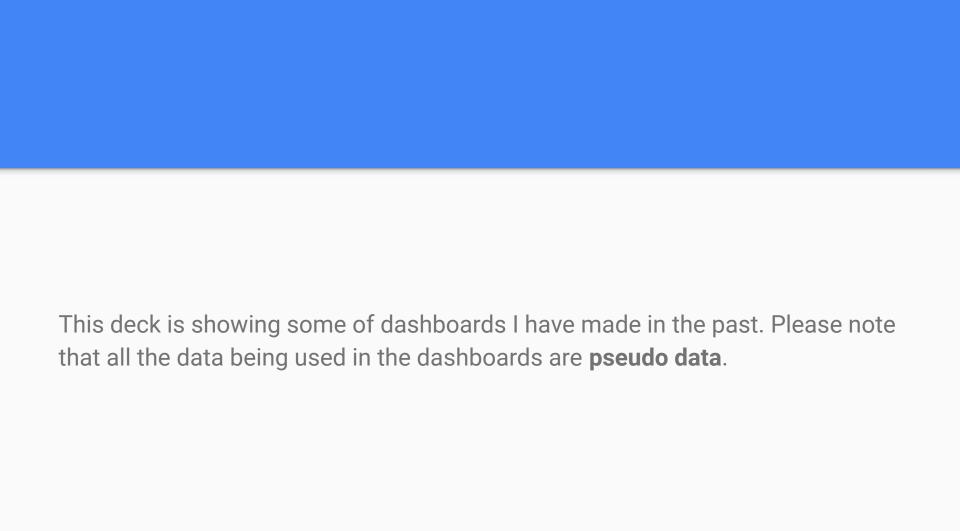
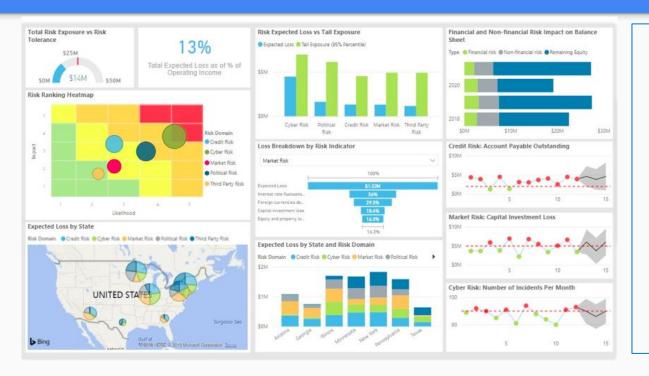
Dashboard Samples

Prepared by Hairun (Helen) Wang



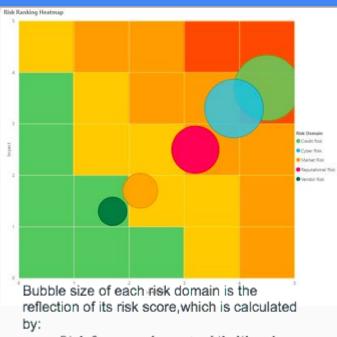
Enterprise Risk Dashboard

A dynamic dashboard to continuously monitor key risk indicators, identify loss exposure, and inform escalation decisions



- Current expected loos is \$14M and it's 13% toward the total operating income
- Interest rate fluctuation is the largest driver of market risk (36%)
- New York has the highest loss exposure due to credit risk and third party risk
- In 2018, non-financial risk exposure takes up 21% of equity; financial risk exposure takes up 12% of equity
- Cyber risk has highest impact and likelihood and requires additional mitigation as per the heat map.

Risk Ranking Heat Map Scale

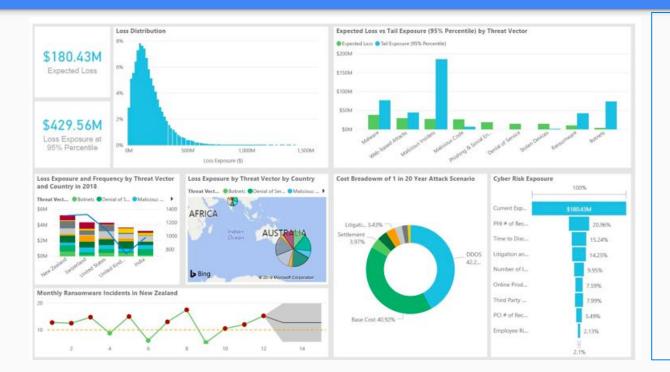


Risk Score	=	Impact x	Likelihood
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Score	Impact
1	Insignificant (\$5MM or less; Stakeholders largely unaware))
2	Minor (\$5MM - \$10MM; Stakeholders accept explanations)
3	Moderate (\$10MM - \$20MM; Stakeholders ask additional questions)
4	Major (\$20MM - \$40MM; Reputation is affected & stakeholders are dissatisfied)
5	Significant (Over \$40MM; Reputation is damaged & stakeholders are significantly dissatisfied)
Score	Likelihood
	Likelillood
1	Rare (risk is expected to occur less than 1 year out of every 5 years)
1	Rare (risk is expected to occur less than 1 year out of every 5 years)
1 2	Rare (risk is expected to occur less than 1 year out of every 5 years) Unlikely (risk is expected to occur about 1 year out of every 4 years)

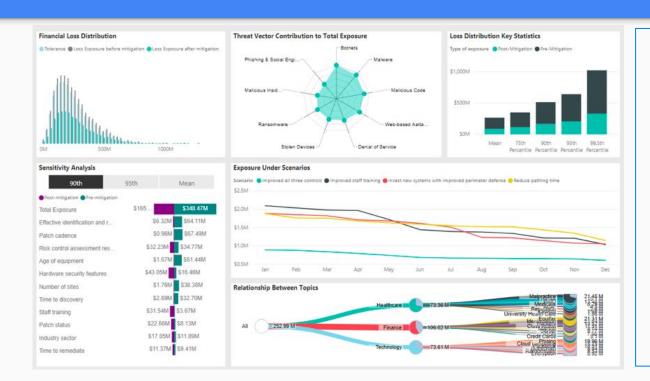
Cyber Risk Dashboard

A dynamic dashboard to continuously monitor key risk indicators, identify loss exposure, and inform escalation decisions



- New Zealand suffers the most from cyber attack; it has 1,310 cyber incidents and results in \$5M loss exposure in 2018
- Denial of Service
 generates the highest cost
 for a 1 in 20 year attack
 scenario
- PHI number of records is the largest driver of total loss exposure (20.96%)

Dynamic reporting is able to deliver key cyber risk messages to senior leadership in terms of potential financial loss and the most effective mitigation strategies



- The cyber risk exposure has a fat tail with mean exposure loss estimated at \$180M and \$435M for a 1-in-20 year extreme event.
- The mitigation strategy decreases the risk exposure to below the tolerance at both the average and tail level.
- Malware and malicious code contribute the most cyber risk exposure.
- Scenario 3 reduces the most cyber risk exposure over the year.
 Scenario 4 has lower exposure in Q4 compared to others.