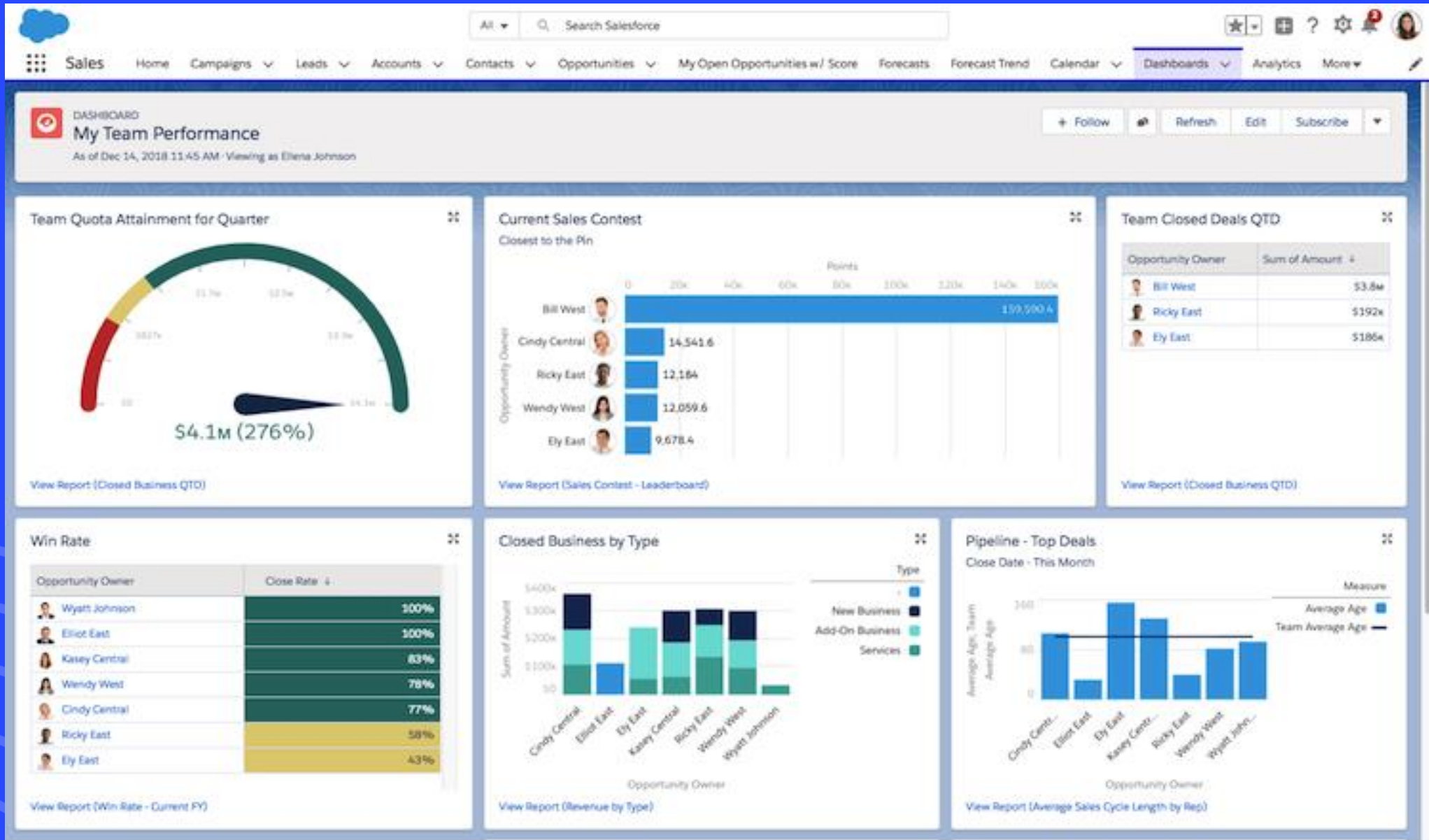
Elliot Executive > Milly Lopez

Quarters	Einstein Prediction	Quota	Closed Only	Commit Forecast	Most Likely Forecast	Best Case Forecast	Open Pipeline
Total: 3 Quarters	-	\$4,200,000.00	\$569,300.00 13.6%	\$2,084,400.00 49.6%	\$4,258,757.00 101.4%	\$5,811,818.17 138.4%	\$7,876,753.08 187.5%
▼ FQ4 FY 2022	\$3,452,395.55	\$4,000,000.00	\$569,300.00 14.2%	\$1,861,400.00 46.5%	\$3,948,497.00 ↑ 98.7%	\$5,403,558.17 ↑ 135.1%	\$7,127,243.08 ↓ 178.2%
Valerie E... →	\$628,166.43	\$700,000.00	\$42,000.00 6.0%	\$599,000.00 85.6%	\$379,250.00 54.2%	\$578,494.50 82.6%	\$757,794.50 108.3%
Vance C... →	\$304,518.05	\$400,000.00	\$116,000.00 29.0%	\$277,000.00 69.3%	\$359,000.00 89.8%	\$526,700.00 131.7%	\$727,427.38 181.9%
Vanessa ... →	\$1,157,705.00	\$1,200,000.00	\$124,000.00 10.3%	\$466,100.00 38.8%	\$881,700.00 73.5%	\$1,278,500.00 106.5%	\$1,563,200.00 130.3%
			\$32,000.00	\$264,000.00	\$384,647.00	\$619,847.00	\$992,454.58 ↓

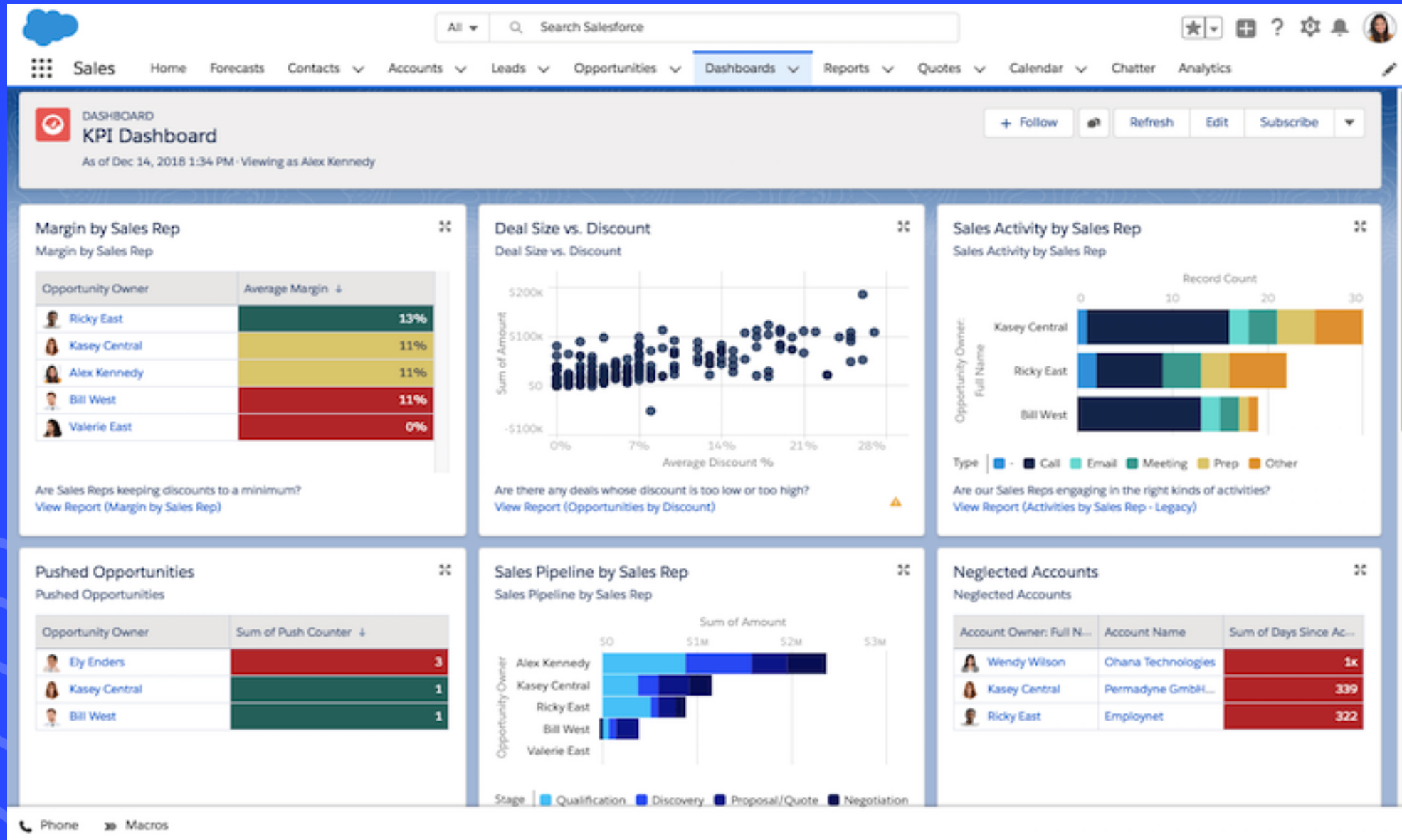
Milly Lopez Team • FQ4 FY 2022 • All Forecast Categories Pipeline Inspection ↑ ↓

	Opportunity Name	Account Name	Opportu...	Amount	Qu...	Close Date	Stage	Pro...	Forecast...	Owner Full Na...	Competitor	Next Step
1	Aims Social, Inc. - New Business - 99K	Aims Social, Inc.	57	\$1,120,000.00...	0.00	10/28/2022...	Negotiation	90%	Most Lik...	Lopez, Milly		Sign the c
2	Assurity Corporation - New Business...	Assurity Corpor...	74	\$580,000.00	18.00	10/27/2022	Qualification	20%	Pipeline	Lopez, Milly		Identify k
3	Haven Enterprises - Services - 115K	Haven Enterpris...	90	\$415,000.00	44.00	10/16/2022	Negotiation	90%	Most Lik...	Lopez, Milly		Sign the c
4	Permadyne - Add-On Business - 187K	Permadyne Gm...	66	\$187,000.00	19.00	11/1/2022	Proposal/Quote	75%	Most Lik...	Central, Kasey		great win
5	Permadyne - Add-On Business - 116K	Permadyne Gm...	Not Available	\$116,000.00	15.00	10/2/2022	Closed Won	100...	Closed	Channel, Vance		great win
6	UlyssesNet - Add-On Business - 116K	UlyssesNet	51	\$115,700.00	0.00	11/16/2022	Discovery	35%	Best Case	Partner, Paul		great win

Manager dashboards use analytics to quantify and compare worker performance according to a range of metrics, including number and value of deals closed. Data can also be harvested from a range of sources in order to compare employee performance in order to track competition and monitor employees for 'best fit' – i.e., evaluate their suitability for continued employment.



Salesforce technology can integrate with email and other employee communications accounts to monitor and calculate employee performance. KPI dashboards present detailed breakdowns on how and how often employees pursue particular leads ('sales activity by sales rep'). It also provides visual metrics on discount size employees frequently providing large discounts can have their performance monitored and evaluated.



Using integrated third-party plugins like ActivTrak enable Salesforce users to track employees very closely. Employers can access detailed, real-time activity logs which demonstrate which application a given employee is currently engaged with. These are automatically categorised ('social media break', 'using printer', etc.) and 'alarms' can be sounded alerting managers to undesirable worker behaviour. Used to generate 'productivity' scores.

ActivTrak

ALARM LOG 12/20 Upgrade Plan Hello User (user@gmail.com)

Last 7 Days All Users Refresh Columns Export

Select Date 07/25/2020 07/31/2020

1 2 50 alarms per page 1-50 of 75 alarms

Prod	Icons	Alarm Name	Date/Time	User	Computer	Duration	Title
✓	📧	Social Media Break	07/25/20 10:21:15a	User1	1786-HOME	6m 8s	New Message (1) - Google Ch...
✓	🖨️	Using Printer	07/25/20 02:05:32a	User2	AT-WORK-866A	10m 4s	System Event
?	🖨️	Incognito Mode	07/25/20 06:30:17a	User3	AT-INHOUSE-236	1m 23s	New Tab - Google Chrome
✖️	📧	Website is Blocked	07/25/20 06:55:59p	User6	AIR-MAIN-16B	6m 24s	https://www.777coins.com
✓	🖨️	Youtube	07/25/20 10:21:15a	User8	AT-WORK	5m 36s	https://www.youtube.com/watc...
?	📧	Social Media Break	07/25/20 12:33:00p	User10	AT-WORK-866A	8m 5s	New Message (1) - Google Ch...
✓	🖨️	Instagram Alarm	07/25/20 06:30:17a	User3	AT-WORK-812A	58s	https://www.instagram.com/jo...
✓	📧	Social Media Break	07/25/20 10:21:15a	User18	AT-INHOUSE-921	11m 12s	New Message (1) - Google Ch...
✖️	📧	Website is Blocked	07/25/20 10:21:15a	User4	1786-HOME	5m 55s	https://www.macdownloads.co...
?	🖨️	Incognito Mode	07/25/20 02:05:32p	User2	AT-WORK-866A	3m 25s	New Tab - Google Chrome
?	📧	Instagram Alarm	07/25/20 06:30:17p	User19	AT-INHOUSE-236	12m 36s	https://www.instagram.com/an...
✓	📧	Social Media Break	07/25/20 06:55:59p	Use2	AIR-MAIN-16B	18m 11s	New Tab - Google Chrome

ActivTrak also generates 'productivity' scores and ranks workers' performance against one another.



Group:
 Sales Team Member:
 Date:

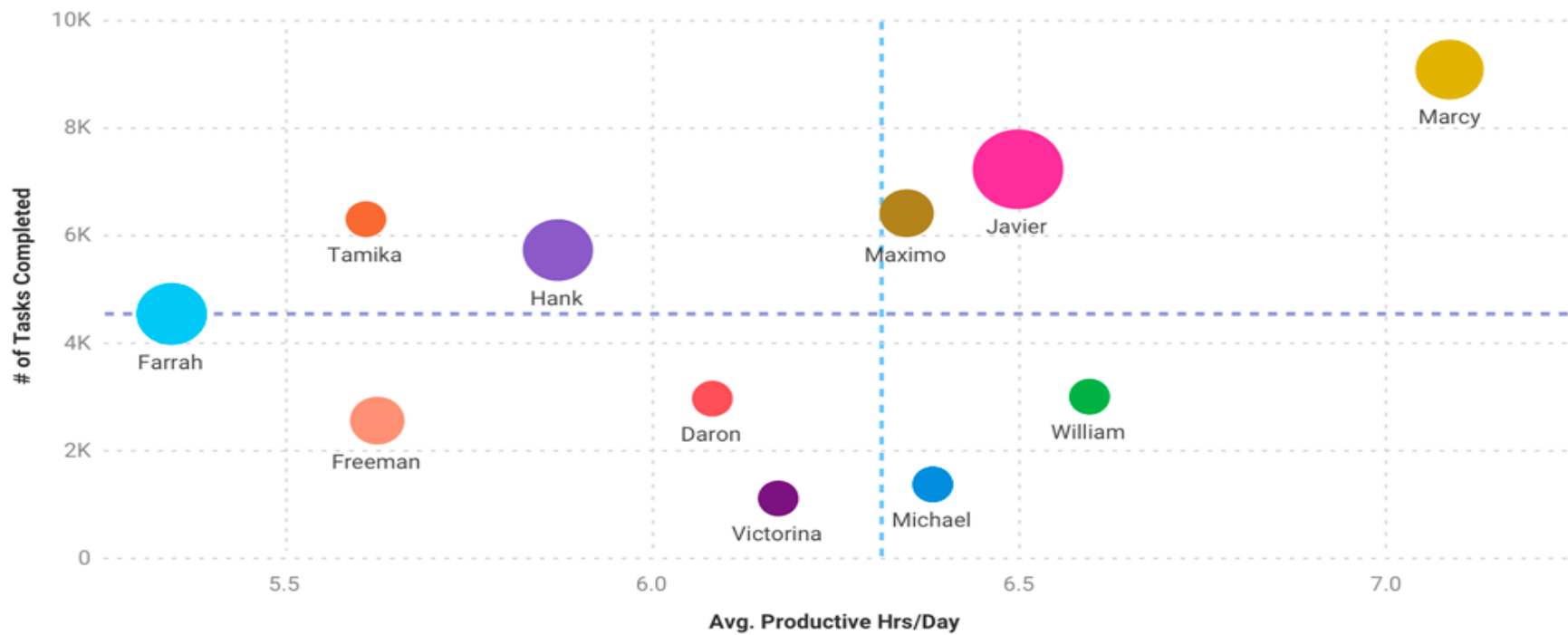
9/17/2021 - 3/16/2022

Note: This report reviews opportunities which are created during selected data range.

of Tasks Completed vs. Avg. Productive Hrs/Day

Sales Team Member

- Victorina
- Tamika
- Michael
- Marcy
- Javier
- Hank
- Daron
- Maximo
- William
- Farrah
- Freeman



Individual vs. Group Average

Sales Team Member	Avg. Productive Hrs/Day	Avg Sales Tools, Email & Meeting Hrs/Day	Completed Tasks/Hr Ratio	# of Tasks Completed	vs. Group Avg.
Marcy	7.1	5.4	15.4	9087	+90.2% ▲
Javier	6.5	4.7	12.7	7276	+52.3% ▲
Maximo	6.4	4.7	12.9	7135	+49.4% ▲
Hank	5.8	4.1	11.7	5967	+24.9% ▲
Farrah	5.3	4.5	11.2	4889	+2.4% ▲

Bargaining over AAMS

- AAMS deployment needn't cause the multiple workplace and privacy issues it currently threatens to. But avoiding these pitfalls requires union involvement and bargaining each step of the way:
- **Stage 1: Audit, investigate, and examine context**
- **Stage 2: AAMS product purchasing**
- **Stage 3: Implementation processes**
- **Stage 4: Ongoing feedback, adjustment, intervention**

Thank you



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