**Risk Management Plan**

***Project Management Office (PMO)***

The Risk Management Plan specifies a framework and approach for identifying, evaluating, controlling, reporting, managing, and tracking risks associated with Carleton projects. The main purpose of this document is to define the risk management approach and focus efforts on responding to risks throughout the life of the project.

The fundamental objectives of the risk management process are:

* Identify, assess, and document factors or events that may affect project cost, schedule, performance and/or the objectives of the project
* Plan and develop strategies to minimize the possible effects of those factors or events
* Involve stakeholders in the Risk Management Process
* Communicate risks and their status with all stakeholders
* Periodically review existing risks and identity new risks

Risk management includes early risk identification and analysis, mitigation, contingency planning, and continuous monitoring to control and minimize the impact of risk on project execution and results.

Recognizing and managing potential risks before they impact the project are essential aspects of project management activities. In fact, it should be carried out when real information is most lacking, precisely because it is at this time that a risk analysis can be of most use to the project team in gaining an understanding of the project itself.

Risk management is a proactive and iterative process, which assists in controlling costs, meeting deadlines and producing quality results.

Effective risk management requires a thorough analysis of work before each activity begins. A complete understanding of inherent risks enables preventive action to be taken against schedule delays and cost overruns. Risk management is a continuous process that reduces risk to a manageable level or eliminates it entirely. The project will use the processes described in this document to identify, track, assign, evaluate, communicate and potentially alleviate risks.

## Risk Management Process

The following table summarizes the steps in the process to manage risks:

| **Step** | **Action** |
| --- | --- |
| 1 | Review Lessons Learned  |
| 2 | Risks Identification  |
| 3 | Determine Probability of Risk Occurring |
| 4 | Determine Impact if Risk Occurs |
| 5 | Evaluate and Prioritize Risks |
| 6 | Develop Plans for Key Risks |
| 7 | Track Project Risks |
| 8 | Communicate Key Risks |

#### Step 1 – Review Lessons Learned

A review of lessons learned from similar projects should be undertaken to assist in identifying potential risks.

#### Step 2 - Risk Identification

All team members/stakeholders are responsible for identifying any new or potential risks and bring them to the attention of the Project Manager (PM). This may be done through facilitated brainstorm sessions, during meetings, or through one-on-one discussions.

Project Manager will document all identified risks within a risk register for the project.

All risks are given a clear title/name and description that is understood by the team.

Risk categories are the fundamental drivers that cause risks within a project or organization. Risk sources identify common areas where risk may originate.

The following risk categories will be used:

* + Scope/Size – number of requirements and code changes required
	+ Resources – Carleton resource availability or skill levels
	+ Effort – Level of effort required
	+ Technology – Performance of technology, introduction of new technology
	+ Internal – Stakeholders, other projects
	+ External – Vendors, contractors, suppliers
	+ Project Management – Schedule, plans , estimation, communication
	+ Other – Cost, Organization, regulatory, policies, security

#### Step 3 - Determine Probability of Risk Occurring

The PM and the project team will assign probabilities to the detailed risks documented in Risk Register.

The scale ranges from 0 (certainty that an event will not occur) to 1.0 (certainty that the event will occur). The PM adds this probability score to the Risk Register.

The probability of risk occurrence may change during the project. The Project Manager is expected to review this value regularly for all open risks and update as necessary.

Table 1: Probability Assessment

|  |  |
| --- | --- |
| Description of Probability of Risk | Score |
| Very high probability of affecting the overall project (95% probability) | 1.0 |
| High probability of affecting the overall project (80% probability) | 0.9 |
| High probability of occurring in current project development phase (75% probability) | 0.8 |
| Moderate probability of affecting the overall project (50% probability) | 0.7 |
| Moderate probability of occurring in current project development phase (50% probability) | 0.6 |
| Low probability of affecting the overall project (25% probability) | 0.5 |
| Low probability of occurring in current project development phase (25% probability) | 0.4 |
| Very low probability of affecting the overall project (10% probability) | 0.3 |
| Very low probability of occurring in current project development phase (10% probability) | 0.2 |

#### Step 4 - Determine Impact if Risk Occurs

For each risk identified and documented in the Risk Identification List on SharePoint, the PM and the project team estimates the impact to the project if the risk is realized. The scale ranges from 0 (zero) to 1.0 (one), where 0 indicates no danger to the project and 1.0 indicates a devastating setback. The PM adds the potential impact score to the Risk Identification List. The PM works with the Delivery/Service Manager then reviews the determined impact and verifies that it is realistic and accurate.

Table 2: Impact Assessment

| Description of Potential Impact of Risk | Score |
| --- | --- |
| Project objectives seriously affected causing a devastating setback | 1.0 |
| Project required operations capability seriously threatened | 0.9 |
| Project ability to support required operational capabilities (functions and availability). Very serious impact - major PROJECT component not available. | 0.8 |
| Project ability to support required operational capabilities (functions and availability). Serious impact - part (1/3) of major PROJECT component not available. | 0.6 |
| Project ability to support required operational capabilities (functions and availability). Moderate impact - small part (1/10) of major PROJECT component not available. | 0.4 |
| Project ability to support required operational capabilities (functions and availability). Minor impact - very small part (1/20) of major PROJECT component not available. | 0.2 |

#### Step 5 – Evaluate and Prioritize Risks

After each risk is scored according to the expected probability and the potential impact, the product of these scores is used to determine the risk exposure, also known as risk rating. Risk exposure is derived using the formula: **Exposure = Probability x Impact**. The Risk Register is designed to automatically calculate the exposure rating.

Table 3: Exposure Rating Scale

| Risk Exposure | Risk Prioritization | Response |
| --- | --- | --- |
| 0.76 – 1.00 | High | Create Risk Assessment/Handling Plan with Contingency Plan. Re-evaluate risk during the project meetings. |
| 0.51 – 0.75 | Significant | Create Risk Assessment/Handling Plan with Contingency Plan. Re-evaluate risk during the project meetings. |
| 0.36 – 0.50 | Medium | Create Risk Assessment/Handling Plan with Contingency Plan. Re-evaluate risk during the project meetings. |
| 0.21 – 0.35 | Slight | Risk Assessment/Handling Plan not required. Re-evaluate risk during the project meetings for change in priority. |
| 0.00 – 0.20 | Low | Risk Assessment/Handling Plan not required. Re-evaluate risk during the project meetings for change in priority. |

All risks where the exposure rating is calculated at a value ranging from 0.36 to 1.00 are designated as “Key” risks. For all Key risks the PM will create an action plan to handle the risk and a contingency plan in the event the risk is realized. This information is documented and maintained by the PM in the Risk Assessment/Handling Plan document.

For risks with the exposure 0.00 – 0.35, comments that address the status of the risk are maintained in the project Risk Register unless a Risk Assessment/Handling Plan is created.

#### Step 6 - Develop Plans for Key Risks

In the Risk Assessment/Handling Plan, the PM will document plans for addressing the Key risks identified. These plans are then reviewed with the appropriate stakeholders who must identify the approach to be taken towards the risk.

Risk response should take into consideration the following and develop a plan accordingly:

1. Avoidance – where strategies are revised to avoid exposure to the risk
2. Mitigation – where measures are taken to reduce the probability and/or the impact of the risk
3. Acceptance – where allowances are made in the project plans to deal with the risk when it occurs
4. Transfer
5. Contingency Planning – developing a predetermined response plan in case the trigger or risk occurs
6. Avoidance
	* Eliminate the conditions of the risks or conditions or isolate the project objectives from its impact
	* Can the project be declined?
	* Reduce the scope/requirements/ deliverables?
	* Change the technology?
	* Revise the strategy?
7. Mitigation
	* Reduce the monetary value of a risk by lowering the probability of occurrence or reduce its effect
	* Tighten project controls
	* Regular formal risk reviews
	* More testing, design, development, etc.
	* Develop redundancies
	* Establish contingencies
8. Acceptance
	* Accept the risk – no action will be taken
9. Transfer
	* Transfer responsibility for the risk to another party via contract, insurance, legislation or administrative process
	* To transfer a risk is to seek to shift the consequence of a risk to a third party
	* This doesn’t eliminate the risk
10. Contingency Planning
	* Develop contingencies
	* Develop “contingency reserves” in the budget and schedule

The preferred approach for the project is to mitigate each “High,” “Significant” and “Medium” exposure risk. Risk Assessment/Handling Plans need not be developed for “Low” or “Slight” exposure risks unless the Sponsor specifically requests them or the PM determines that closer attention is warranted.

##### ***Contingency Plans and Reserves***

* PM will update contingency plans in the Risk Assessment/Handling Plan
* Project Team Member assigned to the risk is responsible for executing actions to be taken and contingencies, should they be necessary.

#### Step 7 – Track Project Risks

All elements of the Risk Management Plan for the project will be documented and stored in the project Teams site. Any modifications to the project risks will be maintained within Teams project site.

* The PM will monitor the project risks with the project stakeholders at regular status meetings.
* The Project Manager also has the responsibility for maintaining the current status of risks in Risk Register and reviewing with project stakeholders on a regular basis.
* The project team member assigned to the risk will provide status updates and the PM will update the appropriate document by indicating the date and the update comment in the risk description field.
* Any time new information becomes available about a risk, the information will be assessed by the Project Manager in relation to the risk’s current mitigation and contingency plans. If changes are warranted, the Project Manager should discuss the proposed changes with the project stakeholders.
* A risk may be closed when the project stakeholders jointly agree that (1) the risk will never be realized, (2) the risk will not actually deter the project in any way or (3) the risk was reduced and is no longer a risk. A risk with a status of CLOSED should not be deleted from the Risk Register.
* Respond to the actual risk event by implementing the planned response (or for an unplanned response, use a workaround)
* Constantly look for the triggers
* Analyze the contingency reserves for ongoing relevance

The Risk Management Process is continuously repeated to review the outstanding risks and to reassess their probability and impact. Each time the process repeats, new risks may be identified, evaluated, and recorded. The risk mitigation and contingency plans are then updated for all risks as necessary.

#### Step 8 - Communicate Key Risks

All risks and their status are communicated to the stakeholders in the regularly scheduled project meetings.

Risk escalation begins with Project Director, and if needed, brought to Project Steering Committee.

If a risk is realized;

* the project stakeholders are notified at the first available opportunity,
* issue(s) are documented, and
* any associated contingency plan(s) are implemented immediately.

## Amendment History

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| --- | --- | --- | --- |
| Document Version # | Modified Date | Modified By | Section, Page(s) and Text Revised |
| 1.0 | August 2019 | PMO | Release 1.0  |
| 2.0 | March 2022 | PMO | Updated Risk categories to align with the risk inventory. |