The ERM Framework of Risk Appetite
Risk Appetite Assessment – Framework & Implementation program for an Organization

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Abstract

The objectives of enterprise risk management are to have robust, updated firm-wise risk & value centric framework, guidelines, processes and model to enable discussion, analysis, decision making & implementation in an Organization at all levels.

To fulfill enterprise risk objectives at strategy & operation level, the Organization need to have the robust risk appetite framework model in place.

This paper is the output of in-house research on emerging area of risk management and global implementation best practices. This paper intends to provide the audience the implementation of the risk appetite definition and assessment across an Organization.

This paper provides the conceptual background of risk management, risk appetite framework based model - developed by the author, implementation and global best practices of the risk appetite assessment - part of ERM program, across an Organization. The paper identifies the challenges & exception in the risk appetite assessment with an approach to manage it effectively. The paper helps an Organization with CB analysis and an illustrative case study. In the CB analysis, we have provided the approach to conduct cost-benefit analysis that may lead us to more informative & objective decision on the risk appetite implementation program.

Case study helps the reader/audience to identify the issues, infer the messages, provide the missing links, ask/look around for the appropriate missing information from XYZ Organization and apply the risk appetite framework based model suggested here to perform risk appetite assessment. This will provide the audience to come out with practical approach to implement risk appetite assessment program across an Organization.

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Introduction

Comprehensive and detailed orientation beyond leaf level is the hallmark of robust enterprise risk management (ERM here-in after) framework & its implementation. It would not be possible to have ERM program without having framework in place. The framework leads us to the required launch platform to assess risk appetite and implement the program in an Organization.

We will write briefly on ERM program and its implementation along with high level ERM implementation process maps. We will not provide further details on this and move on to the risk appetite framework, definition & assessment as the objective of the paper are to define, assess and implement the program.

The enterprise risk challenges of an Organization -

There are challenges an enterprise may face to define ERM objective, framework, program implementation and the risk appetite in their enterprise. Based on our research, implementation and best practices the key challenges an enterprise may face are -

- How to effectively manage the uncertainties about future growth plan, decision impact, competitor reaction, unexpected & expected business loss & other losses on a continuum basis
- How to be compliant with ever changing development in the external regulation, internal risk policy/model & governance to be value creator
- How to effectively manage and mitigate deviation from laid out plan, performance & processes leading to risk & value loss - financial & non-financial both
- How to define ERM objectives
- How to define risk appetite for an enterprise and business unit/LOB/products etc.
- How to get coherent definition of risk appetite and gain traction of business units leading to enterprise risk appetite
- How to develop an ERM framework and implementation program in an Organization with global best practices & research input

How do we meet enterprise risk challenges, leading to risk appetite & ERM program, effectively? -

While the ERM implementation is ‘Top-Down’ approach but the framework itself comes into shape as we move along the value chain of an Organization from ‘end customers’ & suppliers to the ‘Executive management’. So, essentially the ‘Bottom-Up’ framework approach directs us to understand the business model and then moves us to ERM implementation.

There are five stages of enterprise risk management program –

- Defining the need of ERM
- ERM objectives & executive management sync / agreement with ERM objectives
- ERM program framework & risk appetite framework – the practitioner ERM framework REF™
- Risk appetite assessment and
- ERM program implementation, management & review
We would be providing description of all the stages to have necessary understanding & clarity on the ERM and its road map in an Organization in our ERM consulting paper.

**The Enterprise risk appetite framework**

As risk appetite is the part of ERM program and precursor to ERM assessment, we will write briefly on ERM program and its implementation along with high level ERM implementation process maps and then move on to the risk appetite framework, definition & assessment.

**The ERM framework** – In an ERM compliant Organization, the business strategy, the operation and the implementation involve working with the defined framework of ERM. The objective of the ERM program is to deliver the Organization, financial & non-financial sector both, the defined and stated enterprise risk management framework & ERM implementation.

**ERM program implementation plan** - High level implementation road map provides planning, organizing, assessment, execution & review of ERM program across the business covering all stakeholders, employees, external regulation and internal compliance. This ERM implementation is based on the practitioner ERM framework and ERM implementation is the end to end multiple process & work-flow to reach the end objectives of ERM program.

The ERM Implementation plan given below describes the implementation of ERM program, across an Organization that is based on the proposed ERM framework & program.

Once we have the executive management & directors buy out, the directors and top management teams move on to define and assess risk appetite of an Organization. We will not write further on the ERM as the objective of the paper is to define the risk appetite and to perform an assessment of the same. We will also provide implementation plan for an assessment of it across an Organization.
Defining enterprise risk appetite framework – The framework is the conceptualized practical hands-on model of the enterprise risk objectives leading to assessment and implementation of the risk appetite & ERM program across the breadth & depth of an Organization, with respect to business strategy and operations, to meet the stakeholders’ goals & customers delight. The ERM program rests on the two pillars of ‘Executive management & Board of Directors’ and ‘Employees & Stakeholders of an Organization’. The diagram below highlights the concept of the enterprise risk appetite framework. The framework is the first stage towards ERM implementation.

The required metrics to define the risk appetite framework are risk capital/capital adequacy, liquidity i.e. the financing ability at all scenarios, risk sustenance, strategy & growth rate, operations, external factors, expected return & profitability. In subsequent diagram below, the metrics are covered in detail and are part of the discovery process to define & quantify the appetite to take risk.

How to achieve the enterprise risk appetite assessment & its implementation? : The program implementation guide

Once we are set with the ERM strategy at the executive management & board of directors, the top management would involve various stakeholders into brainstorming sessions to define the risk appetite. This is the most critical process of the assessment. Achieving this requires top-down approach and matrix communication structure in an Organization. Risk appetite definition and assessment is the end to end multiple process & work-flow to reach the end objectives of phase I, II & III of ERM program.

Risk Appetite: First step towards ERM implementation - The multiple factors & scenario have to be dealt with in the beginning, at the root level, and to achieve that the appetite to take risk should be clearly defined & understood with respect to business strategy. The strategy and goals with various scenarios causing risk to an enterprise needs to be identified and undergo stress test along with the possible financial / non-financial impact.
**Deriving risk appetite with the help of the ERM framework REF™** - Risk appetite is the output of the brainstorming & discussion session with various stakeholders in the EM & BOD and external consultant. Here the stakeholders are from EM & BOD, finance & regulatory team, operation, sales & marketing.

There are multiple metrics that help in defining the appetite to take risk for an Organization such as Leadership, business strategy, operation and ERM objectives. Once the risk appetite is defined, the ERM objective and its implementation requires incorporating the same in the ERM objectives. In this top down model, the feedback is taken across an Organization from sales/operation/delivery before finalizing the risk appetite. It is very important to remember that risk appetite is dynamic and may change over a period of time.

The critical part of the framework is the first step in phase III that involves first defining the appetite to take risk and next to quantify it so that it can be implemented across the business. This is top down model and need the same approach for implementation.

There are three tasks of ERM program that need to be taken into consideration and should be evaluated simultaneously with four metrics to assess risk appetite.

**The three tasks are** –

- Task 1 - EM & BOD: Organization strategy
- Task 2 - Leadership
- Task 3 - ERM objectives

The diagram given below elaborates the four metrics that would be part of defining & quantifying the appetite to take risk. Please make yourself familiar with the diagram before moving ahead as we would be extensively discussing the components of the same to reach the goal.

Now coming back to three tasks of ERM framework - the three critical tasks requires multiple activities such as brainstorming session, workshop, survey & interviews to be carried out in phased and sequence manner to achieve the desired state. The desired state here is the ability to assess ‘business risk appetite’ with the help of four metrics.

Continuing from above paragraph of derivation, the various phases leading to risk appetite are ERM objectives followed by leadership and EM & BOD buy out. This triggers the whole exercise to assess the appetite to take risk across an Organization and leads to incorporation of the same in the ERM objectives.

**Assessing risk appetite of an enterprise: the three phase approach**

The following phases may be followed to define and quantify risk appetite –

**Phase I** – The processes to derive risk appetite

**Phase II** - Defining the company objectives followed by the objectives of enterprise risk and define the end goal of risk appetite – i.e. how much risk to take, how frequently to take risk and which product/LOB/business unit/services to constitute what % of risk; in other words all product/LOB/business unit etc. would have their own risk objectives and their risk appetite defined within the enterprise risk appetite

**Phase III** – The various activities to be performed to quantify the qualitative metrics for an Organization
We are now going to elaborate on the activities & processes of all three phases in detail to help an Organization in implementation. Before we move to phase I, we suggest you to make yourself familiar with the example of Gantt chart below, which provides the implementation plan for the assessment.

Phase I

In the first phase, EM & BOD is to provide launch pad to the ERM program in an Organization. There buy-out and agreement to ERM program is necessary before one can move ahead to next step. The three tasks mentioned above would be performed in sequential manner to achieve the objective. Task 1 & Task 3 will be performed sequentially in phase I & phase II and Task 2 will run in parallel with Task 1 in phase I. The reasons of running Task 2 in parallel are to have central risk leader in place and in sync with the entire exercise to provide guidance & leadership to the team. At the end of Task 3, the risk appetite would be defined & quantified and it would be communicated to all stakeholders.

Diagram below provides the end to end process to achieve the desired goal of all the business units/LOB etc. that lead to the enterprise risk appetite. The process below covers the phase II & III along with the risk assessment & quantification of enterprise risk.
Phase II
We are providing below leaf level details of tasks 1 & 2 of phase I that need to be performed in achieving risk appetite.

Task 1 – Executive Management & Board of Directors

- **Mission & growth**
  1. Mission statement for next 3 years
  2. Company growth – Divisions / Units / Subsidiary / LOB etc. - sales projection, Price projection, Service projection, Revenue & Profit margin projection

- **Market & Product / Services**
  2. Internal resources - financial, people, technology, processes
  3. Projected growth rate for Existing market, New market, Product / Service portfolio – existing & new, Market share
  4. R & D

- **Regulation & Compliance**
  1. External regulation such as Basel III, FSA, SEC, MIFID, SOX, G20, Dodd Frank etc.
  2. Internal compliance fulfillment such as Policies & Standards

- **High level ERM Objective buy – out**
  1. ERM Program presented
  2. Feedback incorporated & ERM Program sign – off

Task 2 – Leadership

- **ERM leader identified**
  1. ERM Central leader identified / CRO

- **ERM leadership oversight**
  1. Roles & responsibilities
  2. Reporting template & format
  3. Communication - structure, timeline, exception, approval, governance, policy

- **Guidance & development of ERM policies, risk capital leading to risk appetite definition**
  1. Based on Task 1, the first three points helps in the development of ERM policies, standards, models, regulatory compliance & internal guidelines. Input from the various teams on the operational risk, financial risk, strategy risk and external risk would be incorporated and that lead to risk capital, regulatory / economic capital and risk culture
  2. Stakeholders review, approval & sign-off
  3. Final Documentation
  4. Risk capital, regulatory & economic capital defined and risk culture documented and
  5. Risk appetite defined, based on point 1 above, and communicated to all stakeholders, key persons, sales/trades/transactions etc., operation and regulation

All sub-tasks under the three tasks linked to four metrics and in turn lead us to the risk appetite - the end objective of the Task 3 of phase III.

Before moving forward we first need to understand that how the four metrics are linked to the three tasks & sub tasks. Deriving risk appetite requires understanding of the impact & applications of four metrics and their traceability to the three tasks.

The four metrics of the risk appetite are -

**Internal**

- Strategy, Direction & Visibility
- Growth rate, Return & profitability, Operation & control
- Risk capacity & maintenance – Capital adequacy/risk capital, risk sustenance & liquidity

**External**

- Environment of Organization where it operates – industry, economy, Geo specific, sovereign & Country
The matrix table given below would provide the traceability link to tasks 1 - 3 with four metrics of risk appetite of an enterprise. This example would help an Organization to achieve the goal with the help of three elaborated tasks.

To summarize, before moving further, the diagram given on the right side provides the view of the methodology to achieve risk appetite of an enterprise. We will cover stress test and capital plan in our next section.

<table>
<thead>
<tr>
<th>Task</th>
<th>Sub Task</th>
<th>Four metrics of ‘Risk Appetite’</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Growth, Operation &amp; control, Return &amp; profitability</td>
</tr>
<tr>
<td>EM &amp; BOD</td>
<td>Mission &amp; growth rate</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Market &amp; Product / Services</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Regulation &amp; Compliance</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>High level ERM Objective buyout</td>
<td>✓</td>
</tr>
<tr>
<td>Leadership</td>
<td>ERM leader</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>ERM leader oversight</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Guidance &amp; development of ERM policies, risk capital etc. leading to risk appetite definition</td>
<td>✓</td>
</tr>
<tr>
<td>ERM Objectives</td>
<td>Development &amp; Implementation of practices to reach the required level of risk capital, capital sustenance including regulatory / economic capital – leading to risk appetite measurement. Follow the defined approach in ‘Task 3’ to assess enterprise risk appetite</td>
<td>✓</td>
</tr>
</tbody>
</table>

The matrix table above provides the comprehensive traceability of task, sub-tasks & metrics to perform the various activities to derive the risk appetite.
**Phase III: Step 1**

Now we will cover the activities to be performed in the implementation process to arrive at risk appetite of an enterprise. The matrix table given below provides the activities to be performed for all Tasks 1, 2 & 3 & Sub-Tasks to assess risk appetite. This example of practical matrix table would help you to implement it directly at your Organization.

<table>
<thead>
<tr>
<th>Task</th>
<th>Sub Task</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Survey / Com.</td>
</tr>
<tr>
<td>EM &amp; BOD</td>
<td>Mission &amp; growth rate</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Market &amp; Product / Services</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Regulation &amp; Compliance and define ops &amp; control</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>High level ERM Objective buy – out</td>
<td>✓</td>
</tr>
<tr>
<td>Leadership</td>
<td>ERM leader</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>ERM leader oversight</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Guidance &amp; development of ERM program</td>
<td>✓</td>
</tr>
<tr>
<td>ERM</td>
<td>Development &amp; Implementation of practices to reach the required level of risk capital, capital sustenance including regulatory / economic capital</td>
<td>✓</td>
</tr>
<tr>
<td>Objectives</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

With the help of this matrix, the activities are planned and executed seamlessly & simultaneously to assess risk appetite for an Organization.

We are providing below leaf level details of various tasks & sub tasks of task 3 of phase III that need to be performed in achieving risk appetite.

**Task 3 – ERM objectives - leading to risk appetite**

- Development & Implementation of practices to reach the required level of risk capital, capital sustenance including regulatory / economic capital
  1. Brainstorming, survey/interview & workshop with all stakeholders
  2. Existing risk capital & sustenance & regulatory / economic capital that includes operational risk, financial risk, strategy risk and external risk review

- How to arrive at the enterprise risk appetite - we may follow the following approach
  - The enterprise risk appetite assessment process communicated to all stakeholders, key persons - sales/trades/transactions, LOB, business unit etc., operation and finance/risk model team/regulatory unit to gain traction and assess their respective risk appetite
  - The ‘stress test & capital planning’ metrics in ‘step 2’ would be taken into consideration before we finally achieve the enterprise risk appetite in totality
  - This exercise leads to quantification of enterprise risk appetite - based on Task 2 and with the input from ERM Program team of risk assessment & measurement. They provide their input on the operational risk, financial risk, regulatory capital, strategy risk and external risk.

- Final review of new capital requirements and sign-off
The assessment methodology -
We suggest the following methodology to assess and quantify risk appetite of an enterprise risk. This exercise leads to quantification of enterprise risk appetite with the input from ERM program team of risk assessment & measurement. They provide their input on the operational risk, financial risk, regulatory capital, strategy risk and external risk. They may employ ‘Causal model’, ‘Rating model’ or ‘other assessment model’ to work out the enterprise risk capital. However it is important to note that the regulatory requirements are necessary assessment for ‘Financial risk’ and ‘Operational risk’ and an enterprise need to meet those requirements. Similarly, the assessment methodology such as the ‘Causal method’ and/or ‘Rating method’/‘Other assessment methods’ are necessary for an enterprise to assess any ‘External risk’ and ‘Strategy risk’. The additional assessment such as the ‘Causal method’, ‘Rating method’/‘Other assessment methods’ would provide an enterprise the required input on the risk quantification for all risks.

The table below adds clarity to the points mentioned above and helps an enterprise to select a risk appetite assessment methodology based on the fitment and mandatory requirements.

<table>
<thead>
<tr>
<th>Risk classification</th>
<th>External risk</th>
<th>Strategy risk</th>
<th>Operational risk</th>
<th>Financial risk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Causal method/Rating method/Other assessment methods etc.</td>
<td>Causal method/Rating method/Other assessment methods etc.</td>
</tr>
</tbody>
</table>

We need to understand that the assessment is dynamic and requires regular update & refinement over a period of time. Also, we need to understand that unit/LOB/product risk appetites are not the direct sub set of enterprise risk appetite.
**Step 2:**
The impact of stress test & capital plan and incorporation of the same into risk appetite assessment is the critical phase of the assessment.

**Stress Test & Capital planning –**
The following stress scenario may be developed to stress test the intermediate output of an assessment exercise of an enterprise before finalization:

- External to Organization - Macroeconomic & geographical factors lead to external risk
- Internal to Organization – Strategy risk, Financial risk, Liquidity risk & Operational risk
- External to Organization - Sovereign risk & Systemic risk

Before we conduct a stress test, the following capital planning metrics need to be evaluated and incorporated in all the stress test –

- Unfavorable outcome
- Favorable outcome
- One favorable scenario for a business unit may lead to unfavorable scenario for other business unit and vice-versa
- The correlation effect – direction & coefficient
- Concentration risk
- Aggregation & i.i.d.
- Distribution

The diagram given below would provide clarity on the stress test assessment methodology leading to risk appetite.

![Stress Test Diagram](image)

Stress testing would provide the capital requirements for various scenarios. Once the various scenarios (mutually exclusive & inclusive) are analyzed and shortlisted on the merit of case, the vectors & metrics are qualified to the next level for the capital treatment. Capital plan to handle effectively the various stress scenarios would be put in place to keep the enterprise float. Vectors & metrics are quantified and enterprise would come out with level of capital required for sustenance over a period of time.
The challenges & exception management

Now let us look into the challenges & exception of risk appetite implementation in an Organization and mitigation & management of the same effectively.

Challenges & exception management -

- Selection of ownership, their responsibilities and authority/admin rights
- People allocation, retention and focus as many of them would be carrying out the exercise as their 2nd role & responsibility
- Conceptual understanding of the subject matter on various risks such as financial risk, operational risk, strategy risk & external risk
- Documenting risk assessment & measurement requires conceptual clarity, hands-on experience, knowledge and skill. Right interview/discussion communication skill to carry out the assessment & measurement is necessity
- Scenario development exercise is critical and most important part of building the risk appetite capital. Once done, the next step would be to define the probability and the severity. The first challenge here is to develop the credible scenario and next challenge is assigning probability to the scenario. The challenges are – how to decide on the credible case scenario, avoid duplication with other unseen scenario developed by other stakeholders and the correlation among them; how to assign probability to the scenario and decide the probability distribution; how to get all the stakeholders on the same page and sign-off. So finalizing the credible worst case/spikes scenario – upside & downside both are most important steps in the definition of risk appetite
- Helping stakeholders to identify the proactive key risk indicator/drivers is challenging exercise and would need industry experience trained resources to lead the exercise in shortlisting the key risks, not all risks, to be part of ERM
- Many key risks, more so, in operational risk, are interrelated to other key risks and risk spill over / double counting exists.
- Risk correlation may not be possible to identify for all quantified risks
- It is easy to say that risks should be value creator as governance & policy changes is always easier said than done. The challenge here is to incorporate the processes & limits to RAPM/RAROC/performance measurement. This will lead to risk capital and capital adequacy at an Organizational level – a part of risk appetite
- The global best practices & research input in conducting the exercise are the key to successful execution
- There are operational challenges of multiple teams working simultaneously on risk assessment & measurement – i.e. from documentation & final review leading to sign-off. These challenges may require exception management in place to handle these effectively. These may be co-ordination, schedules, time management, getting right stakeholders in time etc. and it may not provide an easy alternative. This may lead to bottle-neck and can put spikes in the inter-dependent exercise.

Stakeholder agreement may be achieved through brain storming and workshop with the help of consultant working along-side internal staff/line managers. This will help them to be on the same page.
We need to remember that individual & company risks are not i.i.d. and hence at the time of applying filter, the availability of right stakeholders is paramount for successful documentation.

Selection within an Organization may not bring in the right people & focus to perform this job and hence appointing consulting company to bring the right kind of team members & leaders. Outsourcing the major, long term, subject based and critical part of the enterprise risk appetite framework & program implementation (may be 70-90%) to the external consultant would help in dealing with the many challenges mentioned above including understanding & documenting the ‘Causal model’, ‘FMEA & rating model’ etc. The external consultant/outsourced company would also give it direction, provide training to all internal team leaders & members, own the overall responsibility and deliver as per the Client mandate. The team would comprise of members/leaders from outsourcing company and from Client.

Stakeholder agreement on SM and content of documents and bringing them on the same page is one operational challenge that needs to be handled regularly. Though the awareness of exceptions built into the project plan and anticipated, the frequency and type of exception, i.e. exception itself, is not known before-hand to any team. To handle the exception the team members would communicate their respective leaders, in agreed format, the exceptions and the causes-effect relationships, if any.
The Cost-Benefit Analysis

Analyzing the cost benefit of the proposed ERM risk appetite framework and methodology is vague at the outset and may be arbitrary to our Client/audience, i.e. the enterprise management team & directors. We have come out with the approach to conduct cost-benefit analysis and that may lead us to the more informative & objective (based on facts & figures) solution.

At strategy level:

<table>
<thead>
<tr>
<th>Before Implementation</th>
<th>After Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absence of / Poorly defined ‘Risk appetite’ framework</td>
<td>Robust well defined ‘Risk appetite’ framework</td>
</tr>
<tr>
<td><strong>Cost</strong></td>
<td><strong>Cost</strong></td>
</tr>
<tr>
<td>• Redundancy cost, resource &amp; infrastructure cost and consulting cost (paid to consulting company)</td>
<td>• One time cost of framework &amp; implementation paid to consulting company and no regular cost</td>
</tr>
<tr>
<td>• Inadequate or more risk capital may lead to the capital sourcing cost as the input from the operational risk, financial risk, strategy risk and external risk are inadequate</td>
<td>• Required capital to provide coverage of expected loss, unexpected loss &amp; systemic loss</td>
</tr>
<tr>
<td><strong>Growth &amp; Revenue</strong></td>
<td><strong>Growth &amp; Revenue</strong></td>
</tr>
<tr>
<td>• Underachieving business growth though business potential exists</td>
<td>• Reduced surprise risk event leading to capital protection. Capital loss is planned excluding the 1% tail risk</td>
</tr>
<tr>
<td>• Overachieving business growth without having required risk capital</td>
<td>• Robust, updated and well defined risk appetite framework, a part of ERM objectives, leading to growth, control &amp; mitigation and direction. Performance measures such as RAPM/RAROC etc. for each transactions/deals/trades etc. for all business units.</td>
</tr>
<tr>
<td>• Vague, abstract and incomplete ERM objectives lead to absence of top-down approach. This may hinder the business growth, control, direction and inflict capital loss. And also it leads to lack of clarity, performance measures, risk capital sustenance model and approach to position/transactions/new business with respect to risk objectives &amp; appetite</td>
<td>• Provides clarity on risk aggregation &amp; risk diversification. Also provides answers to the selection of corporate level risk &amp; return, i.e. what risk &amp; how much risk to be taken from which unit/LOB etc. and the corresponding return. It may lead to business growth at the unit level as per defined risk appetite</td>
</tr>
</tbody>
</table>

At operation level:

<table>
<thead>
<tr>
<th>Before Implementation</th>
<th>After Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absence of / Poorly defined Risk appetite framework</td>
<td>Robust well defined ‘Risk appetite’ framework</td>
</tr>
<tr>
<td><strong>Cost</strong></td>
<td><strong>Cost</strong></td>
</tr>
<tr>
<td>• Resource &amp; infrastructure cost, business opportunity cost and consulting cost – mostly operational risk, external risk &amp; financial risk consulting</td>
<td>• No regular cost at the operation level and at consulting level. The opportunity cost is minimized.</td>
</tr>
<tr>
<td>• Litigation/suit cost</td>
<td>• Reduced litigation/suit cost</td>
</tr>
<tr>
<td>• Permanent resources cost for regular reviews, updates &amp; reporting</td>
<td>• No permanent resource burden in payroll and reduced risk management required at the unit level</td>
</tr>
<tr>
<td>Growth &amp; Revenue</td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Incomplete &amp; poorly defined risk objectives &amp; poorly defined risk appetite leading to</strong></td>
<td></td>
</tr>
<tr>
<td>o Inadequate safeguarding mechanisms</td>
<td></td>
</tr>
<tr>
<td>o Incomplete &amp; poorly defined business risk capital model/policies at the unit level, i.e. higher or lower than required risk capital for expected and unexpected losses - i.e. tail risk loss of 1% and blur between 99% &amp; 1% risk capital loss</td>
<td></td>
</tr>
<tr>
<td>o Performance overachievement / underachievement of business target at unit level</td>
<td></td>
</tr>
<tr>
<td><strong>Robust, updated and well defined risk appetite framework, a part of ERM objectives, at the management &amp; directors level</strong></td>
<td></td>
</tr>
<tr>
<td>o Adequate safeguarding mechanism</td>
<td></td>
</tr>
<tr>
<td>o Performance achievement as per plan and performance &amp; transactions/sales audit</td>
<td></td>
</tr>
<tr>
<td>o Risk loss are mapped and monitored against expected loss, unexpected loss &amp; systemic loss</td>
<td></td>
</tr>
<tr>
<td>o Helps in performing simulation</td>
<td></td>
</tr>
</tbody>
</table>
Illustrative Case Study

XYZ Organization wanted to move ahead and implement the ERM program in the defined time frame. They are in the asset management & investment banking business and have operations in multiple countries. They have multiple business units, subsidiary/sister Organizations listed/registered in multiple countries and matrix reporting structure. All the chain ends up to the parent Organization for performance evaluation, monitoring & control and financing. There is regional control, country specific, to handle regulation & compliance and operations.

It is intending to comprehensively cover its all subsidiary arms and multiple business entity in various countries of operations. They have introduced a few innovative financial products in some of the operating countries with expectations of the higher return and to be the provider of innovative financial solutions to the client/customers.

They have identified teams from various business units to deliver on ERM program timeline. Though the Organization has risk management in place for some units/subsidiary that taking care of financial & operational risk but it is in bits & pieces, island in approach, incomprehensive and without any defined framework. They have adopted risk management as they have grown products, services & operations in multiple countries and are absolutely zero in framework based comprehensive ERM program across an Organization. They need to start from scratch, develop the framework and the ERM program for an XYZ Organization. Their accepted financial & operational tail risk are given below –
The following chart provides us the latest figures of the XYZ Organization on the required risk capital to have the capital adequacy for covering various tail risk positions.

The chart below highlights the enterprise risk & return with respect to the size of the business in multiple business units & subsidiaries across the globe. This chart depicts the three dimensional aspect of the enterprise business unit with ‘enterprise return’ as 1\textsuperscript{st} dimension, enterprise risk as 2\textsuperscript{nd} dimension and ‘enterprise size’ as 3\textsuperscript{rd} dimension.

We need to help them in developing the ERM framework & program and then implementing it across an Organization in all countries of operations.
What needs to be done to have ERM program in place?

- Introduce ERM concepts, application, disadvantage of not having ERM program and its benefits
- Get management & directors buy-out
- Carry out due diligence of existing landscape – IT & functional,
  - High level ERM framework design & high level ERM implementation plan
  - Identify stakeholders and update them on the risk appetite
  - High level risk appetite implementation schedule & plan
  - Detailed ERM risk appetite framework & program design
  - Detailed risk appetite implementation project plan
- Quantify the various risks using standard model/approach
- Take the enterprise risk loss data for all BU’s/Sub etc. with probability
- The data should cover operational risk, financial risk, regulatory risk, strategy risk and external risk
- Perform ABC analysis of risk-return
- Perform risk, return & BU size analysis in three dimensions
- Perform tail risk analysis
- Identify key risks
- Educate the employees & stakeholders,
  - Perform impact analysis w.r.t existing risk appetite plan/any other plan,
  - Design new model & guidelines, design processes & work flows,
  - Get the sign-off from the management and stakeholders,
  - Implement risk appetite program and do comprehensive documentation
- Perform final dry run, validation & testing,
  - Freeze capital requirements across multiple business units etc. in all countries
  - Design Reporting format & Dashboard and get sign-off

Bold points represent common steps performed in the ERM framework & program and risk appetite program.
Blue color points represent steps performed in both the ERM framework & program and the risk appetite program.
Black color points represent steps performed primarily in the risk appetite program.

[Please note – For more comprehensive details on the solution of case study, you can contact us at our mail. This case may be discussed at the ERM Symposium subject to available time & audience.]