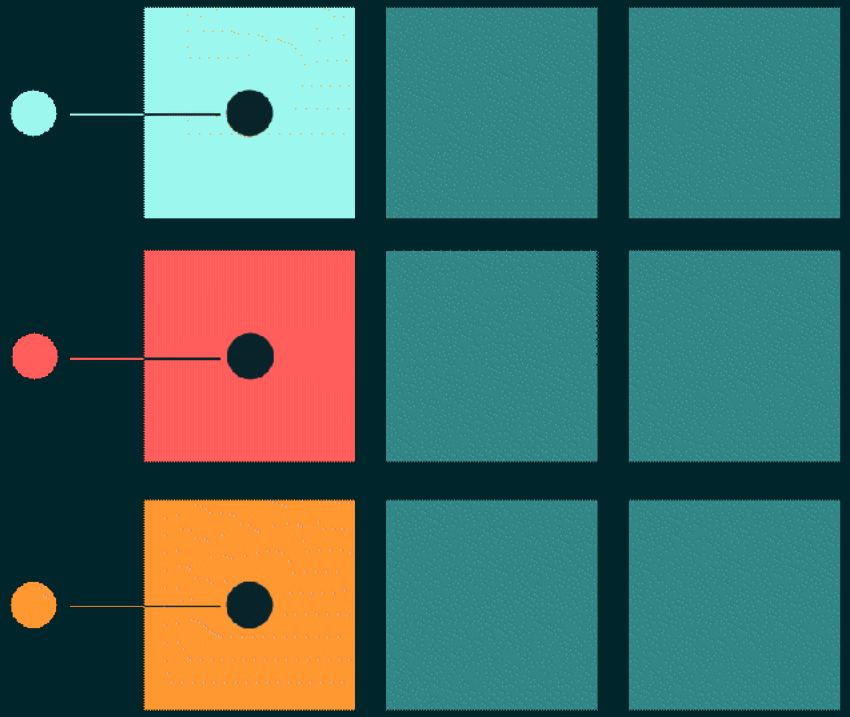


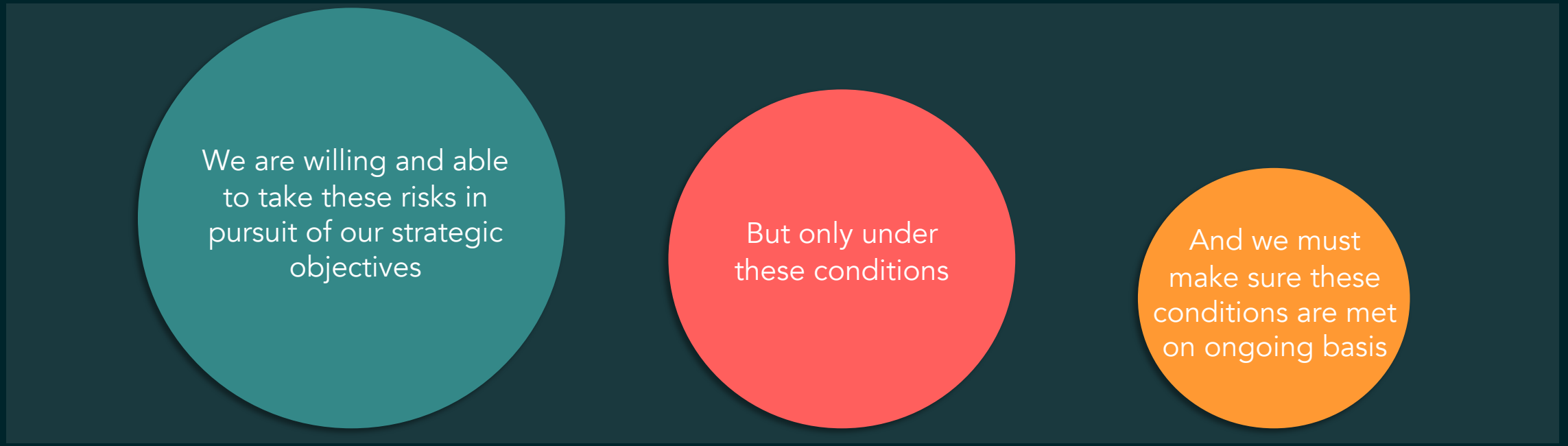
02

All things KRI

RECAP

Risk appetite is the primary mechanism that links risk with performance

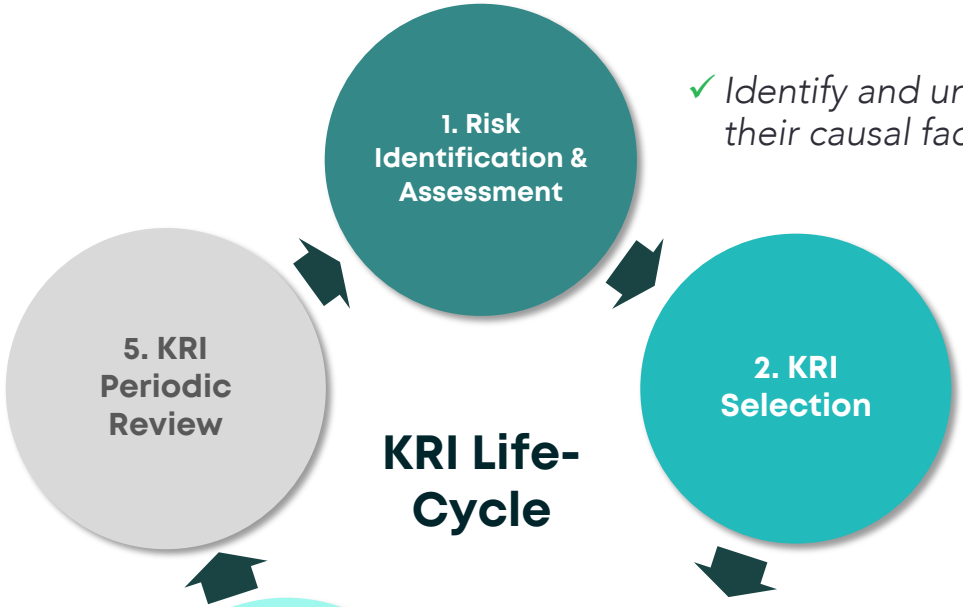
Risk Appetite	Is the nature and amount of risk we are willing and able to assume in pursuit of its strategic business objectives (qualitative and quantitative statements)
Risk Tolerance	Refers to the conditions under which we are willing to assume the risk in pursuit of its strategic business objectives (qualitative and quantitative limits)
Key Risk Indicators	Refer to the measures used to enable early warning of changes of risk exposures to ensure risk remains within risk appetite and tolerance at all times



RECAP

KRIs are an integral method of operational risk management

Formally establishing a KRI life-cycle enables consistent identification, evaluation, selection, development, and execution of KRIs enterprise-wide.



✓ *Identify and understand key risks and their causal factors.*

✓ *Identify potential KRIs*
✓ *Evaluated KRIs à*
✓ *Select KRIs*

✓ *Identify, define and document required KRI information*
✓ *Set Thresholds*

✓ *Note trends, questions or changes in exposure, and take action accordingly*
✓ *Periodic KRI reporting to management, risk committees and to the board of directors*

✓ *Periodic review of*
- *Data quality*
- *Alignment to risk*
- *Thresholds*

✓ *Update KRI documentation*

RECAP

Factors to consider to prioritize KRI selection

When evaluating the list of potential KRIs (KRI candidates), consider the following factors to prioritize KRIs for implementation:

Degree of alignment to risk

- The stronger the link to root cause of event, the stronger the alignment to risk
- Establish a methodology that scores the degree of alignment to risk

Data availability

- What is the degree of data availability?
- Is the data set complete?
- Is the data easily accessible?
- What would the cost be of making the data available?
- Establish a methodology that scores the degree of data availability

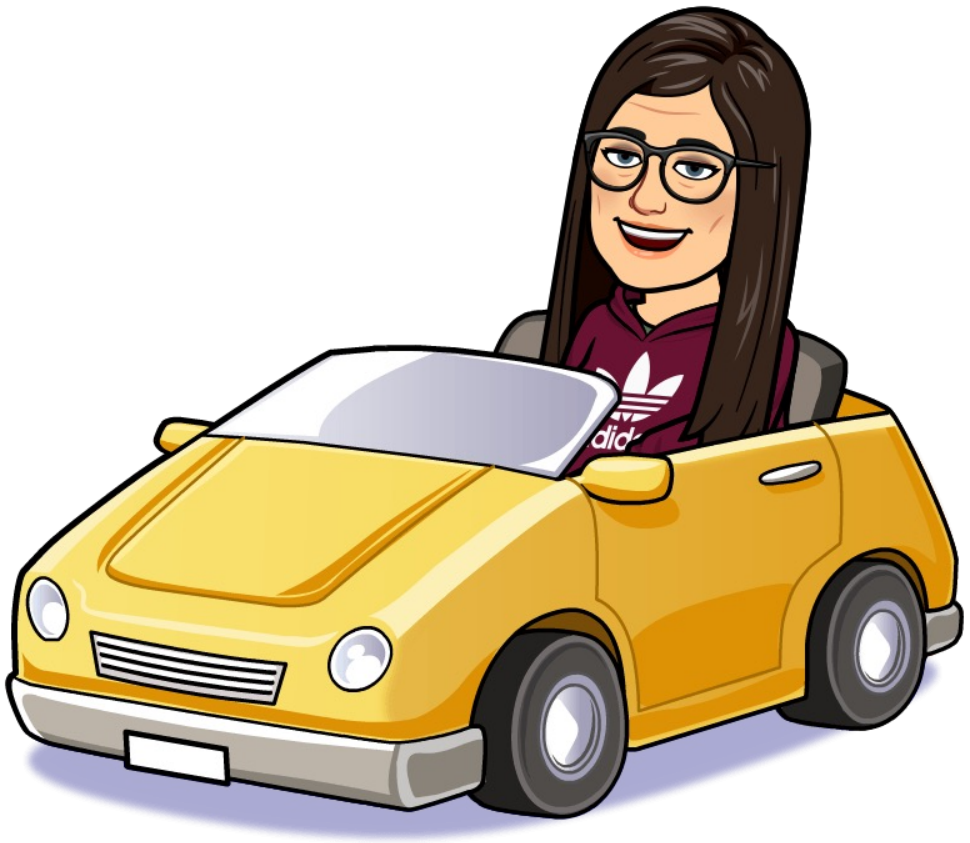
RECAP

Illustrative example of KRI evaluation methodology

SCORE	ALIGNMENT TO RISK	DATA AVAILABILITY
1	*KRI will provide lagging insights on a non driving risk*	*Data could only be made available with great cost and difficulty.*
2	*KRI will provide lagging insights on a driving risk or leading insights on a non-driving risk*	*Data is not available but could be made available and collected in a system without too much difficulty.*
3	*KRI will provide leading insights on at least one but up to a few driving risks*	*Data is available and being collected in a system – work would only be needed to gain access.*
4	*KRI will provide leading insights on more than a few driving risks*	*Data is readily available and already being collected in systems that are accessible by the unit.*

KRI Score

Let's examine the value of having leading and lagging KRIs



SCENARIO

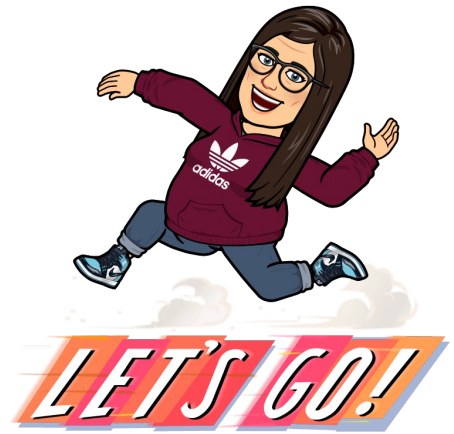
Katherine is planning a road trip out west to bring her brother his car, which was left in Ontario, when he and his family moved to Alberta this past summer.

She agreed to drive the car because she has to be in Edmonton for a client offsite on Dec 5.

She will fly back to Toronto after the client offsite.

TASK

Help Katherine identify KRIs that she can use to help make sure she gets to Alberta safely and on time for her client's offsite.



A KRI program should include leading and lagging indicators

Objective To drive from Toronto to Edmonton safely and on time for the client offsite

		RISK DESCRIPTION	KRIs	
			LAGGING	LEADING
KEY RISKS	BREAKDOWN	Risk that the car will experience malfunctions which will hinder the car's capacity to finish the trip	?	?
	DELAY	Risk that the trip will not be completed in the required time	?	?
	ACCIDENT	Risk of getting into an accident and not being able to get to destination	?	?

Linking KRIs to causal factors reduces the likelihood of risk

The following figure illustrates the "5 Whys", which is a simple, yet powerful methodology to identify cause and effect relationships between the underlying elements of a particular event. When thinking about a potential risk, ask yourself "why would this happen?" until the primary root cause has been identified.

Event I missed the client offsite

Why? I was late to arrive in Edmonton

Why? The major highway was closed

Why? There was a car pileup

Why? The roads were extremely slippery

Why? There was an ice storm

LINK THE KRI TO ROOT CAUSE

Monitor → Respond

LEADING INDICATORS

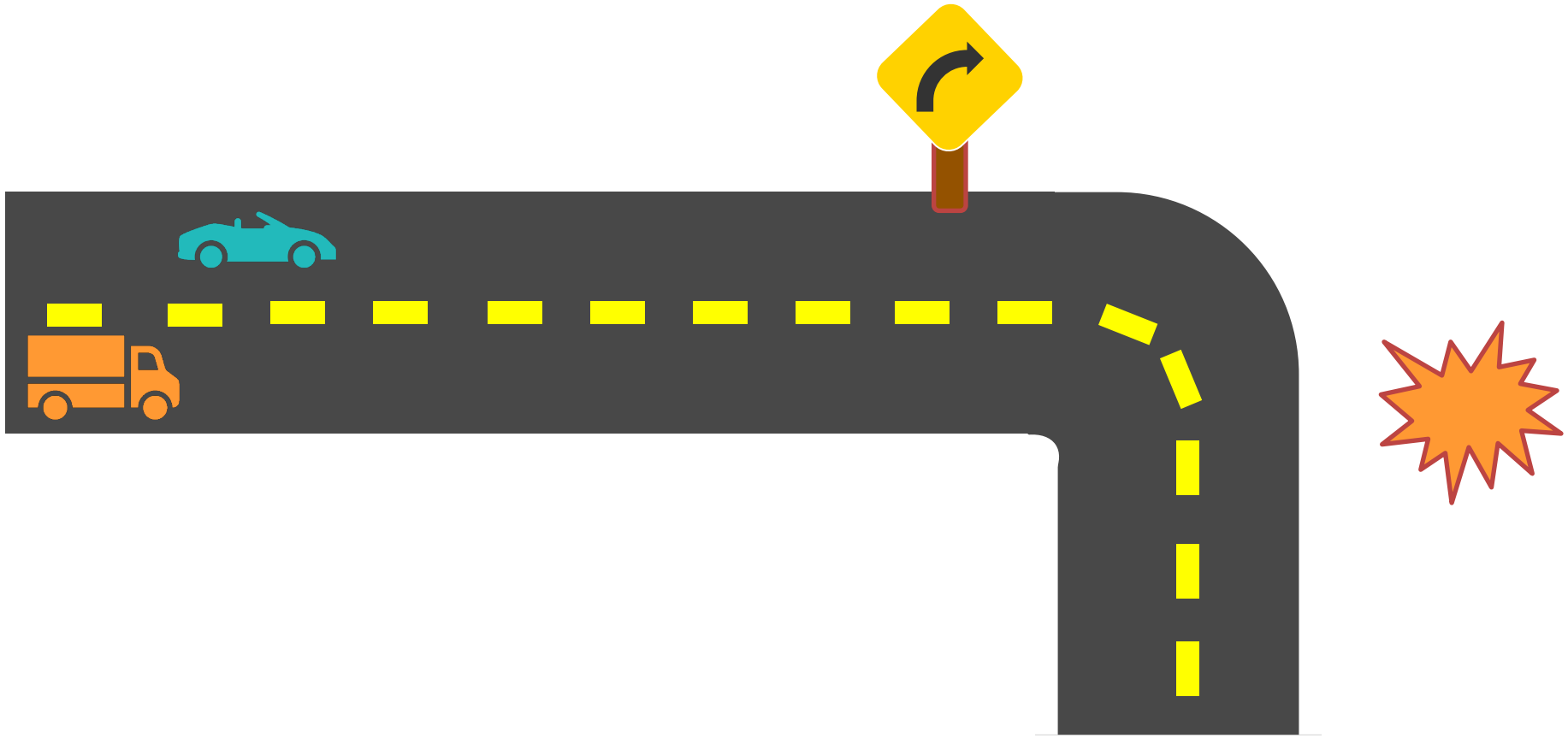
- Weather forecast
- Traffic reports

POTENTIAL ACTIONS

- **Accept:** drive to Edmonton
- **Mitigate:** leave earlier or find alternative transportation
- **Avoid:** join the client offsite remotely

Ensure KRI thresholds are adequately calibrated to provide early-warning of changes in risk exposures

Depending on the nature of the risk and the types of activities required to reduce exposures, some metrics will require shorter or longer risk response times. This concept is illustrated below:

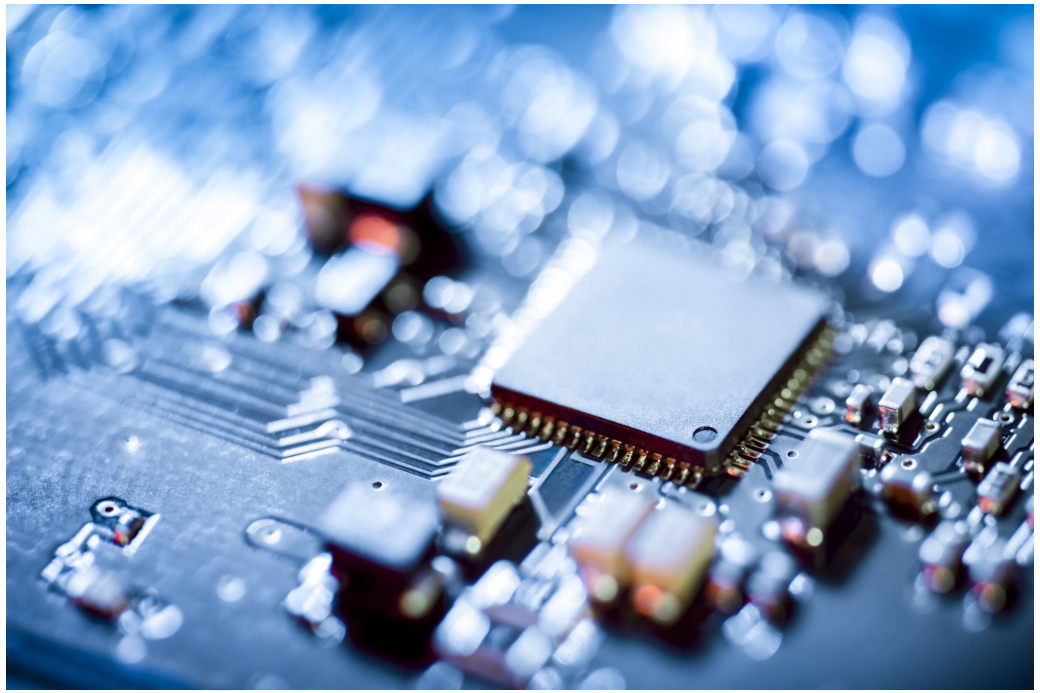


PHASE 1 – IDENTIFY & ASSESS RISK

A new risk is identified and requires monitoring

SCENARIO

The IT department of a large life insurance company discovers that "ASTRO", one of its most critical systems, responsible for policy administration and claims processing, is approaching the end of its life cycle. The system, which has been the backbone of the insurer's operations for the past decade, is now at a stage where its vendor support will soon cease, and the risk of security vulnerabilities and operational disruptions is increasing. An initiative has been launched to replace ASTRO with new system "RPM"; however, due to cost and staff constraints, the project has been delayed more than a couple of times.



KEY RISK

The primary risk associated with continued reliance on ASTRO until RPM is deployed is the risk that the system will be unable to meet the business' and customer needs, in terms of accurate, timely, and complete policy administration and processing of claims. The top 3 causes of this risk are as follows:

- People Risk: inadequate internal knowledge and/or staff capacity to effectively support ASTRO
- Cyber Risk: inadequate protection of the mainframe
- Third-Party Risk: inadequate third-party support and availability of hardware

THE TASK

The Board is concerned and has asked us to implement KRIs to make sure risks associated with continuing on the system that is becoming obsolete remain within approved risk tolerance.

PHASE 2 - IDENTIFY, EVALUATE & SELECT

Let's identify a list of potential KRIs

Tolerance Statement #1

We will continue to operate on ASTRO until the new system is deployed as long as third-party support is adequate to effectively maintain the system to within approved RTOs

#	Risk Category	Measures of Tolerance	KRIs
1	Third-party reliance and concentration risks		
2			
3			
4			

PHASE 2 – IDENTIFY, EVALUATE & SELECT

Let's identify a list of potential KRIs

Tolerance Statement #2

We will continue to rely on ASTRO until RPM is deployed as long as system availability continues to meet business needs.

#	Risk Category	KRI Candidate	Metric
1	Business disruption risk		
2			
3			
4			

PHASE 2 – IDENTIFY, EVALUATE & SELECT

Let's identify a list of potential KRIs

Tolerance Statement #3

We will continue to operate on ASTRO until RPM is deployed as long as system capacity continues to meet day-to-day transaction volume needs

#	Risk Category	Measures of Tolerance	KRI Candidate
1	Processing Risk		
2			
3			

PHASE 2 – IDENTIFY, EVALUATE & SELECT

Let's identify a list of potential KRIs

Tolerance Statement #4

We will continue to operate on ASTRO until RPM is deployed as long as there is sufficient internal knowledge and capacity to effectively support the system

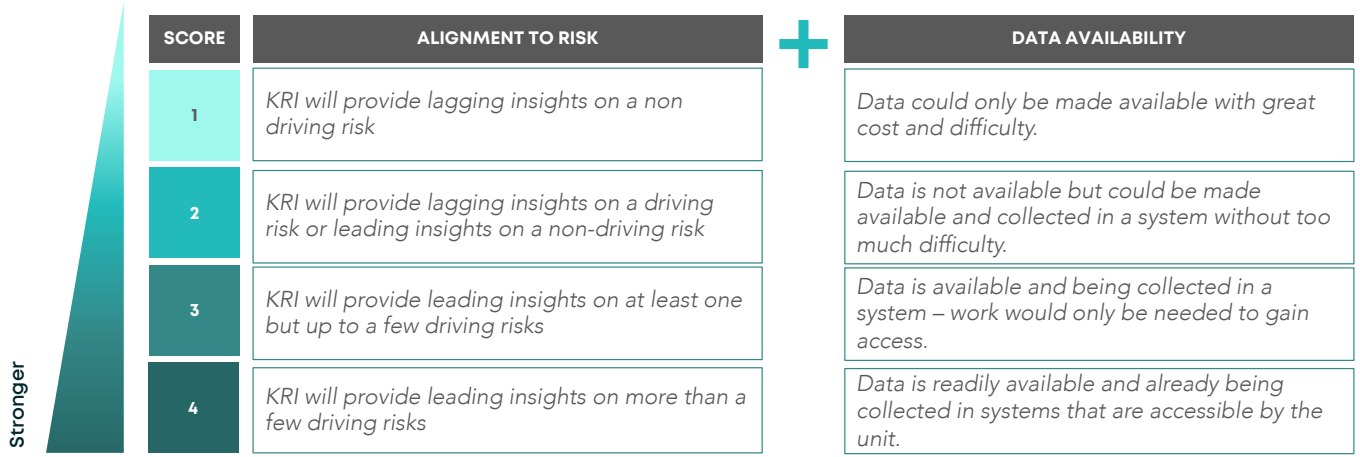
#	Risk Category	Measures of Tolerance	KRI Candidate
1	People Risk	Critical staff have sufficient capacity to effectively support ASTRO	% of FTE vacancies % of FTE vacancies by time bucket (i.e., the age of the vacancy) % of critical staff involved in new initiatives % of critical staff on site % of staff deferral of mandatory training (pre-approved)
2		Critical staff have the knowledge and skills to effectively support ASTRO	% of staff in support team with the appropriate certification % of staff completed professional education in last 12 months % of staff completion of mandatory training
		System errors are kept to a minimum.	#/% of manual interventions required to complete transaction
3		Retention strategies are in place	% voluntary turnover (total team) and by % of critical staff Employee engagement survey results Exit survey results from people who have departed Absenteeism rate

PHASE 2 – IDENTIFY, EVALUATE & SELECT

Now let's evaluate a list of KRI candidates

Using the methodology to the right, let's evaluate each of the identified KRI candidates.

For purposes of this exercise, we have pre-populated data availability scores.



#	Risk Category	Risk Statements	KRI Candidates	Alignment to Risk (1-4)	Availability of Data (1-4)	Total Score (2-8)
1	People Risk	The risk of inadequate internal knowledge or capacity to effectively maintain the ASTRO	% of FTE vacancies	2	4	6
2			% of staff in support team with the appropriate certification	1	3	4
3			% of FTE vacancies by time bucket (i.e., the age of the vacancy)	2	3	5
4			% of critical staff involved in other new initiatives	4	1	5
5			Absenteeism rate	4	4	8
6			#/% of manual interventions required to complete transaction	4	2	6
7			% voluntary turnover (total team) and by % of critical staff	2	4	6

PHASE 2 – IDENTIFY, EVALUATE & SELECT

Now let's select which KRIs will be prioritized for implementation

#	KRI Candidates	Alignment to Risk (1-4)	Availability of Data (1-4)	Total Score (2-8)	Select (Y/N)	Rationale
1	% of FTE vacancies	2	4	6	Yes	Although data is lagging, it is readily available and can be used as input to a composite risk indicator
2	% of staff in support team with the appropriate certification	1	3	4	No	We will prioritize other KRIs, given the lagging nature.
3	% of FTE vacancies by time bucket (i.e., the age of the vacancy)	2	3	5	Yes	Data is available and owner has granted access.
4	% of critical staff involved in new initiatives	4	1	5	No	It is too costly at this time to make the data available.
5	Absenteeism rate	4	4	8	Yes	Leading indicator and data is readily available.
6	#/% of manual interventions required to complete transaction	4	2	6	Yes	Leading indicator that if combined with other KRIs will provide valuable insights – value outweighs the cost of obtaining the data.
7	% voluntary turnover of critical staff	2	4	6	Yes	Data is fully available.

The following information is typically required to be documented for each of the selected KRIs:

- KRI Owner
- Sources of Data
- Data Owner(s)
- Key Risks
- Drivers of Key Risks
- Definition of the Metric
- KRI Approver
- Date of last approval
- Frequency of KRI
- KRI Thresholds must be defined for each KRI
- KRI Thresholds must be linked directly or indirectly to risk appetite statements; at a minimum they must not suggest incompatible behaviours and avoid breaches.

PHASE 3 – DESIGN & DEVELOP

Now let's define thresholds for the list of selected KRIs

#	Key Risk Indicators	Self-imposed constraints			Comments
		Outside of limit	Approaching limit	Well within limit	
1	% of FTE vacancies	>20%	13-20%	<13%	*This includes vacancies created from new FTE and vacancies created from turnover.*
2	% of FTE vacancies by time bucket (i.e., the age of the vacancy)	<60% are 3 months old or less	60-80% are 3 months old or less	>80% 3 months old or less	*Given the age of the ASTRO system, we have little tolerance for unfilled vacancies. This will likely drive the need for continuous backfill training.*
3	Absenteeism rate (i.e., unplanned absences)	>5%	2-5%	<2%	*The team is committed to seeing this project through – with a few individuals delaying retirement to get it over the line. Any increase in unexpected absenteeism will be indicative of real risk.*
4	% of manual interventions required to complete transaction	>25%	10-25%	<10%	*Manual intervention increases the risk of error and puts increased pressure on limited staff capacity. We will monitor changes in the need to manually intervene.*
5	% voluntary turnover of critical staff	>20%	>0-20%	0%	*Given the lack of specialized knowledge and skills both internally and in the market, we have very little tolerance for voluntary turnover of critical staff.*

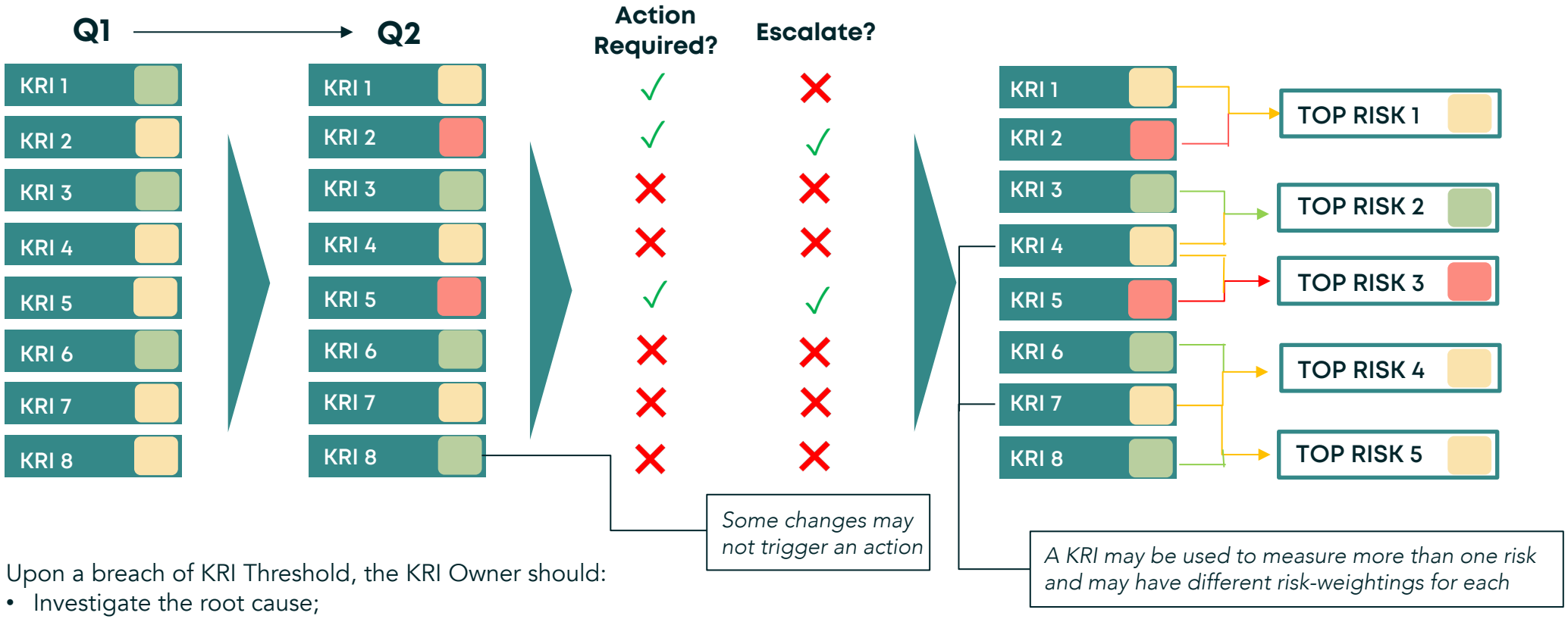
When setting thresholds, remember to consider the:

- *Degree of complexity to reduce/treat the risk exposure*
- *Time required to reduce/treat the risk exposure*
- *Degree of reliance being placed on the metric to provide insights on changes to the risk exposure*

PHASE 4 – MONITOR & REPORT

Now it's time to implement the KRIs

A master inventory of KRIs should be maintained with only the strongest KRIs used to monitor Operational Risk Profile. The following graphic depicts how KRIs should be monitored to inform reporting of Top Risks:



Upon a breach of KRI Threshold, the KRI Owner should:

- Investigate the root cause;
- Initiate remedial action in order to bring the risk back within tolerance, i.e. within the KRI threshold;
- Initiate actions to prevent reoccurrence of the risk/risk event;
- Determine the impact on Operational Risk Profile and update the RCSA; and
- Evaluate the adequacy of the threshold calibration.

PHASE 5 – PERIODICALLY REVIEW

It is important to periodically review the efficacy and usefulness of the inventory of KRIs

At least annually, the KRI inventory should be reviewed and challenged to identify which KRIs need to be retired/updated and/or where new KRIs should be introduced. The following table provides examples of factors that'should be considered when reviewing the KRI inventory:

Factors to consider	If…	Then…
Actual loss events/incidents	Actual material loss was realized without the KRI threshold breaching or warning of potential breach	Assess whether the KRI is providing sufficient insight on changes to risk profile and/or consider recalibrating the threshold to obtain early warning in the future
Thresholds not breached	A risk has never approached its threshold over a number of cycles	Fine-tune the threshold by decreasing it (making it tighter), in order obtain a more detailed view of the risk
Frequent breaches	There are frequent breaches	Assess whether the threshold is meaningful and if more time might be needed to reduce risk to avoid breach (i.e., lower the warning threshold)
Internal factors	Risk appetite and/or tolerance has changed	Assess the need to change thresholds accordingly
External factors	Significant external events take place (i.e., regulatory, cyber, geopolitical, etc.)	Assess the need to: • The need to develop new KRIs to monitor emerging risks • Change thresholds to allow proactive risk management in a now riskier environment