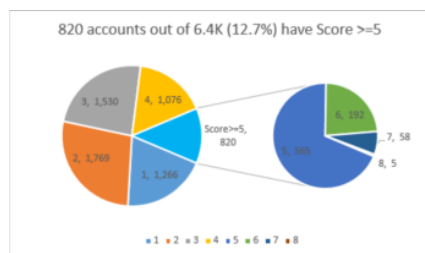


This is to share the propensity score analysis and FY22 propensity list for Azure Defender for IOT. In FY21, there are 6,461 Enterprise accounts from AzureDashboard cube that are part of the 16 FY22 focused industries list: 6,025 major and 436 strategic accounts.

- 5,470 have at least 1ESE assigned
- Regardless of ESE assignment
 - Score >=4: 1,896 out of 6,461, or 29.3%
 - Score >=5: 820 out of 6,461, or 12.7%



Score	Accounts	%
1	1,266	19.6%
2	1,769	27.4%
3	1,530	23.7%
4	1,076	16.7%
5	565	8.7%
6	192	3.0%
7	58	0.9%
8	5	0.1%

We can find detailed data at [AD4IOT propensity list\(based on FY21 Azure account\)](#) (total: **6,461** enterprise accounts filtered by 16 FY22 focused industries)

Also sharing the propensity list using FY22 new enterprise segment list [AD4IOT Propensity List-based on FY22 Account Segmentation](#) (total: **11,011** enterprise accounts with all industry)

Azure Defender for IOT - Propensity Score Model Analysis, FY22 Propensity List

- [Summary](#)
- [Current propensity score analysis details](#)
- [High correlation from converted AD4IOT customer](#)
- [New propensity score model exploration](#)
- [New propensity score model proposal](#)

Summary

The goal is to analyze the Feb 2021 propensity list, conversion rate to identify higher correlation metrics from converted AD4IOT customers, explore the new propensity score model and preparing a new FY22 propensity list for review. Summary of findings:

- High score shows higher conversion. 3.3% overall CR on Score >=5 in current propensity list. Total 36 accounts converted regardless of score.
- The converted AD4IOT customers show higher correlation with Sentinel ACR, Other IOT ACR and E5 revenue, and the small attach rate shows big growth opportunity
- Conversion rate using ACR in propensity score is higher than the current model using pipeline, and no significant difference on other ACR in AD4IOT customers and non-AD4IOT customers but Azure Security ACR.
- 50%+ accounts has less than \$50 monthly Azure Security ACR, it's the long tail distribution, and applying Azure Security ACR threshold (monthly >=\$50) performs best
- No significant conversion difference for different level MDE usage
- New Propensity score model
 1. Remove D4IoT, E5, Azure Security Pipeline – use MDE billed Revenue, E5 Revenue, and Azure Security ACR flag instead
 2. Consider the 3 month avg Azure Security ACR threshold (>= \$50)
 - Target Industry covered 68% of TPIDs (exc. N/A), suggest to add “Health Provider”, “Health Payor”, “Other government”
 3. Propose the new score formula – sum from 0 to 8
 - Has Sentinel ACR
 - Has Other IOT ACR
 - 3 month avg Azure Security ACR >50
 - Has MDE Billed Revenue
 - Has E5 Revenue
 - Is S100 Account
 - Is IOT Depth Account
 - Is Target Focused Industry based on final list from Scott Lerch and CyberX team

Automotive	Health Provider
Consumer Goods	Intelligence
Critical Infrastructure	Other Government
Defense	Pharma & Life Sciences
Defense Systems Integrators	Process Manufacturing & Agriculture
Discrete Manufacturing	Real Estat
Energy	Retailers
Health Payor	Travel, Tpt, Lgstcs & Hosp

Feb 2021 Propensity Score Analysis Details

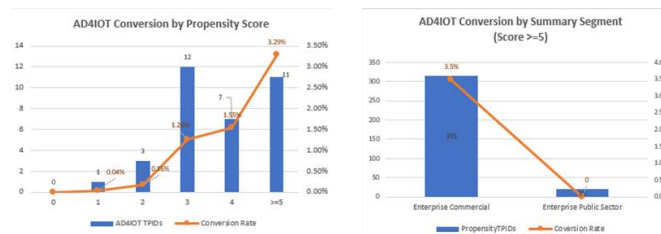
The current propensity score is in range of 0 to 8, which involves the YTD ACR Flag, Pipelines, Target Industry flag, Is S100 and Is IOT Depth account flags. Here are some observation from the existing list.

1. There are 334(or 4.1%) from current 8.2K account list with **propensity score >=5**. Total 11 accounts converted to AD4IOT customer, **3.3% overall CR**.
 - o 315 commercial customers and 11(or 3.5%) converted,
 - o The other **19 public sector customers** has 0 conversion.
2. 36 accounts converted from entire list regardless of score.
 - 32 commercial, 21/32 (65%) are below score 5. All of them have Azure Security and Azure ACR, 87.5% have sentinel ACR.

- 4 public sector, all have score <=3.

3. Higher score shows higher conversion rate, yet not stat. significant due to small volume

- 50 accounts has D4IoT pipeline, 8 (or 16%) converted, significantly higher than no pipeline accounts.
- 354 IoT depth accounts, 6 (or 1.7%) conversion rate, higher than 0.4% for non IoT depth accounts
- 1633 TPIDs has Azure Security Pipeline, 25 (or 1.5%) converted, significant higher than no security ACR TPIDs (0.2%)
- 843 TPIDs has IOT ACR, 6 (or 0.7%) converted, higher than no-IOT ACR TPIDs (0.4%)
- 4.8K TPIDs have E5 Pipelines, 28 (or 0.58%) converted, higher than TPIDs without E5 pipeline (0.2%).
- 654 TPIDs has Sentinel ACR, 3 (or 0.5%) converted, slightly higher than no Sentinel ACR TPIDs (0.4%)
- 16/2359 (or 0.6%) conversion rate for focus industry, higher than non-focus industry (0.3%)



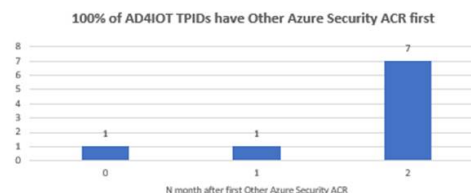
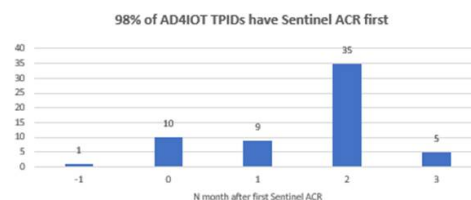
Pipeline	Has Pipeline	Converted	Propensity List	Conversion Rate
Defender for IOT	Yes	8	50	16.00%
Defender for IOT	No	28	8,127	0.34%
MW E5	Yes	28	4,818	0.58%
MW E5	No	8	3,359	0.24%
Azure Security	Yes	25	1,633	1.53%
Azure Security	No	11	6,571	0.17%

ACR	Has ACR	Converted	Propensity List	Conversion Rate
IOT	Yes	6	843	0.71%
IOT	No	30	7,335	0.41%
Sentinel	Yes	3	654	0.46%
Sentinel	No	33	7,505	0.44%

High correlation from converted AD4IoT customers

There are 132 totally accounts have AD4IoT revenue in previous 3 months, here are some observations on other ACRs, Industry, and Target account lists, regardless of the propensity score.

- AD4IoT customers have higher correlation to Sentinel ACR, Other IOT ACR and E5 revenue
 - 48% AD4IoT customer have Sentinel ACR, 42% have other IOT ACR, 35% have E5 revenue,
 - There are 13K customers with Sentinel ACR, the attach rate totally, and Attach rate to sentinel ACR, E5 revenue, and MDE are very small now with big growth opportunity
- Low correlation that 1 out of 93 S100 account detected in 132 AD4IoT customers (not stat. significant due to small base)
- 98% of AD4IoT customers have sentinel ACR first (e.g. 35 AD4IoT customers have Sentinel ACR two month ahead), and 100% of AD4IoT customers have other Azure Security ACR first before seeing AD4IoT ACR



Flags	TPIDs	Share of 132 D4IoT accounts
Is Target Industry	67	51%
Has Sentinel ACR	64	48%
Has E5 Revenue	46	35%
Has Other IOT ACR	56	42%
Has D4EndpointRevenue	9	7%
Is IOTDepth Account	7	5%
Is S100 Account	1	1%

Category	Total TPIDs	AD4IoT TPIDs	Attach Rate
Is Target Industry	626,809	67	0.01%
Has E5 Revenue	50,384	64	0.13%
Has Other IOT ACR	18,348	65	0.35%
Has Sentinel ACR	13,675	63	0.46%
Has D4Endpoint Revenue	4,476	18	0.40%
Is IOTDepth Account	354	7	1.98%
Is S100 Account	93	1	1.08%

New Propensity Score Model Exploration

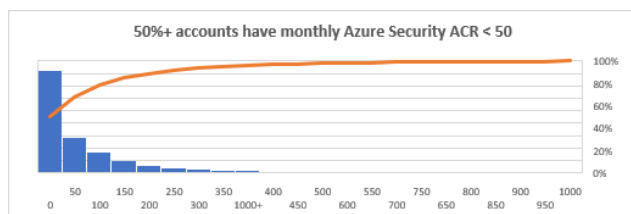
- Leverage the Azure Security ACR, MDE billed Revenue, and E5 Revenue, and replace the pipeline flag in the score model since the significant difference in the group comparison
 - Azure Security ACR is more significant than pipeline
 - 0.15% CR from "Has Azure Security Pipeline" no group vs 1.47% from yes group
 - 0 CR from "Has Azure Security ACR" no group vs 0.5% from Yes group
 - E5 Revenue is more significant than pipeline
 - 0.24% CR from no pipeline group vs 0.53% from yes group
 - 0.13% CR from no E5 Revenue group vs 0.6% from yes group
- The new model has better coverage rate, and reduce the base can also get higher conversion rate
 - Score >=3,
 - Old: 83.3% cover rate(30/36), conversion rate 1.5%
 - New: 97.2% cover rate(35/36), conversion rate 0.69%
 - Score >=4:
 - Old: 50% cover rate(18/36), conversion rate 2.29%
 - New: 80.6% cover rate(29/36). Conversion rate 0.12%

	Has Azure Security Pipeline	Has Azure Security ACR
No	0.15% (10 converted from 6529 accounts)	0
Yes	1.47% (24 convert from 1634 account)	0.5% (34 converted from 6817)

	Has Defender for IOT Pipeline	Has MDE Billed Revenue
No	0.33% (27 converted from 8111)	0.37% (27 converted from 7385)
Yes	14% (7 converted from 50)	9% (7 converted from 776)

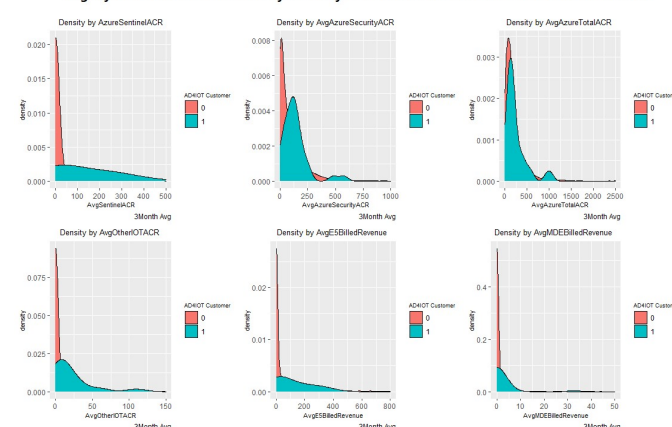
	Has E5 Pipeline	Has E5 Revenue
No	0.24% (7 converted from 3320)	0.13% (4 converted from 3193)
Yes	0.53% (26 converted from 4841)	0.6% (30 converted from 4970)

- Score >=5
 - i. Old: 22.2% cover rate(8/36), conversion rate 3%
 - ii. New: 61.1% cover rate(22/36), conversion rate 2.8%
- 3. Only Azure Security ACR shows slightly difference density plot from AD4IOT customers and the other group, propose to leverage the avg monthly Azure Sentinel ACR in formula
 - Azure Security ACR slightly different
 - i. Customer with AD4IOT ACR group: Most customers has nearly monthly ACR around \$100
 - ii. No AD4IOT ACR group: most customers have 0 ACR
 - Other ACR: No significant difference in two groups



Old model				New model			
Score	Converted	TPIDs	Conversion Rate	Score	Converted	TPIDs	Conversion Rate
0	1	1,738	0.1%	0	1	93	1.1%
1	2	2,502	0.1%	1	0	859	0.0%
2	3	1,973	0.2%	2	0	2,050	0.0%
3	12	1,153	1.0%	3	6	2,686	0.2%
4	10	513	1.9%	4	7	1,698	0.4%
5	3	181	1.7%	5	17	581	2.9%
6	4	80	5.0%	6	4	184	2.2%
7	1	9	11.1%	7	1	20	5.0%

Slightly difference on Azure Security ACR only between AD4IOT customers and Others customers



4. Propose using the 3 month avg Azure Security ACR >= 50, and MDE Revenue instead of MDE usage in the new propensity score

- The threshold 50 performs better than other thresholds in both coverage rate and conversion rate when score >=5

New Model (No threshold)				Monthly Avg Azure Security ACR (Threshold > 50)				Monthly Avg Azure Security ACR (Threshold > 100)				Monthly Avg Azure Security ACR (Threshold > 1000)			
Score	Convert	TPIDs	Conversion Rate	Score	Convert	TPIDs	Conversion Rate	Score	Convert	TPIDs	Conversion Rate	Score	Convert	TPIDs	Conversion Rate
0	1	93	1.1%	0	1	142	0.7%	0	1	158	0.6%	0	1	179	0.6%
1	0	853	0.0%	1	0	1,622	0.0%	1	0	1,888	0.0%	1	0	2,311	0.0%
2	0	1,971	0.0%	2	4	2,246	0.2%	2	5	2,468	0.2%	2	6	2,811	0.2%
3	6	2,481	0.2%	3	3	1,957	0.2%	3	2	1,826	0.1%	3	5	1,813	0.3%
4	5	1,759	0.3%	4	6	1,328	0.5%	4	9	1,134	0.8%	4	16	747	2.1%
5	16	726	2.2%	5	14	590	2.4%	5	14	475	2.9%	5	6	257	2.3%
6	6	245	2.4%	6	6	212	2.8%	6	4	166	2.4%	6	1	56	1.8%
7	1	52	1.9%	7	1	49	2.0%	7	0	34	0.0%	7	1	8	12.5%
8	1	8	12.5%	8	1	8	12.5%	8	1	6	16.7%				
24	1,031		2.3%	22	859		2.6%	19	681		2.8%	8	321		2.5%

- The MDE usage get slightly higher coverage rate than MDE Revenue, but lower conversion rate due to low usage on most customers

New Model (Use MDE Rev > 0)				New Model (Use MDE Usage > 0)				New Model (Use Avg Monthly Azure Security ACR > 50)				New Model (Use Avg Monthly Azure Security ACR > 50, MDE Usage > 0)			
Score	Converted	TPIDs	Conversion Rate	Score	Converted	TPIDs	Conversion Rate	Score	Converted	TPIDs	Conversion Rate	Score	Converted	TPIDs	Conversion Rate
0	1	93	1.08%	0	1	89	1.12%	0	1	142	0.70%	0	1	130	0.77%
1	0	853	0.00%	1	0	813	0.00%	1	0	1,622	0.00%	1	0	1,457	0.00%
2	0	1,971	0.00%	2	0	1,692	0.00%	2	4	2,246	0.18%	2	2	2,009	0.10%
3	6	2,480	0.24%	3	3	2,063	0.15%	3	3	1,956	0.15%	3	4	1,700	0.24%
4	5	1,760	0.28%	4	7	1,709	0.41%	4	6	1,330	0.45%	4	5	1,385	0.36%
5	16	725	2.21%	5	4	1,200	0.33%	5	14	589	2.38%	5	4	959	0.42%
6	6	246	2.44%	6	16	438	3.65%	6	6	213	2.82%	6	15	365	4.11%
7	1	51	1.96%	7	4	145	2.76%	7	1	48	2.08%	7	4	136	2.94%
8	1	8	12.50%	8	1	20	5.00%	8	1	8	12.50%	8	1	20	5.00%
24	1,030		66.67%	25	1,803		69.44%	22	858		61.11%	24	1,480		66.7%
			2.33%				1.39%				2.56%				1.6%

New Propensity Score Model proposal (based on FY21 Azure Account)

In FY21, there are 6,461 Enterprise accounts from AzureDashboard cube that are part of the 16 FY22 focused industries list: 6,025 major and 436 strategic accounts.

- 5,470 have at least 1ESE assigned
- Regardless of ESE assignment
 - Score >=4: 1,896 out of 6,461, or 29.3%
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You can find detailed data at [AD4IOT propensity list\(based on FY21 Azure account\)](#) (total: 6,461 enterprise accounts filtered by 16 FY22 focused industries)

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