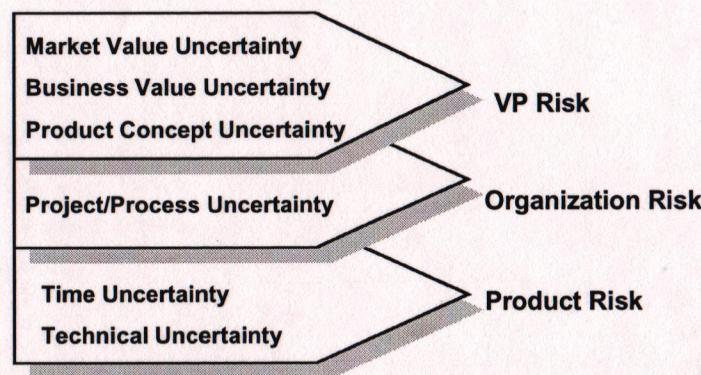


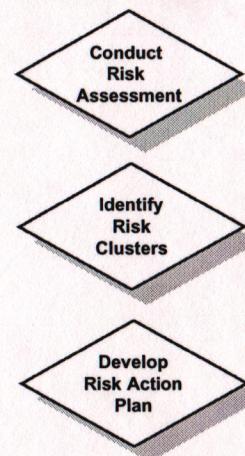
RISK REDUCTION & UNCERTAINTY PLANNING: What is it?

- ⇒ System for capturing and managing risk & uncertainty
- ⇒ Input to master planning schedule
- ⇒ A tool for quantifying uncertainty
- ⇒ A means of involving multiple disciplines in product development

Integrating Sources of Risk

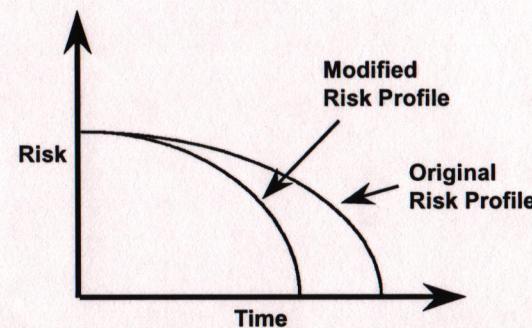


Risk Assessment Process



- calculate risk levels
 - Total Project Risk
 - Baseline Risk
 - Manageable Risk
- group related risk areas
- total the manageable risk level for each cluster
- identify actions to address clusters
- calculate impact of actions
- prioritize actions
- identify primes and target dates

Risk Management Profile



1

MR = MARKET REQUIREMENT
BR = BUSINESS REQUIREMENT
PS = PRODUCT SPECIFICATION

DR = DESIGN REQUIREMENT
PDR = PRODUCT DESIGN REQ
RDR = RELEASE DESIGN REQ

Risk Reduction Planning Matrix

Risk	Optimal Condition	Project Scenario	Baseline Risk (BRL)	Manageable Risk (MRL)
Potential need customers have for this product. (MR)	Well defined and understood need for the product.			
Satisfaction customers have with current products. (MR)	Weak satisfaction with current products in the market.			
Related products ability to meet customer needs. (MR)	Current products meet customer's basic needs only.			
Company understanding of the customer's value-chain. (MR)	We fully understand our customer's value-chain.			
Product's support to the customers business strategy. (MR)	Product will become an integral part of customer's business.			
Company's understanding of competitors in the market. (MR)	All competitors have been identified and researched.			
Company's understanding of the number of competitors similar offerings. (MR)	Similar products and product concepts have been identified and researched.			
Strength of current and future competitors in the market. (MR)	Current and future competitors are average to weak strength.			
Reaction of competitors to our entry into the market. (MR)	Competitors will be unable to hinder our entry into market.			
Probability of new competitors into the market after our product is introduced. (MR)	Limited probability of entry of new competitors.			
Sub Totals				

Risk Reduction Planning Matrix

Risk	Optimal Condition	Project Scenario	Baseline Risk (BRL)	Manageable Risk (MRL)
Regulatory issue and trends. (MR)	Researched and understood			
Market conditions imposed environmental issues and trends. (MR)	Researched and understood			
Macroeconomics effects on product entry into the market. (BR)	Current and near future economics support product entry.			
Socio-cultural and demographic effects on product entry into the market. (BR)	Researched and understood			
Effects of market trends on product success. (BR)	Market is growing and will support a new product entry.			
Dollar size of the present and potential market. (BR)	Market will support product entry and projected growth.			
Expected growth rate of the market. (BR)	High to very high growth projected.			
Effects of price competition. (BR)	Limited price competition.			
Trade-off study results on time-to-market, quality, costs, and features. (PS)	Study results understood and factored into product specifications.			
Current relationship with the product's potential customers. (PS)	Excellent understanding of customers and solid long-term relationships established.			
Sub Totals				

Risk Reduction Planning Matrix

Risk	Optimal Condition	Project Scenario	Baseline Risk (BRL)	Manageable Risk (MRL)
Company record with similar products and markets. (PS)	Track record of success with similar products and markets.			
Product and market compatibility with our organization's strategy. (PS)	Fit with company strategic plan.			
Capacity and skill of R&D, engineering, and manufacturing to support product development. (PS)	Product requirements within capacity and skill levels.			
Capacity and skill of marketing, advertising, and sales to support product development. (PS)	Product requirements with capacity and skill levels.			
Priority level of product in relationship to the other products in the company. (PS)	Product success viewed as critical to long-term success of the organization.			
Voice of the customer involvement in developing product and market specifications. (PS)	Product specifications have been developed from well researched and understood customer requirements.			
Competitive benefits of the product concept. (PS)	Product will be significantly better than current market products.			
Prototype tests meet or exceed customer expectations. (PS)	All expectations exceeded.			
Sub Totals				

Risk Reduction Planning Matrix

Risk	Optimal Condition	Project Scenario	Baseline Risk (BRL)	Manageable Risk (MRL)
Product will expand the customer's value-added capabilities. (PS)	Product will significantly improve customer's capabilities			
Customer quality expectations of the product. (PS)	Product will exceed customer quality expectations.			
Innovation of product concept. (PS)	Innovative but acceptable.			
Measurable market demand for the product. (PS)	Well researched and understood high product demand.			
Product launch data in relationship to projected market window of opportunity and competitors offerings. (PS)	Product launch will match a projected market opening without similar offerings from competitors.			
Number and size of market and segments the product is aimed at. (PS)	Will easily support product entry and sales growth.			
Relationship between customer needs and product specifications. (PS)	Product specifications tied directly to customer needs.			
Distribution system for the product. (PS)	Fully developed & understood.			
Company experience with the required distribution system. (PS)	Well understood.			
Customer experience with the required distribution system. (PS)	Standard distribution system for customers.			
Sub Totals				

Risk Reduction Planning Matrix

Risk	Optimal Condition	Project Scenario	Baseline Risk (BRL)	Manageable Risk (MRL)
Customer involvement in the product development process. (DR)	High volume customers are part of the IDD team.			
Supplier involvement in the product development process. (DR)	High volume suppliers are part of the IDD team.			
System for identification and selection of IDD team members (DR)	Well developed and understood by organization and team.			
Team formation and training practices. (DR)	Fully developed and supported by organization and team.			
IDD team performance measures. (DR)	Product specific and general measures well developed.			
Systems to support IDD team continuous improvement. (DR)	Well developed and understood by the organization and team.			
Team accommodations in the organization. (DR)	Space and equipment available now.			
Systems to support information management and distribution. (DR)	Software and hardware available now.			
Senior management support for the IDD team. (DR)	Senior management is actively involved in the project.			
Functional manager support for the IDD team. (DR)	Functional managers are actively supporting the project.			
Sub Totals				

Risk Reduction Planning Matrix

Risk	Optimal Condition	Project Scenario	Baseline Risk (BRL)	Manageable Risk (MRL)
Resources to support IDD team formation, training, and operations. (DR)	Resources have been identified and approved.			
Well documented and understood product development process. (DR)	Organization and team is fully trained & using the approved product development process.			
Team and organizational discipline to stay with the IDD process and project. (DR)	Organization and team commitment agreed to.			
Agility to respond to changes in market conditions and customer requirements. (DR)	Systems and processes in place to monitor and respond to the market changes.			
Understanding and agreement on the product development time schedule. (DR)	Schedule is realistic, matches resources, and agreed to by the organization & team.			
Contingency plans to address slippage in the development time schedule critical path. (DR)	Critical development tasks identified and contingencies developed.			
Supplier commitment to the product development time schedule. (DR)	Written agreement from critical suppliers to product development schedule.			
A well developed and understood configuration management system. (DR)	System used successfully on prior projects and well understood by IDD team.			
Sub Totals				

Risk Reduction Planning Matrix

Risk	Optimal Condition	Project Scenario	Baseline Risk (BRL)	Manageable Risk (MRL)
Product development system that identifies, prioritizes and baselines product design specifications. (DR)	Well developed configuration management system in place and tested.			
Senior management support for time-to-market principles. (RDR)	Time-to-market is part of the company strategic plan.			
IDD team support for time-to-market principles. (RDR)	Team trained and agree to principles.			
Involvement of manufacturing, sales, and field support in the early stages of product development. (PDR)	Manufacturing, sales, and field support are active members of the IDD team.			
Current level of technology in the market. (PDR)	Well understood and documented.			
Potential customer's understanding of the product technology. (PDR)	Well understood and documented.			
Current competitor's technology level. (PDR)	Below company abilities and below customer needs.			
Potential competitor's technology level. (PDR)	Below company abilities and below customer needs.			
Technology associated with the market analysis study. (PDR)	Complete and well developed marketing analysis completed.			
Sub Totals				

Risk Reduction Planning Matrix

Risk	Optimal Condition	Project Scenario	Baseline Risk (BRL)	Manageable Risk (MRL)
Technology associated with the design of the product. (PDR)	Existing design technologies meet product development needs.			
Technology associated with the manufacture and distribution of the product. (PDR)	Well developed and understood, will meet product needs.			
Potential for technology in similar markets to be modified to meet customer requirements. (PDR)	Technologies are not suitable to be modified to compete in this market.			
Performance of existing product technologies. (PDR)	Existing product technologies are inferior.			
Costs associated with utilization of existing and proposed product technologies. (PDR)	Low cost to utilize existing or new technologies to support product development.			
Development of other products needed for the success of this effort. (PDR)	Low or no interdependence between this and other products.			
Sub Totals				

GRAND TOTALS _____

TOTAL PROJECT RISK LEVEL (TPR) = TOTAL BASELINE RISK LEVEL (BRL) + TOTAL MANAGEABLE RISK LEVEL (MRL) = _____