

Québec – 2016

**LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION**

June 12-14 juin

**Defining Risk Through  
Scenario Forecasting**

# Session Facilitators

## Mark Aiello, Senior Vice President – Marsh Risk Consulting

- More than 15 years of experience in risk management advisory, with over 10 years focused on the development and implementation of Enterprise Risk Management programs
- Experience includes risk identification and assessment, development of policies, monitoring frameworks, risk appetite frameworks and quantification methodology
  - Specialized in developing risk quantification models for global organizations
- Has worked with a number of Canadian universities and colleges in the development and implementation of their ERM programs

## Margaret Sterns, Director Internal Audit Services – Dalhousie University

- Joined the University sector in 2005 to establish the Internal Audit function for Dalhousie University
- Received her Chartered Professional Accountant designation in 1988 working with KPMG in Halifax and Auckland, New Zealand
- Joined Emera's subsidiary Nova Scotia Power in 1992 during its privatization with responsibility for Internal Audit, the implementation of Emera's Enterprise Risk Management program and the Balanced Scorecard measurement system.
- More than 10 years' experience developing and implementing ERM, strategic risk management and operational risk management programs
- Currently facilitates Dalhousie's Strategic Risk initiative which began in the Spring of 2013



Québec – 2016

LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin

# INTRODUCTION



# Session Objectives

- Value of objective assessment of risk
- Strategies to assess risk through scenario analysis



Québec - 2016

LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin

# Taking the Pulse

How many institutions have a formalized risk assessment process?

Why is it important to assess risk?



Québec - 2016

LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin

# Institutional Risks

## A Long Term View

- Universities are long-term institutions, so tend to have less strategic volatility in the short-term vs. publicly traded, for-profit organizations
- While risk is typically described relative to a single definable event, strategic risk often cannot be tied to a single event
  - Because it is long term in nature, strategy is often not materially impacted by a single event
  - Strategic risk is more likely to be linked to systemic issues that result in slow, long lasting changes to the baseline (e.g. ‘death by 1,000 cuts’)
- Risk should be linked to mission and core objectives
  - While risk does consider both downside and upside, the strategic planning process typically factors the upside possibilities without accurately reflecting the downside and opportunity costs
- While individual issues may be small, systemic issues, if not managed effectively can pull you off your path to success
- Risk should be measured against the KPIs that are used to measure success of achieving priorities



Québec – 2016

LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin



# MEASURING RISK



# Measuring Risk

## Finding the Right Metrics

Question:

What metrics do you measure risk against?



Québec – 2016

LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin

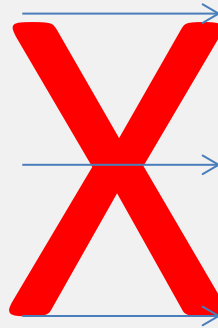


# Measuring Risk

## Finding the Right Metrics

### *Performance Measures (KPIs)*

- Student Satisfaction
- Student Retention
- Student : Faculty Ratio
- Graduate Employment Rates
- National Reputation Survey
- Sponsored research
- Staff / Faculty turnover



### *Risk Measures*

- Financial impact (cost)
- Program / service delivery
- Injury / Health / Safety
- Reputation

### Challenge

**While risk measures are related, there is no direct link to the way the institutions measured success**



Québec - 2016

LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin



Québec – 2016

LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin

# Institutional Risk Measurement

## Dalhousie Approach

What can we measure that helps us protect our future from our present?

- Begin with a conversation, with the people closest to the risk, about what is in front of us.
- Having the conversations should help. Engaging experts in those conversations should really help. Measuring even more.
- Measurement tells us about our past performance but it can also tell us about our future exposures.



Québec - 2016

LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin



# ASSESSING RISK



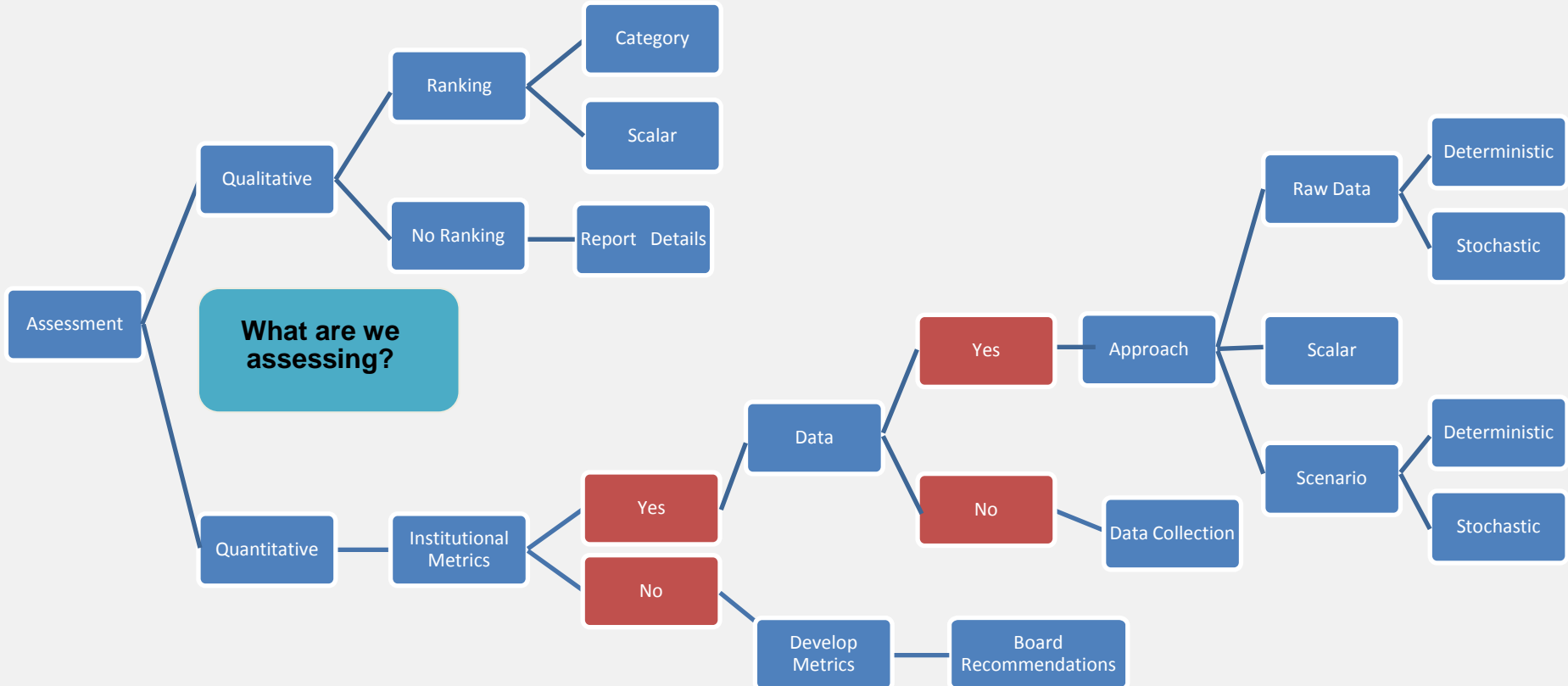
Québec – 2016

LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin

# Assessing Risk

## Qualitative or Quantitative Analysis



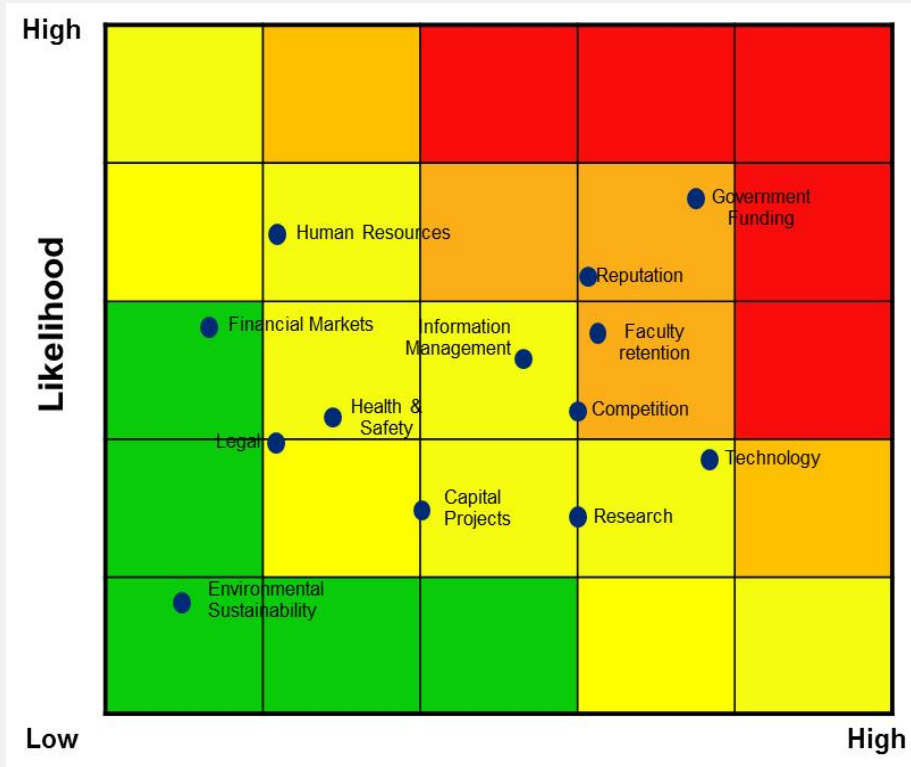
Québec - 2016

LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin

# “Quantifying Risk”

## The Traditional Approach



- Qualitative snapshot of the perceived likelihood and impact
- Often based on 3, 5, 10 point scales
- Risks evaluated at macro level
- Assessment values are often consensus driven
- Prioritization often based on a number of key assessment criteria



Québec – 2016

LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin

# Setting the Context

- Quantification of macro level risks
- Clarifying the risk
- Consistency of thinking
- Defining level of materiality
  - What type of loss are we quantifying?



Québec – 2016

LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin

# SCENARIO APPROACH



Québec – 2016

LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin



# Scenario Approach

- What is it
- How do we develop a scenario?

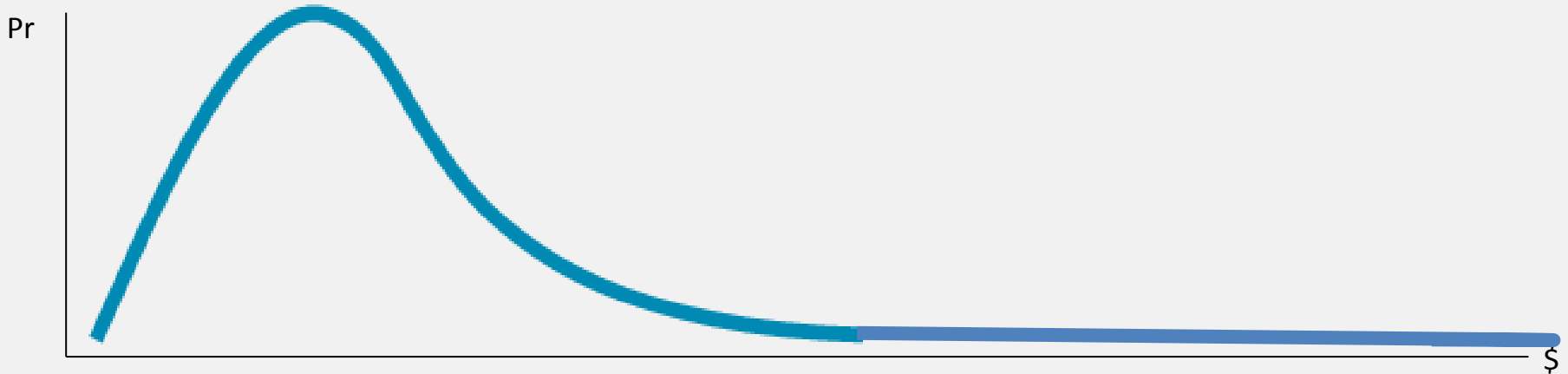


Québec – 2016

LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin

# Defining the Materiality



## High Frequency / Low Severity

- Individual injuries
- Material, but not impactful
- e.g. Slips and falls

## Medium Frequency / Medium Severity

- Severe individual injury / death OR multiple injuries
- e.g. assault, food poisoning

## Low Frequency / High Severity

- Multiple fatalities or significant injury
- e.g. Residence fire, active shooter

Although not high severity, high frequency / low severity or medium frequency / medium severity can impede the institution from meeting it's objectives



Québec - 2016

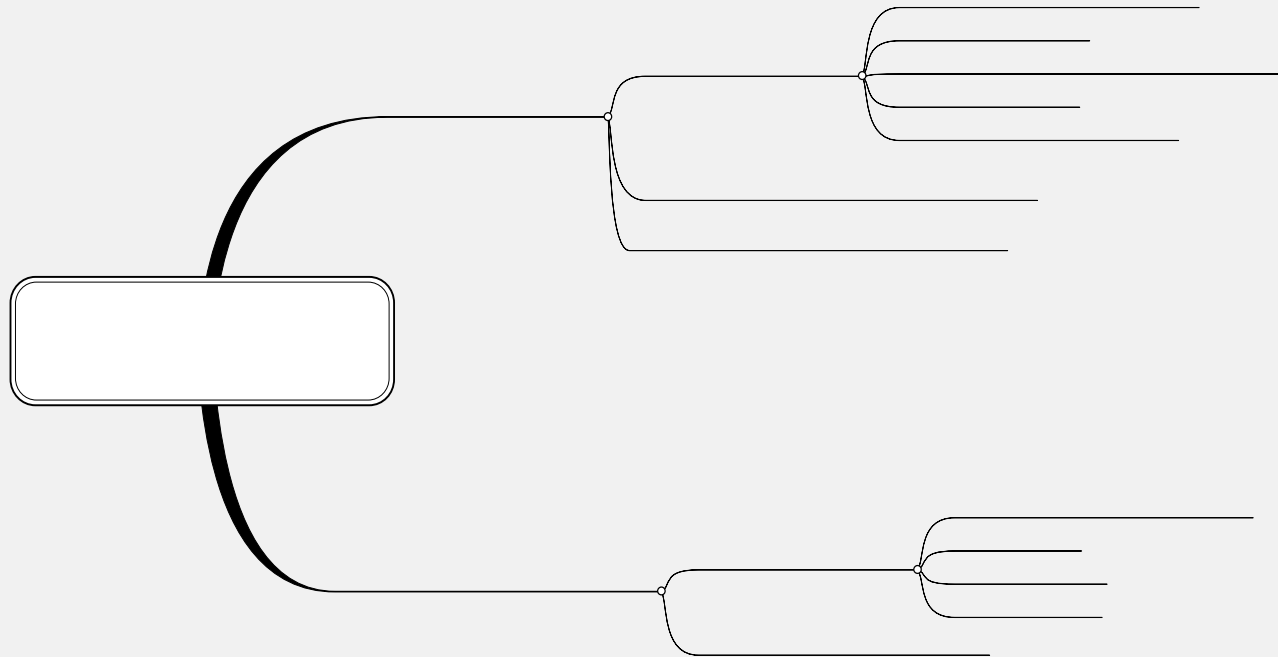
LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin

# Impact Pathways

- Impact pathways are a step-wise approach to evaluating how a risk works its way through the institution
- This approach can help clarify the types of impacts and define accountabilities, needs for controls, interdependencies, etc.

*Example*



Québec – 2016

LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin

# PRACTICAL EXAMPLE



Québec – 2016

LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin

# Risk: *Internationalization / International Students*

Need to Determine: *What are we assessing?*

Dalhousie Example: *Allocation of limited resources*



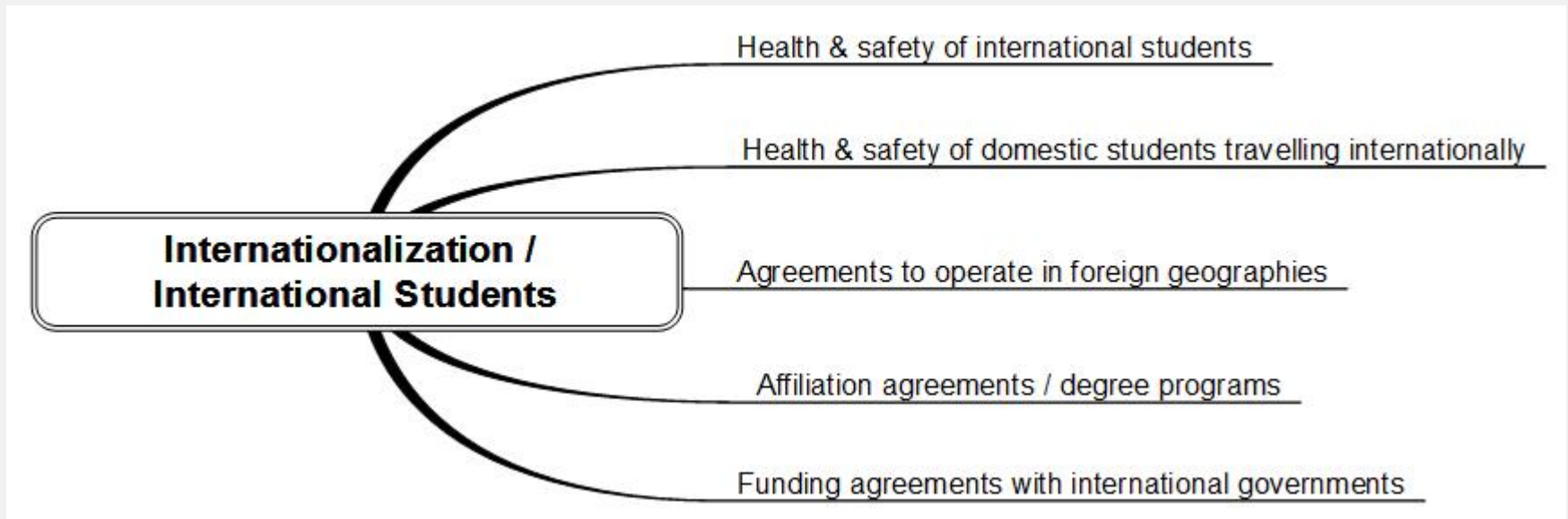
Québec - 2016

LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin

# Risk: *Internationalization / International Students*

Need to Determine: *What are we assessing?*



**In a proper, comprehensive assessment exercise, each of the risk branches would be assessed to aggregate the potential impact of the macro risk**



Québec – 2016

LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin

# Comprehensive Assessment

*We often see...*

**Internationalization /  
International Students**

Likelihood

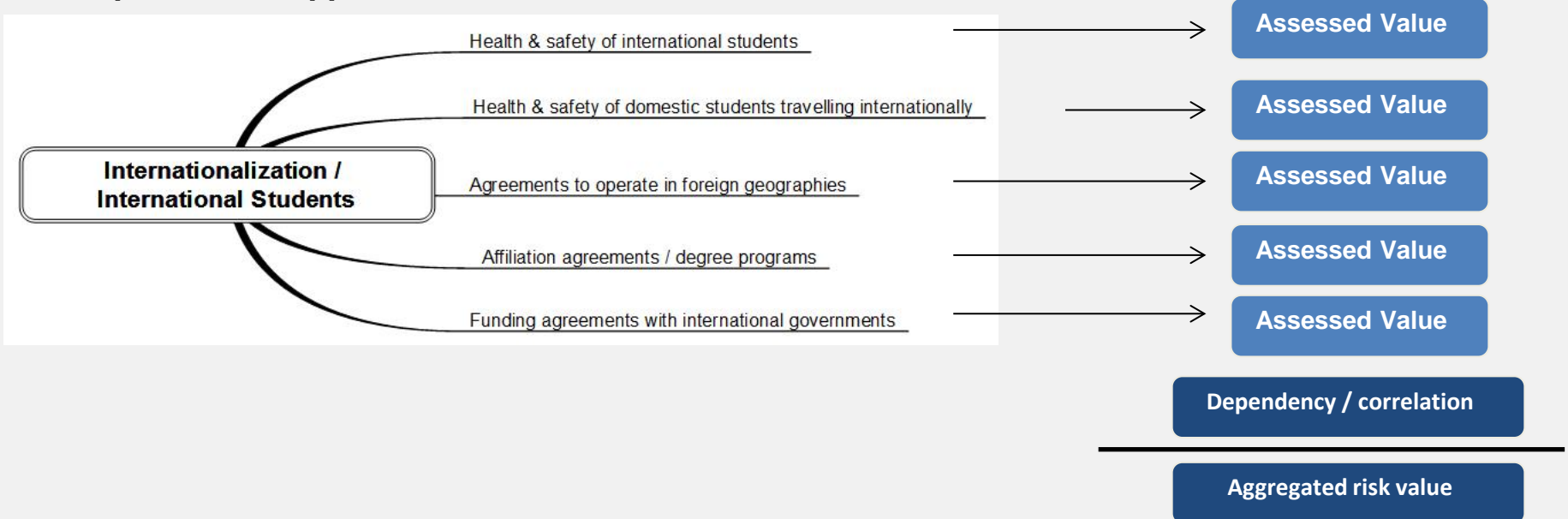
x

Impact

=

Risk  
Score

## *Comprehensive approach*



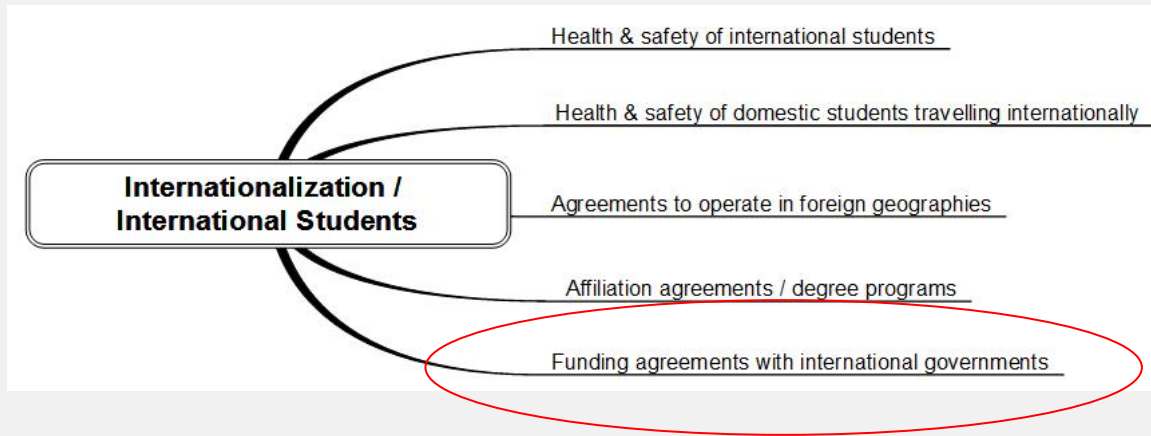
Québec - 2016

LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin

# Practical Assessment

## Alternative approach



## a) Pick a risk

- Determine which risk you are most concerned with
- Identify the risk you feel would likely be the most material to the institution, most plausible, least well understood

## b) Define a plausible scenario

- Determine which risk you are most concerned with
- Identify the risk you feel would likely be the most material to the institution, most plausible, least well understood



## Identified Scenario:

***A foreign government terminates an agreement that provides funding support for students to attend the University***

*(ex. Canada changes its position on the Saudi arms deal resulting in the monarchy terminating its sponsorship agreement for undergraduate students)*



Québec – 2016

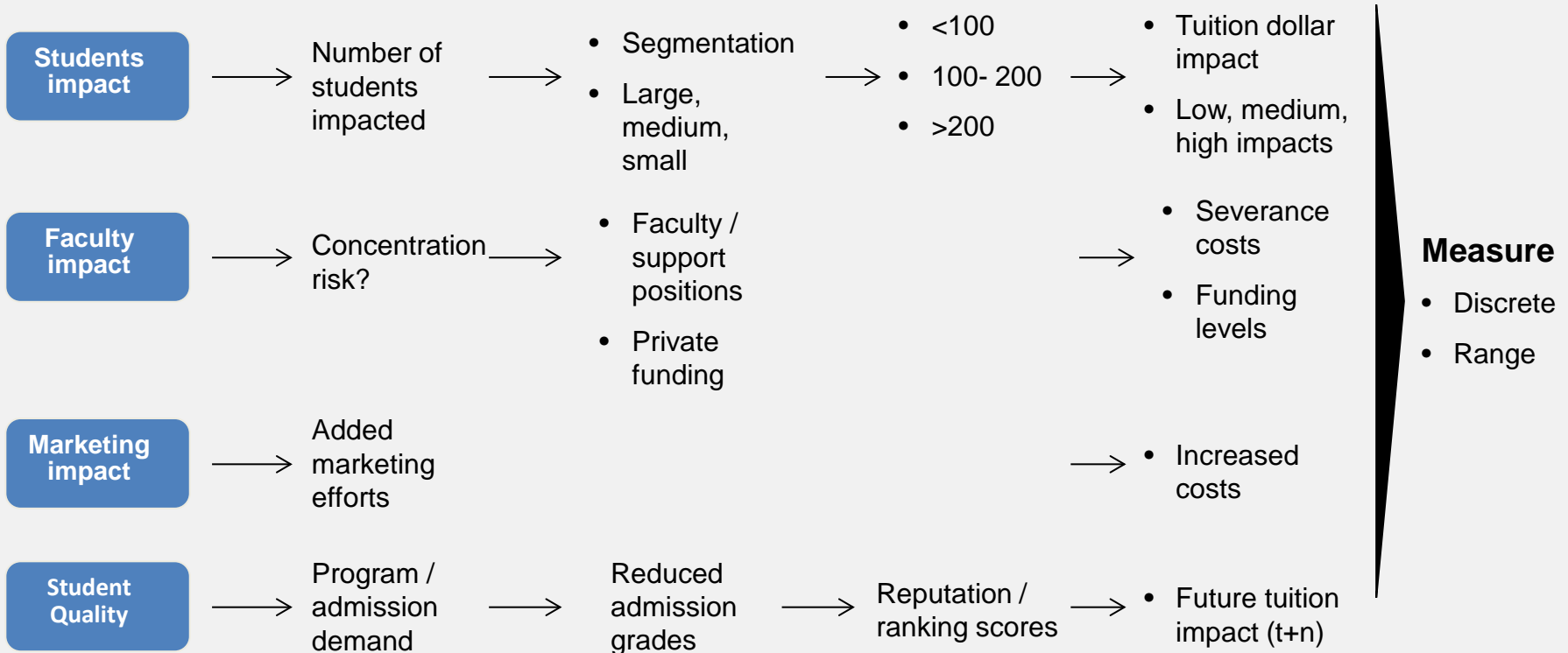
LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin



# Impact Pathways – Practical Example

*How does the loss of agreement impact the university?*



Québec – 2016

LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin

# Group Exercise

*Risk = Physical Infrastructure – Maintenance and Replacement*

Task:

- Conduct a risk assessment exercise on the risk
- Be sure to consider the scenarios, impact pathways and potential impacts
  - Make assumptions in the absence of hard data
  - Identify challenges that you may have in conducting a fulsome analysis
  - Challenge blanket impact statements
  - Measure!



Québec – 2016

LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin

# Risk Assessment

## Key Challenges

Question:

What challenges did we come across as we started to assess the risk?

Dalhousie example – Practical challenges faced



Québec – 2016

LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin

# Risk Assessment

## Dalhousie Example

TO BE INCORPORATED CLOSER TO PRESENTATION DATE –  
AWAITING UPDATED INFORMATION



Québec – 2016

LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin

# SUMMARY



# Takeaways

- Defining the context
- Defining a clear scenario
- Walking through impact pathways
- Not accepting blanket statements
- Measuring against strategic objectives



Québec - 2016

LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin

# Risk Assessment Evolution

- This type of assessment is not simple
- Not every institutions is ready for this
- Need to identify the challenges and work through before completing the solution
  - Dalhousie example
- Go at your own pace



Québec – 2016

LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin

# QUESTIONS



Québec – 2016

LA FORCE DE LA COLLABORATION  
THE POWER OF COLLABORATION

June 12-14 juin