

White Paper



Understanding the 360 Degree RISK Management Model

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Abstract

This paper discusses the imperatives of holistic risk management and proposes a 360 Degree Risk Management Model to identify risks and plan the right mitigation strategies.

Two shoe salespersons were sent to Africa to open up new markets. Three days after arrival, one salesperson called the office and said: “I’m returning on the next flight. I can’t sell shoes here. Everybody goes barefoot.” At the same time, the other salesperson sent an email to the factory, “The prospects are unlimited. Nobody wears shoes here!”

This famous anecdote reveals the two sides of a circumstance – a risk and an opportunity.

The whole point in undertaking a project is to achieve or establish something new, to venture, to take chances, to risk. Often organizations view risks as threats and devise means to avoid them, instead of planning effective responses. If risks lead to software failure, it would, most certainly, also imply business failure. Customer satisfaction and delivery efficiency can be improved by managing risks creatively.

Risks provide opportunities for innovation. To differentiate from competition, software project managers and organizations must see opportunities in risks and add value to client services.

In this paper, we propose a new model called the 360 Degree RISK Management Model that helps rate and innovate and also exploit opportunities. It focuses on enabling project managers and organizations to:

- Discover and seek the silver linings in the clouds of risk
- Periodically identify and mitigate the negative consequences of risks
- Utilize the learnings from dealing with risks to enhance the competency of managers

Understanding RISK – Positive and negative implications

In addition to being the hottest topic in the IT industry, RISK stands for Rate, Innovate and Share Knowledge.

Have we understood risk completely? What are the negative and positive connotations of risk in IT?

- The downtime of a site has financial repercussions due to business loss
- Violation of data disclosure and intellectual property laws can threaten the very existence of an organization
- Lack of processes is manifested in the form of non-compliance, poor disaster management and ineffective business continuity
- Stories of cyber crimes and instances of failure of implementing regulations depict the double-edged power of information technology

[Due to the vital role of IT in business, software failure directly or indirectly results in business failure.](#) The IT industry, unfortunately, seldom sees risks in positive light. In contrast, the finance and gambling industries view risks as asset enhancers.

Risk by itself is not bad. The secret lies in striking the right balance between its negative consequences and the potential benefits of the associated opportunity.

Drivers of a holistic risk management model

The primary drivers of a holistic risk management model are:

Qualitative drivers

Risk models have generally been reactive, silo-based and have resolved risks in a project’s immediate context. So, there has never been a focus on learning from the mistakes or experiences of others in the organization. Organizations have avoided risky projects and may have even ignored possible opportunities due to their conservative approach.

A holistic or enterprise outlook can change the mindset of organizations. They may explore and venture into new opportunities to reduce time-to-market, exploit new product lines, and enable participants to deal with risks in a mature way.

Quantitative drivers

Independent analysts indicate that it is 10 times more expensive to deal with risks in a fragmented manner as compared to an integrated approach. Statistics show that 30% IT investment in silo-based support for risk and compliance management is wasted.

Is there a model that helps save costs? Is there a model that can help us generate more revenue? Is there a model that helps people at operational level deal with risks in a streamlined fashion? Can we be the change agents to help ourselves and our organizations?

Constituents of the 360 degree risk management model

The 360 degree risk management model comprises people, processes, tools, services and robust governance.

Who are the **People**? As we are all aware, stakeholders belong to both the performing and outsourcing organizations.

What is the **Governance Model**? The governance model can be visualized as a PMO with Subject Matter Experts in risk, providing services to units across the organization.

Typical **services** rendered are portfolio and project support, training, tools support, corporate risk database maintenance, and innovation.

At the portfolio level, the model helps in analyzing trends in risks and providing recommendations. Guidance on responding to risks and mitigating them early is provided at the project level. Training and certification programs are conducted to increase awareness and address risks creatively. Tools are developed and maintained for managing risks. The model provides an agile set of processes that commence early in the project lifecycle. Senior management buy-in and involvement indicate the significance of addressing risks effectively

In order to standardize execution of activities and services, the model uses a variety of tools and techniques. The tools aid in project plan creation, associated budget preparation, performance tracking of portfolio, and dissemination of knowledge across the organization.

Implementation Approach and Efficiency Index

The success of an idea lies in its implementation and ability to measure efficiency. The philosophy behind the approach recommended here is that the model should be agile, selfsustaining and evolving. The Software Engineering Institute (SEI) recommends the concept of continuous risk management. This is achieved by using the Plan-Do-Check-Act or PDCA cycle.

1. Plan phase – Key stakeholders are identified and the framework is defined.
2. Do phase – After the processes and governance model are set up, the focus shifts to execution of services. Tools are deployed. Receivers of the service utilize the model right from the stage of project contract formulation to project closure. Recommendations of the risk gurus are implemented.
3. Check phase – Implementation efficiency is measured through a set of key performance indicators (KPIs). The KPIs are along several dimensions and help in measuring the positive and negative impacts of risk, for example:

% of risks found at beginning of project to those found at later stages
% of revenue saved due to early mitigation of risk
% of revenue increase due to innovation in risk management
% of knowledge sharing documents shared due to risk management to the total number of knowledge sharing documents from the project
% of Project Managers who are willing to take up high risk projects to the total number of Project Managers
Risk exposure amount as a percentage of the total project value
Usability of the service
Customer satisfaction index from projects that were serviced

4. Act phase – This is a self-correcting and evolutionary step. Based on the parameters computed above, root cause analysis is done to find out why risks appeared. The components of the model are revised based on feedback so that better services can be provided to the receivers of the model.

Processes and tools to effectively identify risks and plan risk response

Identifying risks and planning the right risk response is a core service provided by the model. Let us look at some of the [processes](#) required for this.

1. Opportunity-level processes – All proposals are vetted to review the level of risk and reasonableness of the clauses in the project contract. These processes help in prioritizing projects and scheduling projects within a program.
2. portfolio/Program-level processes – There are several interesting mechanisms for the portfolio and program to understand how different components contribute to overall risk of the portfolio
 - Projects in a portfolio are profiled with respect to risk using a formal risk assessment process.
 - Gather project-related information from internal systems and capture details bi-monthly using a risk assessment sheet
 - A standard workbook is created and used for project risk assessment for a 360 review of the project. Delivery Managers, Portfolio and Project Managers, Software Quality Analysts and Quality Manager are interviewed for their inputs. The list of risks is made available to the team for discussions.
 - Depending on the complexity of the situation, the PMO and Risk Subject Matter Experts may review or group review the project/account problems to arrive at the best possible solutions.
 - A risk assessment report is generated at the end of the exercise. The focus of this report is on converting solutions into action items.
 - Most projects then move to the monitoring stage to be followed up until action items are closed and/or project moves back to the 'normal' category.
 - Status tracker reveals [project risk](#) parameters due to time, quality and schedule. They also report the progress of risks.
 - Depending on the nature of the project, indices are used to indicate the level of [product quality risk](#). Product quality metrics are used for development and maintenance projects, the service satisfaction index is used by production support.
 - Project health and risk are reported through dashboards to the Senior Management (SM). Finer details can be drilled down based on role-access. All risks are updated to the corporate risk database.
3. Review and audits - Periodic review and audits by SM and internal auditors help in gauging risk response effectiveness and checking if learnings are adequately captured and used. The CMM level of projects is an indicator of project process maturity.
4. Risk reporting is very important for communicating and distributing information. Its usefulness depends on the level details provided. Weekly alerts to Project Managers contain Earned Value Management statistics and defect deviation of actuals from planned. In the report, risks are viewed on a time-scale – short, medium and long term. Progress of risk is monitored. Dependencies, impact and steps taken to meet risks are also presented.
5. Trend analysis helps to confirm if proper methods are followed. The quality team studies the qualitative and quantitative risks and impacts. Checks are made to see if the mitigation measures followed are compliant with processes. Milestone reports provide a peek into residual and secondary risks. Other trends analyzed are stability of requirements, defect density, errors due to incorrect releases, critical path changes, and productivity.

The [toolset](#) provided by this model is fine-tuned for practical use:

1. Corporate risk database – From the various business units within an organization, statistics with respect to risk situations like risks, choices that were available to address them, decisions taken and their success/ failure are collated in a single repository called the corporate risk database.
2. Pop-up tools – Imagine you are the manager of a new project and are preparing the project management plan. Would it not help to see all the risks that you might face in the project based on similar projects across your company? This tool offers lessons learnt from all other projects in the organization.

3. Program dashboards provide the state of risks in the program. Elements illustrated are Earned Value Management, quality of service, coverage of projects under the model, percentage of projects in risk, process metrics trend, productivity, customer feedback index, and financial analytics.
4. The “money at risk calculator” is a tool that tracks the \$ value at stake due to impending risks.

Mechanisms to exploit opportunities in a risk

It is better to be prepared for an opportunity and not have one than to have an opportunity and not be prepared. Several companies that initially saw only the risks in outsourcing later identified it as an opportunity and exploited it by setting up bases across the globe. The techniques presented below help in solving problems innovatively and exploiting them for positive impact:

1. SWOT analysis – A strategic business planning tool. Opportunities and threats are external factors that we may not have direct control over whereas strengths and weaknesses are internal to the organization and can be worked on. This analysis can be deployed to select projects and formulate strategies to achieve business goals.
2. TRIZ – The Russian acronym for the theory of inventive problem solving. It provides ways to search patent databases and solutions in other industries to help solve problems by identifying contradictions in them.
3. Portfolio-level innovation techniques – Used to study risk trends at the portfolio level. The learnings are used to create new ideas for other projects. The specific solution to a risk can be converted into a more generic one and applied to other projects in the portfolio. For example, in a particular portfolio of company X, projects always ran behind schedule, resulting in escalations. On analysis, it was found that the PM had not taken into consideration certain processes on the client side. The stakeholders worked together and modified the schedule. Portfolio managers must identify all client processes, map them to their own processes, negotiate with the client on the overlapping activities and arrive at a standard template of the schedule.
4. Project-level opportunities tracking – To identify/create new tools and services. For example, if there is a schedule risk and the code documentation is yet to be developed, creating a new tool to automate documentation will save effort and help meet the schedule. This document generator will be the project’s contribution to services like tool-based code documentation.
5. Organizational process changes – The corrective actions taken in various portfolios in the organization over a time period (e.g. annual) after a risk is analyzed for root causes. Thus, risks also provide an opportunity to review and make organizational-level process changes.

Knowledge sharing mechanisms to enhance competencies

The flight or fight behavior exhibited by most managers is influenced by psychology, social settings, experiential knowledge in the industry, and the organization’s risk tolerance levels.

Competent managers must address various issues including financial, performance, regulatory and management issues to create a winning software product. In order to hone the “R” or Risk response skills of managers, we propose several methods:

1. Establish education and certification programs to enhance skills in risk management tools.
2. Create a network of managers who have handled high-risk projects to share their learning and experiences. This forum can serve as a stress-buster in times of high pressure and provide peer support.
3. Create a forum of risk experts who can be contacted when projects are faced with the need to take informed decisions and trade-offs in critical risk situations.
4. Create a portal of lessons learnt from various projects.
5. Conduct knowledge sharing colloquiums to gather lessons and best practices from other companies in the industry.
6. Build a compendium of all possible risks in the lines of business undertaken by the organization, their causes and impact on product quality and performance metrics.
7. Create a knowledge asset of risk lists and a comprehensive set of generic protective actions.
8. Build risk management into the goals of project managers and business units to encourage risk seeking.

Benefits of the 360 degree risk management model

The 360 degree risk management model helps:

- Gain competitive edge by providing depth and rigor
- Ensure operational continuity, mitigate risks early, and avoid financial loss
- Calculate the risk impact holistically through KPIs
- Increase predictability, trust worthiness and enhance brand value
- Improve quality of service, quality of products and operational efficiency
- Seek and exploit opportunities in risks, while avoiding reckless risk appetite
- Expand the business footprint, and product and service diversification
- Move uncertainties from blind spots to areas where they can be measured, monitored and responded to

At Infosys, this model helped us:

- Focus on getting off the starting blocks early to identify risks. We can now zoom in on high risks and mitigate them early.
- Reduce the number of critical risk projects, which constituted a miniscule % of the total number of projects, by further 50 %

Implementation challenges and solutions

There are a few challenges in implementing this model:

- This is a base model with constituents for most situations; it does not provide solutions for all situations all the time. It needs to be adapted, customized and extended based on the risk trends in the organizational and business needs.
- The first response to any change or movement is to resist it and avoid it by stating several different reasons on why it is difficult to practice or how it might fail. Concerns regarding how the organization will react to failures or crisis can be overcome by providing incentives to risk takers. The management must exhibit maturity in tolerating failures and must encourage people to move out of comfort zones and experiment.
- When managers see the shift in the risk posture of the SM and perceive the openness to learn from failures and success, they will be inclined to embrace change.

Conclusion

The benefits of this risk model provide enough incentive for practitioners to adopt it as the framework to innovate, share knowledge and holistically respond to risks.

Based on the inherent strengths and weaknesses of an organization, risk handling strategies have to be modified to enable managers to make their programs and projects successful. The concepts and skills need to be woven into day-to-day business decision-making. They must be self-correcting and self-sustaining for continuous improvement of software products and services.

The 360 degree risk management framework is designed to take the IT industry to a whole new plane of responsibility. From merely providing technical solutions to customers, we can become their trusted business partners.

References

- This paper is based on the paper “360 Degree RISK Management Model – A new model to Rate, Mitigate and Exploit Opportunities” originally published as a part of QAI PML Conference 2007 by V.S.Srividhya and Ananth Subramanian
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- www.infosys.com

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