**Operational risk and Lean Six Sigma are two important concepts that play a critical role in achieving operational efficiency and effectiveness in any organization.**

Operational risk refers to the risk of loss resulting from inadequate internal processes, systems, human errors, or external events. It is the risk of loss that occurs from the day-to-day operations of an organization.

It has been always in Banking and non-banking organizations, but the relevance has been increasing with the globalization of the financial system. EBA aims at promoting and enhancing the effectiveness of operational risk management and supervision throughout the banking system through the publication of guidelines and regulatory standards on operational risk

Even if the progress of the banks on operational risk is big, its management remains difficult. Compared with the financial risks, operational risk is more complex:

because of the **quantity** of diverse risk that we can find on this category. Second reason is that the operational risk **requires transparency** off almost all the organizational process and business activities.

And operational risk was **less easily measured** and managed through data and recognized limits than financial risk.

To be able to face these challenges, risk managers are looking to develop better instruments, frameworks, and talent. These frameworks should support the following types of actions:

* **Map the processes,**
* **Identify supporting technology**.
* **Monitor risks and controls**.
* **Link resource planning to processes.**
* **Reinforce needed behaviour.**
* **Enable feedback.**
* **Establish change management.**

Lean Six Sigma is a methodology that apply a collaborative team effort to improve the performance by limiting the waste and variation. It’s a combination of Lean Management and Six Sigma that aim to eliminate the wastes, called *Muda*.

Fujio Cho, honorary chairman of Toyota, defined the Muda as “anything other than the minimum number of resources which are absolutely essential to add value to the product".

Different types of waste have been defined

* **D**efects:
* **O**ver-production:
* **W**aiting:
* **N**on-Used Talent
* **T**ransportation
* **I**nventory
* **M**otion
* **E**xtra-processing

**Lean methodology focuses on eliminating waste, maximizing value, and improving flow.** Lean management is a way of management for the companies that helps on a process of continuous improvement, it’s a long-term methodology that aims to achieve small and incremental improvements in the process, particularly on the efficiency and quality.

**Six Sigma focuses on reducing variability and improving quality.** Six Sigma aim to improve manufacturing quality by identifying and removing the causes of defects and reducing the variability in the process. This is done by applying empirical and statistical method and by working with Six Sigma experts.

Together, these two approaches provide a powerful framework for improving operational efficiency and effectiveness. **That is LSS**

Lean Six Sigma uses the DMAIC process. There are 5 phases used on Lean Six Sigma to identify the root of the inefficiencies and work with any process and services that have a big amount of data.

**Define**: this step aims to clarify the business problem, goal, resources, scope, and timeline. This phase is normally used on the project chapter creation

**Measure**: this step represents the measurement of the specification of the problem and goal. Here the data is collected.

**Analyse**: the aim of this step is identified, validate, and select the root cause of the elimination. Most of the potential root causes are identified through a root cause analysis (e.g., Fishbone diagram).

**Improve:** the aim of this step is to identify, test and apply a solution to the issues, partial or full, depending on the situation.

**Control**: the aim of this step is to insert the changes and guarantee sustainability.

**By applying Lean Six Sigma methodologies, organizations can identify and eliminate the sources of operational risk while also improving their processes.** Through the use of data-driven tools like process mapping, statistical analysis, and control charts, organizations can identify inefficiencies and implement changes that result in significant cost savings and improved process performance.

By identifying and managing operational risk and implementing Lean Six Sigma methodologies, organizations can reduce costs, improve quality, and increase productivity.

**Royal Bank of Canada IT&S Luxembourg and Lean Six Sigma:**

For more than 120 years, RBC Investor & Treasury Services (RBC I&TS) has provided asset and payment services to corporate investors and financial institutions globally.

Are a financially strong partnertrusted with CAD 4.1 trillion in assets under administrationwith offices in 13 countries.

RBC IT&S, after the capacitation of the relevant employees for the project and acquired the certifications and necessary belt, is applying the Lean Six Sigma philosophy to upgrade the processes to achieve a lean organization and reducing all the wastes on the process.

The initial process of RBC IT&S Luxembourg is done by creating a Short-Range-Outlook (This is an Excel report including several tabs with EPM tool data (Actual Budget, Forecast and Manual adjustments). Which objective is to produce a P&L view with actual, budget and forecast to our CFO

RBC identified some issues on the processes that are creating a more exhaustive and expensive workflow. Between the issues we have:

* The SRO report was built incrementally by adding the sponsor’s (Chief Financial Officer, CFO) requirements.
* It is necessary to add comments to be able to monitor the adjustments
* We depend on the business partners collaboration to be able to create a forecast of the SRO figures that are accurate.

The goal that RBC IT&S Luxembourg wants to achieve through Lean Six Sigma application is to:

* **Clean-up the report**
* **create a tracker to discuss the variances**
* **explain the objective of the exercise to stakeholders and implement instructions.**

These improvements will result on a decrease of the time spent month by month and increase the efficiency, enhance clarity on the figures and provide a bigger accuracy on the results.

The Lean Six Sigma tools that have being applied inside of the bank’s management and analysis is the **DMAIC proc**ess to stablish the interventions and identify the issues, **Fishbone scheme** to have a complete view of the process; and applying the **Kanban strategy** to organize the daily task between the team members.

The future process will be achieved by reducing some of the process and interventions necessary to achieve the SRO in the best way possible.

**How Lean Six Sigma will help RBC IT&S Luxembourg to reduce operational risk:**

We can appreciate on the schemes explained before the changes that will have an impact on operational risk management are:

* **Addition of the phase called “ONE OFF”,** that represent an additional analysis on the events that affect the bank having a monetary value of over 1.000.000€.
* **The further development of the adjustments**, to understand properly the reason of the necessary adjustment from the plan.
* **The autonomation**, that reduce the intervention of the employees on the process, creating a more autonomous and developed system.

All of the changes have a positive impact when it comes to operational risk management, since they will reduces the possibility of human errors that is the main loss on the operational risk and analyse the other motivations of the losses through the “ONE OFF” analysis and the further development of the adjustments; applying this new process, RBC IT&S Luxembourg will be able to reduce the losses and identify and measure more accurately the issues and will be able to intervening at a good moment before that the losses are of big impact.