

**Trend Lines Model**

A linear trend model is computed for natural log of count of Change Date+Time given distinct count of Owner First Name. The model may be significant at  $p \leq 0.05$ . The factor Prod\_internationalization may be significant at  $p \leq 0.05$ .

<b>Model formula:</b>	Prod_internationalization*( Distinct count of Owner First Name + intercept )
<b>Number of modeled observations:</b>	700
<b>Number of filtered observations:</b>	0
<b>Model degrees of freedom:</b>	6
<b>Residual degrees of freedom (DF):</b>	694
<b>SSE (sum squared error):</b>	255.216
<b>MSE (mean squared error):</b>	0.367746
<b>R-Squared:</b>	0.807988
<b>Standard error:</b>	0.606421
<b>p-value (significance):</b>	< 0.0001

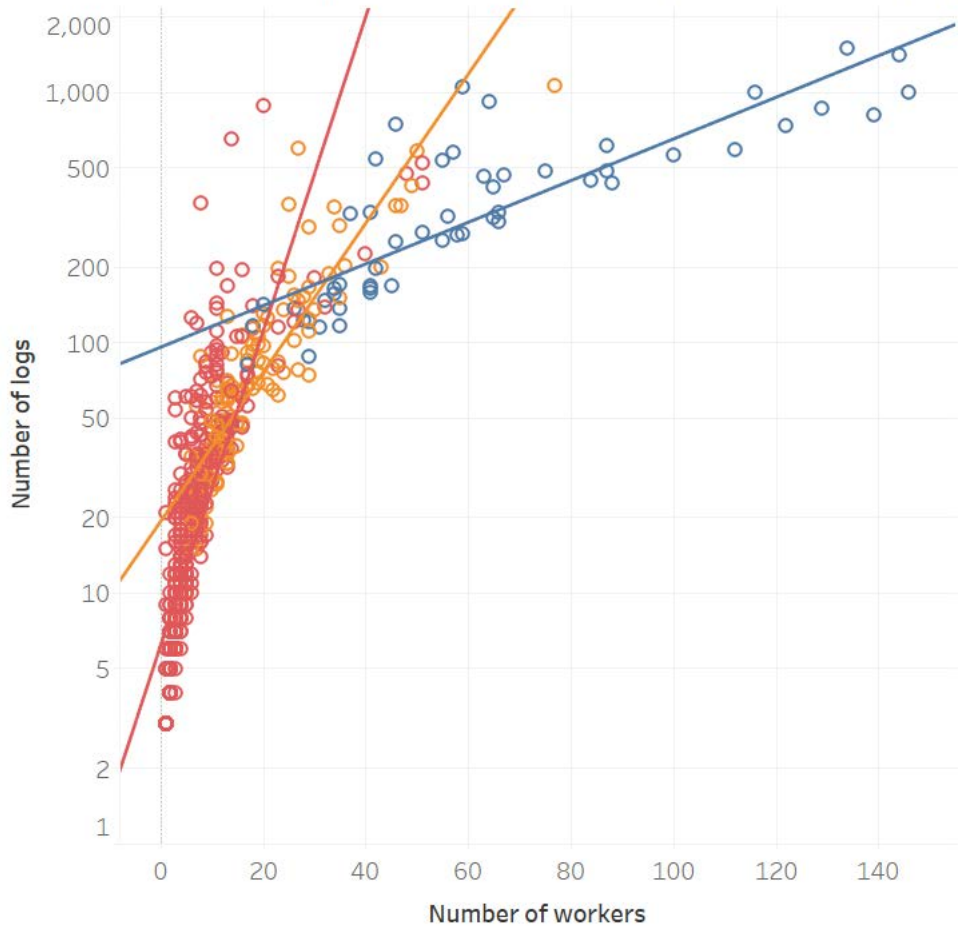
**Analysis of Variance:**

<u>Field</u>	<u>DF</u>	<u>SSE</u>	<u>MSE</u>	<u>F</u>	<u>p-value</u>
Prod_internationalization	4	300.6545	75.1636	204.39	< 0.0001

**Individual trend lines:**

<u>Panes</u>		<u>Color</u>	<u>Line</u>		<u>Coefficients</u>				
<u>Row</u>	<u>Column</u>	<u>Prod_internationalization</u>	<u>p-value</u>	<u>DF</u>	<u>Term</u>	<u>Value</u>	<u>StdErr</u>	<u>t-value</u>	<u>p-value</u>
Count of Change Date +Time	Distinct count of Owner First Name	Medium	< 0.0001	128	Distinct count of Owner First Name	0.0685716	0.003405	20.1383	< 0.0001
					intercept	2.95749	0.0689407	42.8991	< 0.0001
Count of Change Date +Time	Distinct count of Owner First Name	Low	< 0.0001	514	Distinct count of Owner First Name	0.144577	0.005069	28.5216	< 0.0001
					intercept	1.81156	0.0406492	44.5658	< 0.0001
Count of Change Date +Time	Distinct count of Owner First Name	High	< 0.0001	52	Distinct count of Owner First Name	0.0191535	0.001748	10.9574	< 0.0001
					intercept	4.56327	0.123073	37.0776	< 0.0001

International cooperate on product (Medium = 5, 6, 7)



**Trend Lines Model**

A linear trend model is computed for count of Change Date+Time given distinct count of Owner First Name1. The model may be significant at  $p \leq 0.05$ . The factor SR Latest Impact1 may be significant at  $p \leq 0.05$ .

<b>Model formula:</b>	SR Latest Impact1*( Distinct count of Owner First Name1 + intercept )
<b>Number of modeled observations:</b>	7551
<b>Number of filtered observations:</b>	0
<b>Model degrees of freedom:</b>	6
<b>Residual degrees of freedom (DF):</b>	7545
<b>SSE (sum squared error):</b>	93809.3
<b>MSE (mean squared error):</b>	12.4333
<b>R-Squared:</b>	0.786353
<b>Standard error:</b>	3.52609
<b>p-value (significance):</b>	< 0.0001

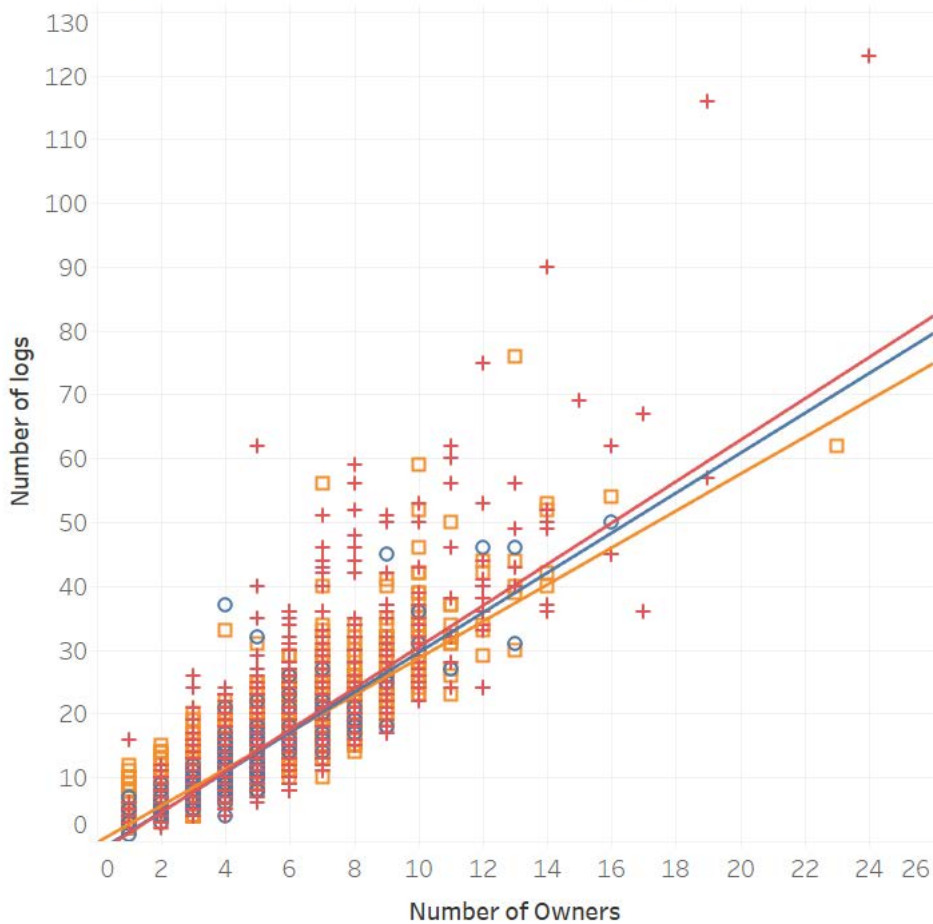
**Analysis of Variance:**

<u>Field</u>	<u>DF</u>	<u>SSE</u>	<u>MSE</u>	<u>F</u>	<u>p-value</u>
SR Latest Impact1	4	1843.7478	460.937	37.0728	< 0.0001

**Individual trend lines:**

<u>Panes</u>		<u>Color</u>	<u>Line</u>		<u>Coefficients</u>				
<u>Row</u>	<u>Column</u>	<u>SR Latest Impact1</u>	<u>p-value</u>	<u>DF</u>	<u>Term</u>	<u>Value</u>	<u>StdErr</u>	<u>t-value</u>	<u>p-value</u>
Count of Change Date +Time	Distinct count of Owner First Name1	Low	< 0.0001	3243	Distinct count of Owner First Name1	2.88684	0.0221933	130.077	< 0.0001
					intercept	-0.239681	0.0847191	-2.82913	0.0046962
Count of Change Date +Time	Distinct count of Owner First Name1	High	< 0.0001	259	Distinct count of Owner First Name1	3.12277	0.10594	29.4767	< 0.0001
					intercept	-1.6887	0.466462	-3.62023	0.000354
Count of Change Date +Time	Distinct count of Owner First Name1	Medium	< 0.0001	4043	Distinct count of Owner First Name1	3.23926	0.0292652	110.687	< 0.0001
					intercept	-1.98792	0.114352	-17.3842	< 0.0001

# Dealing incident with different impact



**Trend Lines Model**

A linear trend model is computed for count of Change Date+Time given distinct count of SR Number1. The model may be significant at  $p \leq 0.05$ . The factor Owner Country1 may be significant at  $p \leq 0.05$ .

<b>Model formula:</b>	Owner Country1*( Distinct count of SR Number1 + intercept )
<b>Number of modeled observations:</b>	1483
<b>Number of filtered observations:</b>	0
<b>Model degrees of freedom:</b>	16
<b>Residual degrees of freedom (DF):</b>	1467
<b>SSE (sum squared error):</b>	423250
<b>MSE (mean squared error):</b>	288.514
<b>R-Squared:</b>	0.955993
<b>Standard error:</b>	16.9857
<b>p-value (significance):</b>	< 0.0001

**Analysis of Variance:**

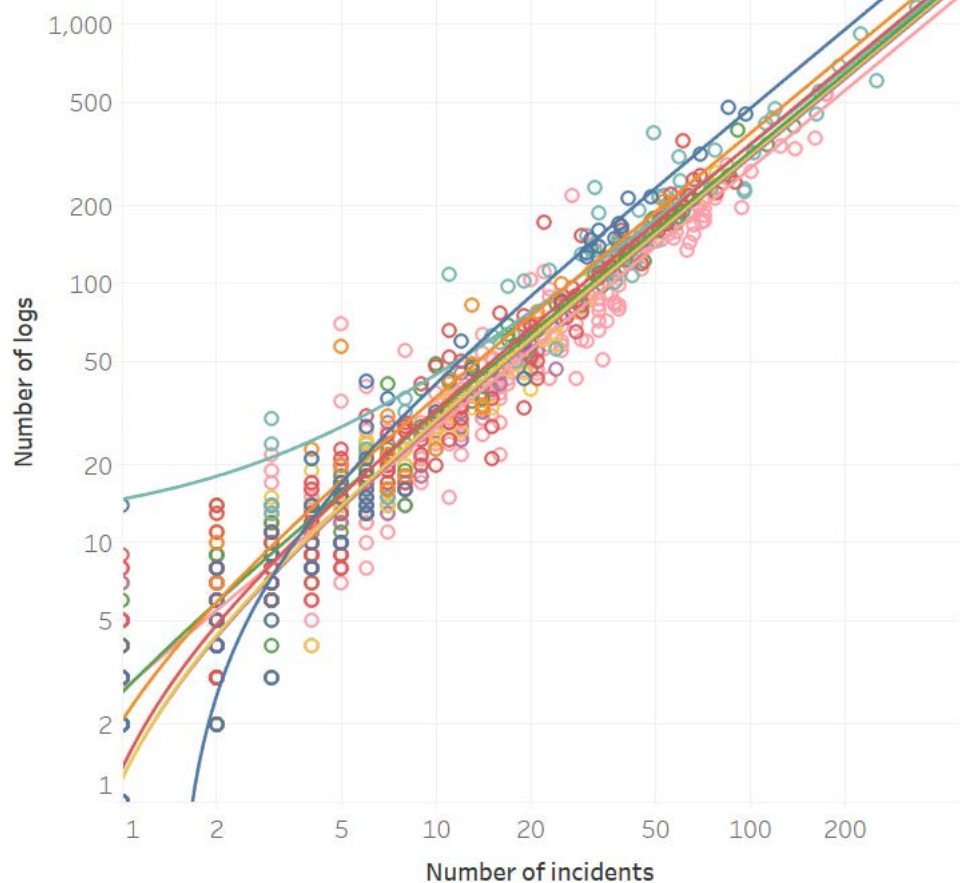
<u>Field</u>	<u>DF</u>	<u>SSE</u>	<u>MSE</u>	<u>F</u>	<u>p-value</u>
Owner Country1	14	174937.46	12495.5	43.31	< 0.0001

**Individual trend lines:**

<u>Panes</u>		<u>Color</u>	<u>Line</u>	<u>Coefficients</u>					
<u>Row</u>	<u>Column</u>	<u>Owner Country1</u>	<u>p-value</u>	<u>DF</u>	<u>Term</u>	<u>Value</u>	<u>StdErr</u>	<u>t-value</u>	<u>p-value</u>
Count of Change Date +Time	Distinct count of SR Number1	Sweden	< 0.0001	590	Distinct count of SR Number1	2.78578	0.0244805	113.796	< 0.0001
					intercept	-0.0929369	0.581623	-0.159789	0.873102
Count of Change Date +Time	Distinct count of SR Number1	France	< 0.0001	137	Distinct count of SR Number1	3.09319	0.0628494	49.2159	< 0.0001
					intercept	-1.87096	0.512424	-3.65119	0.0003704
Count of Change Date +Time	Distinct count of SR Number1	USA	< 0.0001	153	Distinct count of SR Number1	3.16705	0.0273238	115.908	< 0.0001
					intercept	-1.95175	0.472284	-4.13257	< 0.0001
Count of Change Date +Time	Distinct count of SR Number1	Brazil	< 0.0001	125	Distinct count of SR Number1	3.23762	0.0462913	69.94	< 0.0001
					intercept	-0.603301	1.29586	-0.465561	0.64234
Count of Change Date +Time	Distinct count of SR Number1	POLAND	< 0.0001	90	Distinct count of SR Number1	3.32369	0.0904927	36.7288	< 0.0001
					intercept	11.4063	6.37408	1.78948	0.0769012
Count of Change Date +Time	Distinct count of SR Number1	INDIA	< 0.0001	243	Distinct count of SR Number1	3.47328	0.0620781	55.9502	< 0.0001
					intercept	-2.13496	1.12323	-1.90073	0.0585214
Count of Change Date +Time	Distinct count of SR Number1	China	< 0.0001	39	Distinct count of SR Number1	3.82646	0.174268	21.9573	< 0.0001
					intercept	-1.77374	2.12652	-0.834102	0.409303
Count of Change Date +Time	Distinct count of SR Number1	Belgium	< 0.0001	90	Distinct count of SR Number1	4.81957	0.0759269	63.4765	< 0.0001
					intercept	-7.08415	1.53991	-4.60038	< 0.0001



Working efficiency of workers from different countries



**Trend Lines Model**

A linear trend model is computed for natural log of count of Change Date+Time given distinct count of Owner First Name. The model may be significant at  $p \leq 0.05$ . The factor Calculation2 may be significant at  $p \leq 0.05$ .

**Model formula:** Calculation2\*( Distinct count of Owner First Name + intercept )

**Number of modeled observations:** 700

**Number of filtered observations:** 0

**Model degrees of freedom:** 4

**Residual degrees of freedom (DF):** 696

**SSE (sum squared error):** 288.475

**MSE (mean squared error):** 0.414475

**R-Squared:** 0.782966

**Standard error:** 0.643797

**p-value (significance):** < 0.0001

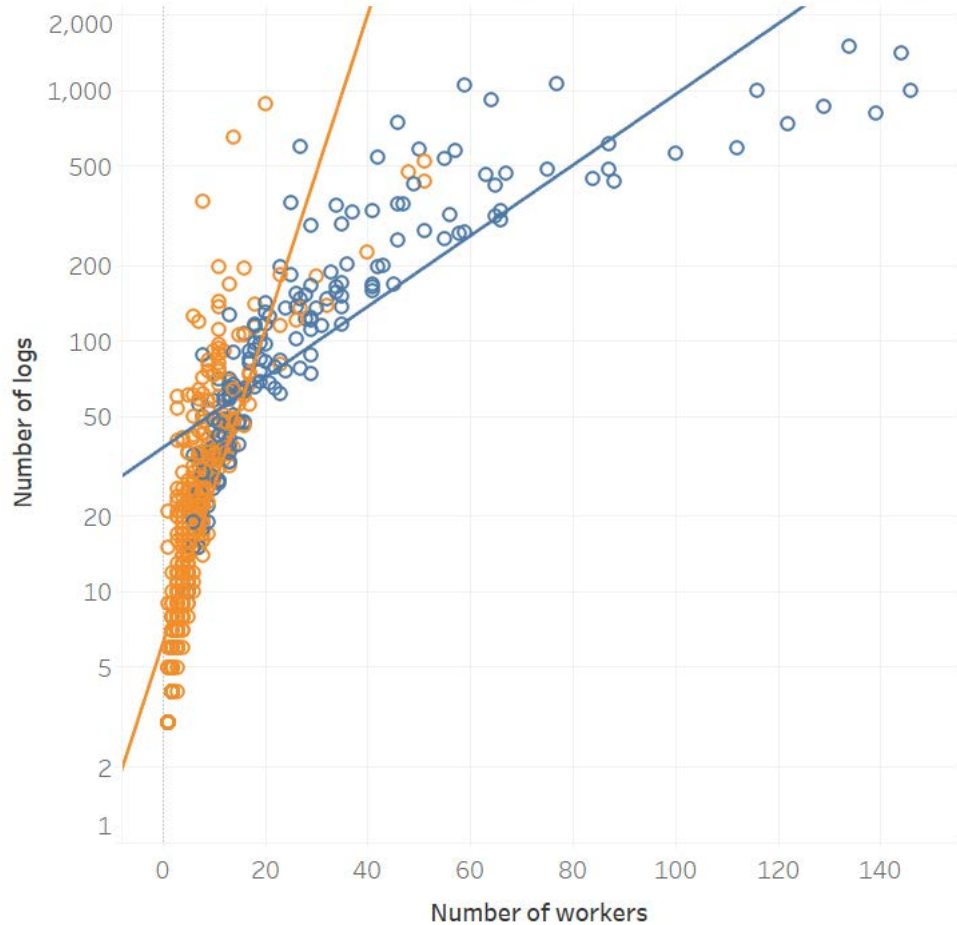
**Analysis of Variance:**

<u>Field</u>	<u>DF</u>	<u>SSE</u>	<u>MSE</u>	<u>F</u>	<u>p-value</u>
Calculation2	2	267.39581	133.698	322.572	< 0.0001

**Individual trend lines:**

<u>Panes</u>		<u>Color</u>	<u>Line</u>	<u>Coefficients</u>						
<u>Row</u>	<u>Column</u>	<u>Calculation2</u>	<u>p-value</u>	<u>DF</u>	<u>Term</u>	<u>Value</u>	<u>StdErr</u>	<u>t-value</u>	<u>p-value</u>	
Count of Change Date +Time	Distinct count of Owner First Name	High	< 0.0001	182	Distinct count of Owner First Name	0.0324747	0.001538	21.1146	< 0.0001	
					intercept	3.62262	0.064239	56.3929	< 0.0001	
Count of Change Date +Time	Distinct count of Owner First Name	Low	< 0.0001	514	Distinct count of Owner First Name	0.144577	0.005069	28.5216	< 0.0001	
					intercept	1.81156	0.0406492	44.5658	< 0.0001	

# International cooperate on product (Low = 1, 2, 3, 4)





**Trend Lines Model**

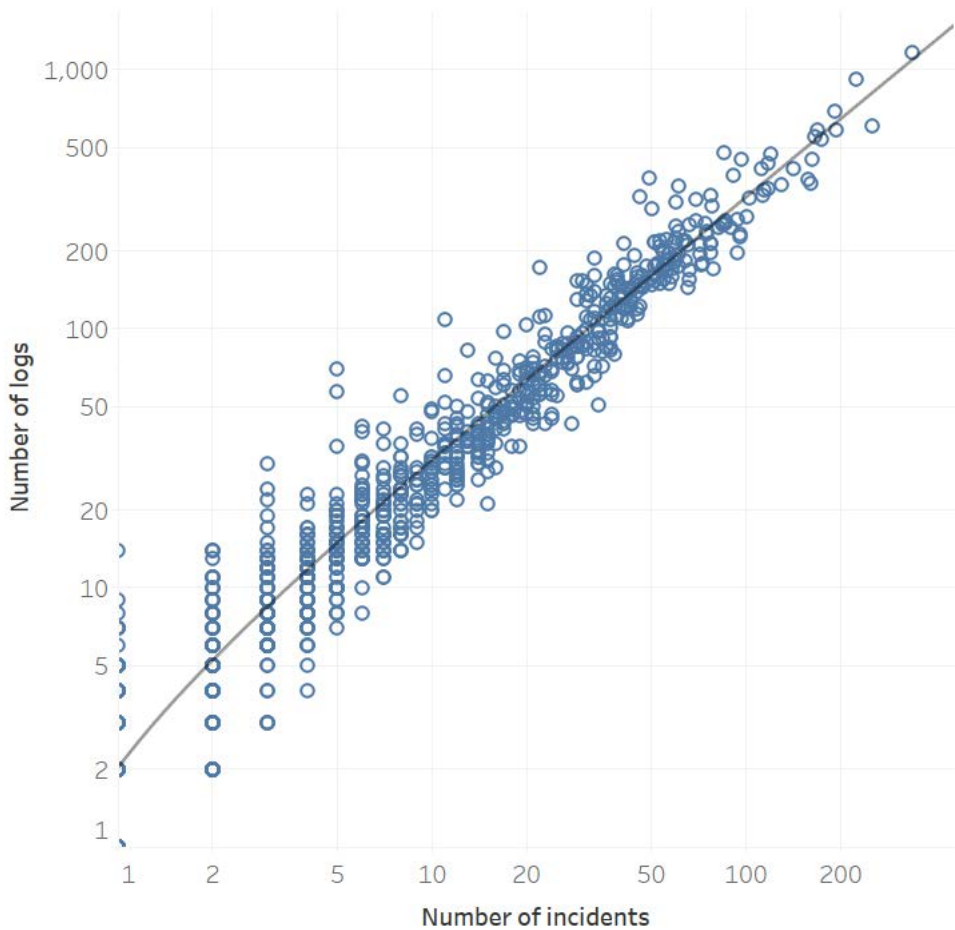
A linear trend model is computed for count of Change Date+Time given distinct count of SR Number1. The model may be significant at  $p \leq 0.05$ .

**Model formula:** ( Distinct count of SR Number1 + intercept )  
**Number of modeled observations:** 1310  
**Number of filtered observations:** 0  
**Model degrees of freedom:** 2  
**Residual degrees of freedom (DF):** 1308  
**SSE (sum squared error):** 616550  
**MSE (mean squared error):** 471.369  
**R-Squared:** 0.939194  
**Standard error:** 21.711  
**p-value (significance):** < 0.0001

**Individual trend lines:**

Panels		Line		Coefficients					
<u>Row</u>	<u>Column</u>	<u>p-value</u>	<u>DF</u>	<u>Term</u>	<u>Value</u>	<u>StdErr</u>	<u>t-value</u>	<u>p-value</u>	
Count of Change Date +Time	Distinct count of SR Number1	< 0.0001	1308	Distinct count of SR Number1	3.23455	0.0227565	142.138	< 0.0001	
				intercept	-1.21706	0.675345	-1.80213	0.0717555	

# Working efficiency of workers



**Trend Lines Model**

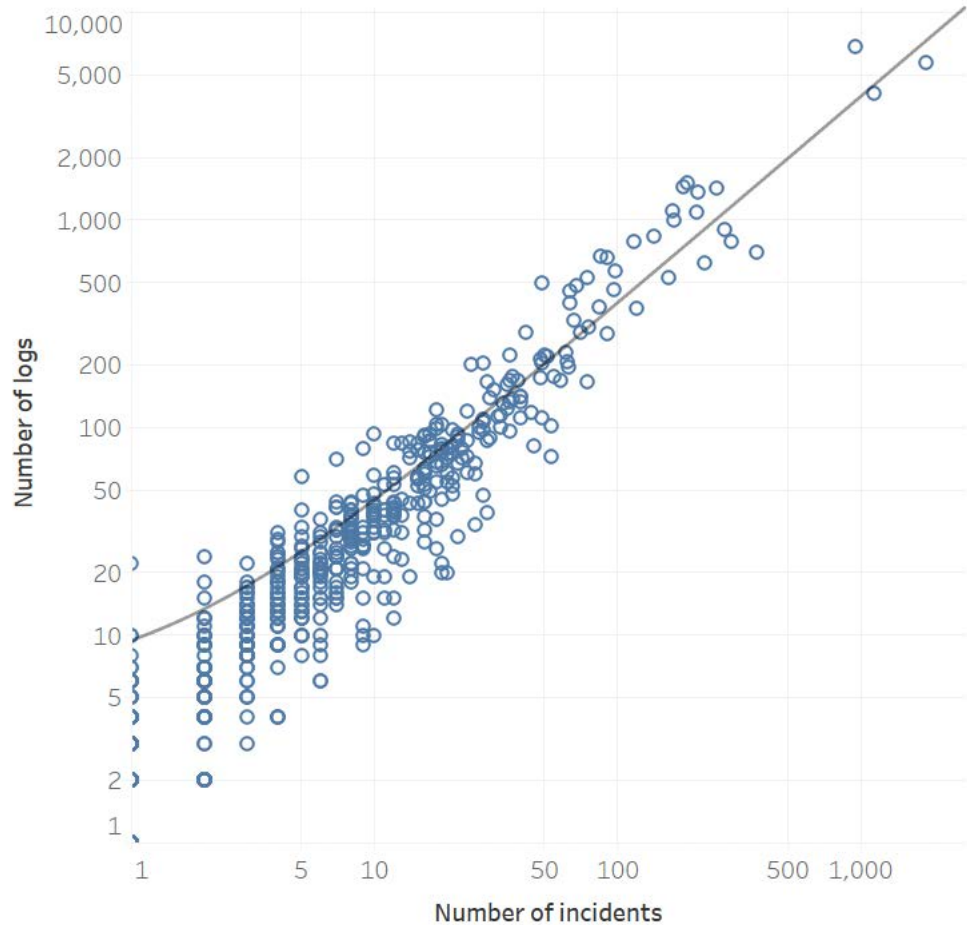
A linear trend model is computed for count of Change Date+Time given distinct count of SR Number1. The model may be significant at  $p \leq 0.05$ .

<b>Model formula:</b>	( Distinct count of SR Number1 + intercept )
<b>Number of modeled observations:</b>	636
<b>Number of filtered observations:</b>	0
<b>Model degrees of freedom:</b>	2
<b>Residual degrees of freedom (DF):</b>	634
<b>SSE (sum squared error):</b>	1.56695e+07
<b>MSE (mean squared error):</b>	24715.4
<b>R-Squared:</b>	0.859625
<b>Standard error:</b>	157.211
<b>p-value (significance):</b>	< 0.0001

**Individual trend lines:**

Panels		Line		Coefficients				
<u>Row</u>	<u>Column</u>	<u>p-value</u>	<u>DF</u>	<u>Term</u>	<u>Value</u>	<u>StdErr</u>	<u>t-value</u>	<u>p-value</u>
Count of Change Date +Time	Distinct count of SR Number1	< 0.0001	634	Distinct count of SR Number1	3.94365	0.0632915	62.3094	< 0.0001
				intercept	5.47007	6.37409	0.858172	0.391122

# Working efficiency of ST



**Trend Lines Model**

A linear trend model is computed for distinct count of SR Number given distinct count of Owner First Name. The model may be significant at  $p \leq 0.05$ .

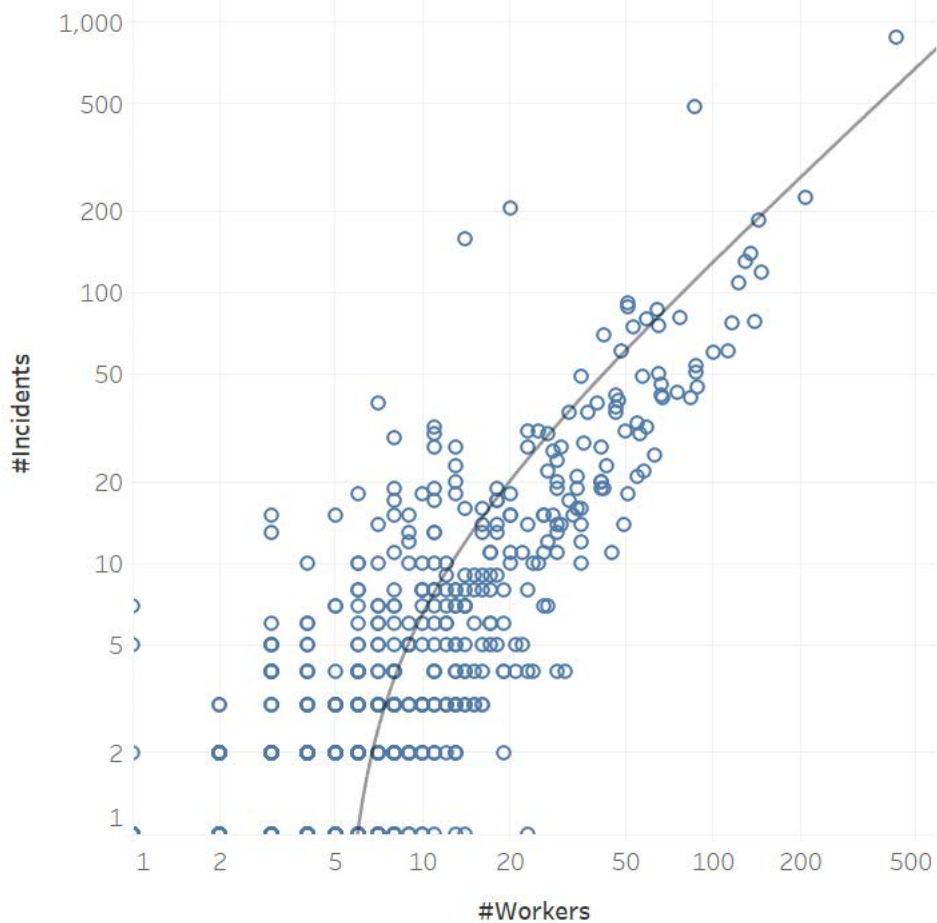
<b>Model formula:</b>	( Distinct count of Owner First Name + intercept )
<b>Number of modeled observations:</b>	704
<b>Number of filtered observations:</b>	0
<b>Model degrees of freedom:</b>	2
<b>Residual degrees of freedom (DF):</b>	702
<b>SSE (sum squared error):</b>	417156
<b>MSE (mean squared error):</b>	594.24
<b>R-Squared:</b>	0.678809
<b>Standard error:</b>	24.377
<b>p-value (significance):</b>	< 0.0001

**Individual trend lines:**

Panels		Line		Coefficients					
<u>Row</u>	<u>Column</u>	<u>p-value</u>	<u>DF</u>	<u>Term</u>	<u>Value</u>	<u>StdErr</u>	<u>t-value</u>	<u>p-value</u>	
Distinct count of SR Number	Distinct count of Owner First Name	< 0.0001	702	Distinct count of Owner First Name	1.36817	0.0355204	38.5178	< 0.0001	
				intercept	-7.1532	1.02939	-6.94894	< 0.0001	



Products on #incidents and #workers



**Trend Lines Model**

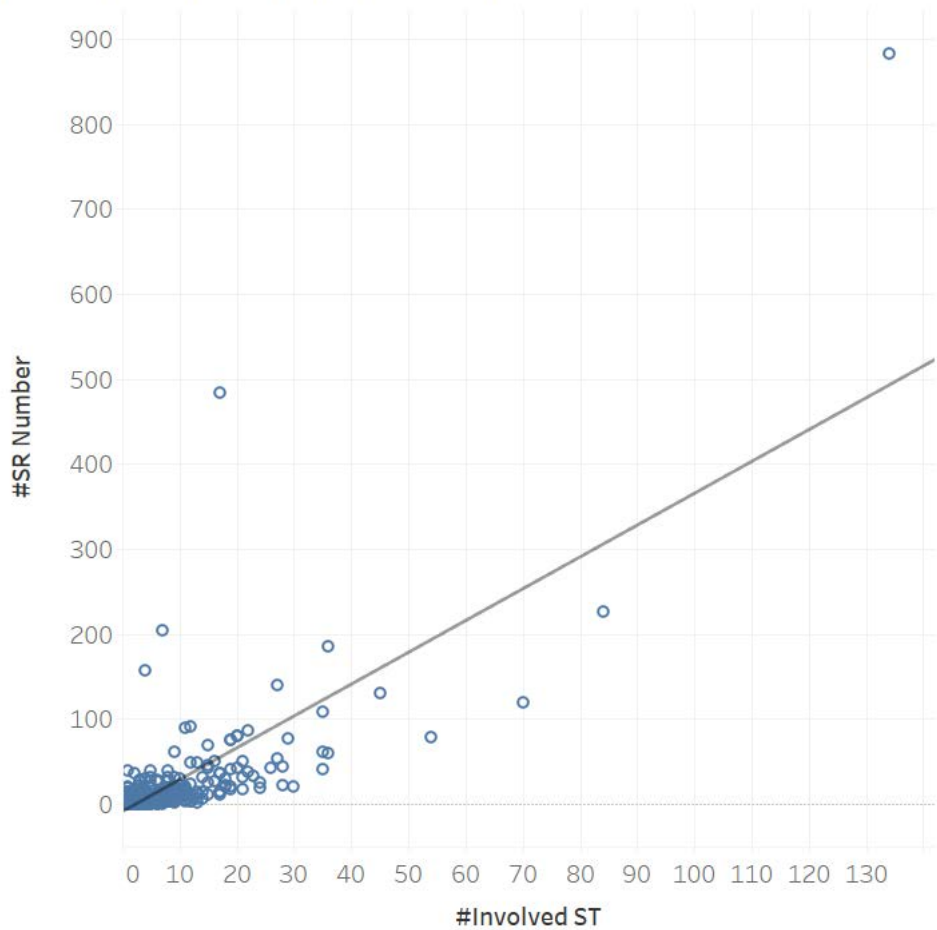
A linear trend model is computed for distinct count of SR Number given distinct count of Involved ST. The model may be significant at  $p \leq 0.05$ .

<b>Model formula:</b>	( Distinct count of Involved ST + intercept )
<b>Number of modeled observations:</b>	704
<b>Number of filtered observations:</b>	0
<b>Model degrees of freedom:</b>	2
<b>Residual degrees of freedom (DF):</b>	702
<b>SSE (sum squared error):</b>	568565
<b>MSE (mean squared error):</b>	809.922
<b>R-Squared:</b>	0.562231
<b>Standard error:</b>	28.4591
<b>p-value (significance):</b>	< 0.0001

**Individual trend lines:**

Panels		Line		Coefficients					
<u>Row</u>	<u>Column</u>	<u>p-value</u>	<u>DF</u>	<u>Term</u>	<u>Value</u>	<u>StdErr</u>	<u>t-value</u>	<u>p-value</u>	
Distinct count of SR Number	Distinct count of Involved ST	< 0.0001	702	Distinct count of Involved ST	3.74202	0.124624	30.0264	< 0.0001	
				intercept	-8.83575	1.25502	-7.04034	< 0.0001	

# Products' #incidents & #ST



**Trend Lines Model**

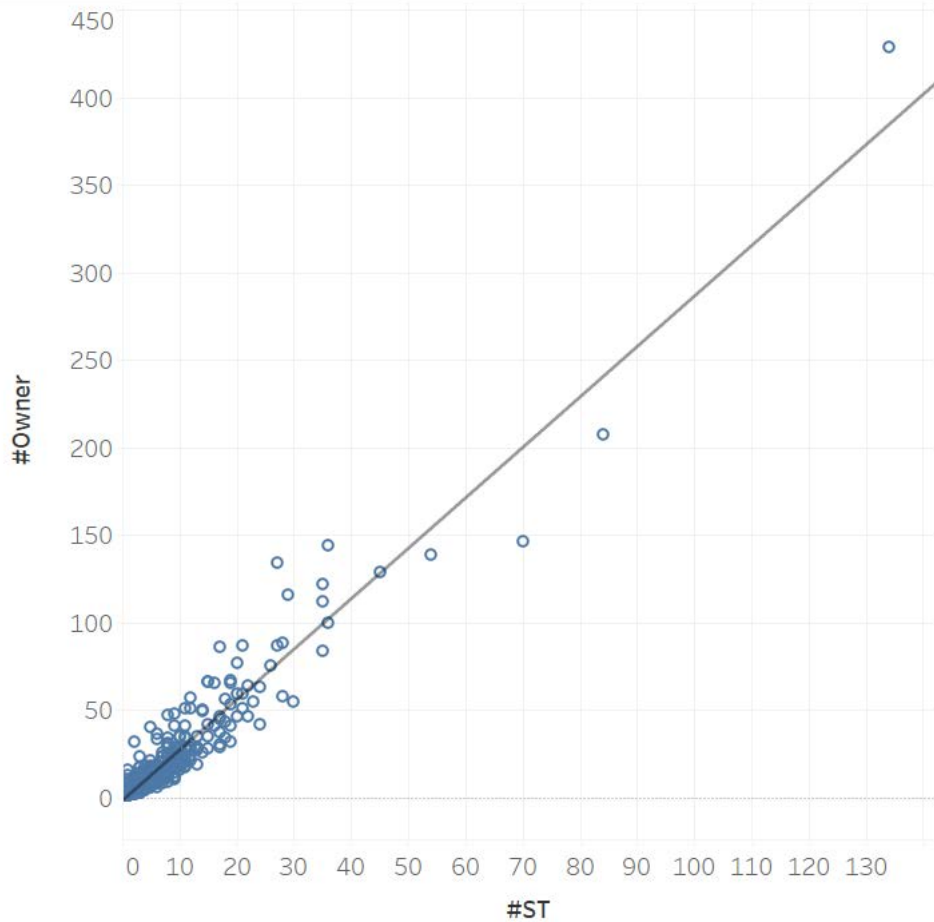
A linear trend model is computed for distinct count of Owner First Name given distinct count of Involved ST. The model may be significant at  $p \leq 0.05$ .

<b>Model formula:</b>	( Distinct count of Involved ST + intercept )
<b>Number of modeled observations:</b>	704
<b>Number of filtered observations:</b>	0
<b>Model degrees of freedom:</b>	2
<b>Residual degrees of freedom (DF):</b>	702
<b>SSE (sum squared error):</b>	37790.8
<b>MSE (mean squared error):</b>	53.8331
<b>R-Squared:</b>	0.919762
<b>Standard error:</b>	7.3371
<b>p-value (significance):</b>	< 0.0001

**Individual trend lines:**

Panels		Line		Coefficients				
<u>Row</u>	<u>Column</u>	<u>p-value</u>	<u>DF</u>	<u>Term</u>	<u>Value</u>	<u>StdErr</u>	<u>t-value</u>	<u>p-value</u>
Distinct count of Owner First Name	Distinct count of Involved ST	< 0.0001	702	Distinct count of Involved ST	2.88218	0.0321296	89.705	< 0.0001
				intercept	-1.99902	0.323558	-6.17825	< 0.0001

Products' #owners & #ST





**Trend Lines Model**

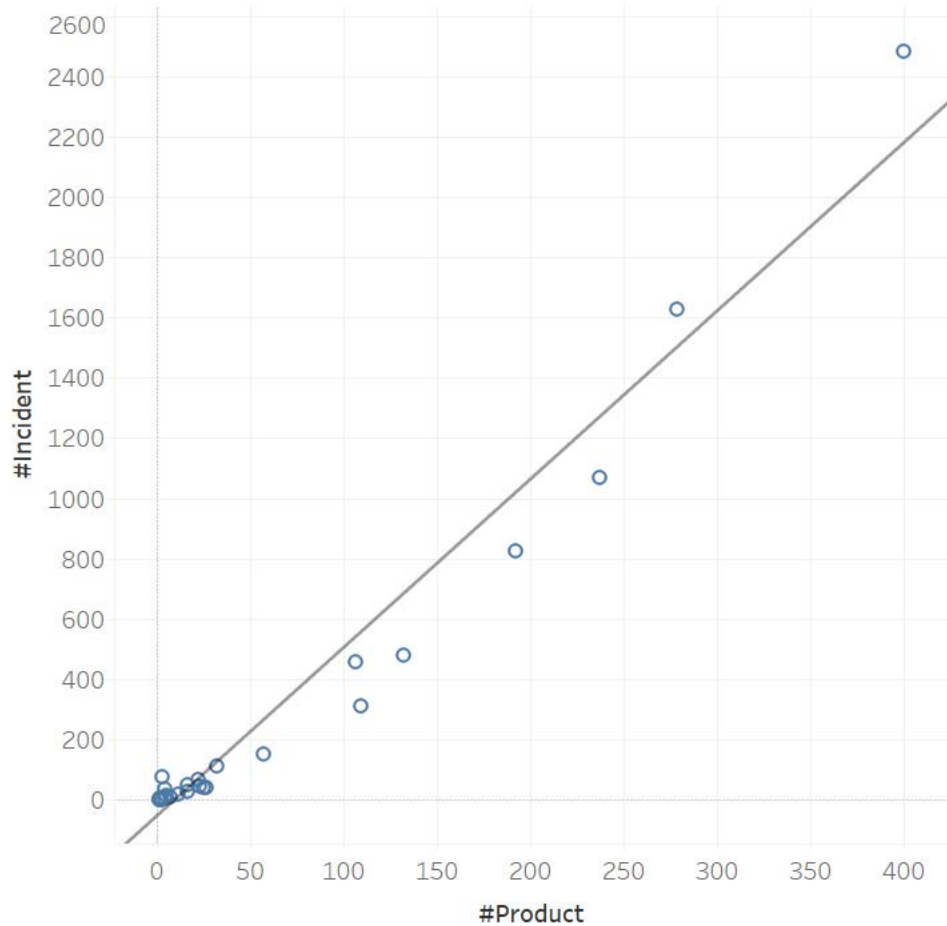
A linear trend model is computed for distinct count of SR Number given distinct count of Product. The model may be significant at  $p \leq 0.05$ .

<b>Model formula:</b>	( Distinct count of Product + intercept )
<b>Number of modeled observations:</b>	31
<b>Number of filtered observations:</b>	0
<b>Model degrees of freedom:</b>	2
<b>Residual degrees of freedom (DF):</b>	29
<b>SSE (sum squared error):</b>	356601
<b>MSE (mean squared error):</b>	12296.6
<b>R-Squared:</b>	0.961131
<b>Standard error:</b>	110.89
<b>p-value (significance):</b>	< 0.0001

**Individual trend lines:**

Panels		Line		Coefficients					
<u>Row</u>	<u>Column</u>	<u>p-value</u>	<u>DF</u>	<u>Term</u>	<u>Value</u>	<u>StdErr</u>	<u>t-value</u>	<u>p-value</u>	
Distinct count of SR Number	Distinct count of Product	< 0.0001	29	Distinct count of Product	5.58722	0.208645	26.7786	< 0.0001	
				intercept	-53.6705	23.0466	-2.32878	0.0270457	

Correlation between #SR numbers and #Products by country



**Trend Lines Model**

A linear trend model is computed for distinct count of Owner name given distinct count of SR Number. The model may be significant at  $p \leq 0.05$ .

<b>Model formula:</b>	( Distinct count of SR Number + intercept )
<b>Number of modeled observations:</b>	31
<b>Number of filtered observations:</b>	0
<b>Model degrees of freedom:</b>	2
<b>Residual degrees of freedom (DF):</b>	29
<b>SSE (sum squared error):</b>	70782.2
<b>MSE (mean squared error):</b>	2440.77
<b>R-Squared:</b>	0.817357
<b>Standard error:</b>	49.4041
<b>p-value (significance):</b>	< 0.0001

**Individual trend lines:**

Panels		Line		Coefficients					
<u>Row</u>	<u>Column</u>	<u>p-value</u>	<u>DF</u>	<u>Term</u>	<u>Value</u>	<u>StdErr</u>	<u>t-value</u>	<u>p-value</u>	
Distinct count of Owner name	Distinct count of SR Number	< 0.0001	29	Distinct count of SR Number	0.185813	0.0163108	11.3921	< 0.0001	
				intercept	5.49575	9.81267	0.560067	0.579735	

Correlation between #Owners and #SR Numbers by country

