RISK-ANALYSIS

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1 Introduction

1.1 Risk Management Concept

The success of a project depends on a great number of factors. These factors need to be determined before and at an early stage of the project and need to be managed during the project.

All projects contain an element of risk. It is a project manager's responsibility to identify and evaluate risk factors inherent in a project and, where possible, define appropriate steps to avoid or mitigate problems that may be caused by each risk.

This document is intended as an aid to project managers by highlighting some know risk factors.

1.2 Definitions:

Risk:
A risk is a factor or event which can cause the execution of a Power project to deviate undesirably from plan

Types of risk:

In Power three different types of risks are recognised:

1. Entry risks
   Risks caused by not meeting the minimal requirements for a successful project.
2. Complexity risks
   Risks caused by the level of uncertainty for the project, which makes it difficult to produce reliable estimates/plans.
3. Calamities
   Risks caused by unwanted disturbing events.

2 Risk Management Process

Handling the risks of a project includes four steps:

1. Identify/quantify the risks.
2. Determine how to handle the risk
3. Monitor the occurrence of those factors/events which constitute a risk to the project.
4. Execute corrective actions if necessary

Risks should be assessed for every phase of a project. Risk assessment - or Risk Analysis - vary from a gross, intuitive assessment performed by the project manager and a user representative to a thorough analysis using a risk analysis questionnaire as contained in this document. The greater the apparent risk, the more time should be spent assessing the risk.

Once a risk has been assessed, strategies to prevent or minimise risk elements must be identified. At the highest level, the following steps are possible:

- take no action
- eliminate the risk
- take preventive actions to minimise the consequences/lower the probability
- plan the actions to be taken when a risk occurs
- define contract conditions

Some actions that can be taken are:

- good planning with clear checkpoints and milestones
- extra training for project staff
- starting activities earlier (e.g. specifying user acceptance criteria)
- further analysis of weak areas (e.g. more detailed definition of deliverables)
- use of formal procedures (e.g. change management)
- use of standards and tools
- regular and meaningful communication
- formal sign-offs of deliverables

3 Contents of Risk Checklist

3.1 Entry Conditions

Project Mission	Overall scope and objectives of the project
Culture	The culture of the Client's organisation
Project Structure	The structure of the project, team location, use of standards and methodologies
Project Organisation	Quality/experience of project management and team members, tasks & responsibilities
Project Environment	The possible effects of external factors on the project

3.2 Complexity

Size	Length of the project, parts of the Client's business covered, number of end users
Type of Project - IS Part	SAP R/3 and the surrounding systems architecture
Type of Project - BP part	Business Process changes
Type of Project - IT part	Technology risks
Users	End users experience, attitude and equipment needs
General	General risks

3.3 Calamities

External	Staff changes, external supply failures
Project	Activity delays, late deliveries by other contractors and/or Client IS/IT groups, decisons not taken

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4 RISK CHECKLIST - Entry Conditions

4.1 Project Mission

		0	1	2	3	4	5	
Project scope definition	clear							not clear
Project objectives definition	clear							not clear
Commitment of upper level Client management towards the project	high							low
Consensus between the involved persons regarding the project	high							low
Priority of the project within the organisation	high							low
Summary for Project Mission	**low risk**							**high risk**

4.2 Culture

		0	1	2	3	4	5	
How can the decision making process be described	plain							complex
The willingness of the customer organisation to change	high							low
How is the attitude of the users towards the project	positive							negative
Project Team's adaptability to customer's culture	no issue							difficult
Summary for Culture	**low risk**							**high risk**

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4.3 Project Structure

		0	1	2	3	4	5	
The division of the project in sub-projects	clear							not clear
The place of Business Process Redesign	integrated							separate
The use of other contractors	none							> 4?
The use of a project methodology	proven							none
The use of project planning, tracking and reporting techniques	low							high
The major deliverable dates and operational dates	clear							not clear
The use of standards/procedures:	yes							no
- Quality Control								
- Hand-over Procedure								
- Change Procedure								
In how many locations is the Project Team located	one							> 2?
Summary for Project Structure	**low risk**							**high risk**

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4.4 Project Organisation

		0	1	2	3	4	5	
How is the quality of the project management?	high							low
- experience in project management								
- experience with similar projects								
- organisational level								
How is the quality of the SV&P CONSULT's project team members?	high							low
- experience with similar projects								
- knowledge of applicable R/3 modules								
- knowledge of applicable business processes								
How is the quality of the Client's project team members?	high							low
- experience in automation								
- experience with similar projects								
- knowledge of SAP and R/3								
- knowledge of applicable business processes								
How is the structure of the project organisation?	balanced							unbalanced
Definition of the tasks/responsibilities of the team members	clear							not clear
The number of part-time team members	none							all
Summary for Project Organisation	**low risk**							**high risk**

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4.5 Project Environment

		0	1	2	3	4	5	
Probability of an environment change making the project redundant	low							high
Probability that the availability of resources will endanger the project	low							high
Does the project depend on other projects	no							strongly
Quality of Client documentation available to support the project	low							high
Summary for Project Environment	**low risk**							**high risk**

4.6 ENTRY CONDITIONS RISKS (summary)

	result	weight	score	max. score
Project Mission		x 3		15
Culture		x 1		5
Project structure		x 1		5
Project organisation		x 2		10
Project environment		x 3		15
Total				50

ENTRY CONDITIONS - overall	**low risk**							**high risk**

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0 10 20 30 40 50

5 RISK CHECKLIST - Complexity

5.1 Size

What will the elapsed time of the project be (Implementation till optimise)?	0 - 12	months	0	
	12 - 24	months	10	
	>24	months	20	
How many team members (customer, IS supplier, other contractors) will be involved ?	6 - 10	persons	0	
	11 - 20	persons	5	
	21 - 40	persons	10	
	> 40	persons	20	
How many legal entities will be involved ?	1	legal entity	0	
	2 - 3	legal entities	10	
	> 3	legal entities	20	
How many departments will be involved?	1	department	0	
	2 - 3	departments	5	
	> 3	departments	10	
How many countries will be involved ?	1	country	0	
	2	countries	15	
	>2	countries	30	
How many locations are involved ?	1		0	
	2 - 5	locations	5	
	> 5	locations	10	
How many users' work is influenced by the project result ?	1 - 20	users	0	
	21 - 50	users	10	
	> 50	users	20	

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Total for Complexity risk, regarding size **score :**

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5.2 Type Of Project - IS Part

The IS-type of project ?	replace replace entirely	automated system partly auto system new system	0 10 25	
Number of systems that should interface (continuing) ?	none 1 - 2 3 - 10 > 10	 systems systems systems	0 10 25 30	
Number of once-of interfaces to be developed ?	none 1 - 3 > 3	 interfaces interfaces	0 2 5	
The level of support by the package supplier ?		good neither good nor bad bad	0 10 20	
To what extent will SAP R/3 require modification ?	none some much	 modification modification	0 5 15	
The number of implementations of SAP R/3 elsewhere ?	> 5 1 - 5 none	implementations implementations	0 10 20	
The results of these previous implementations ?		successful partly successful failure	0 5 10	
Total for Complexity risk, regarding type of project - IS part			**score :**	

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5.3 Type Of Project - BP Part

Percentage of involved processes to be re-engineered ?	none	0	
	0 - 25% change	20	
	25 - 50% change	40	
	> 50% change	60	
Level of cross-departmental re-engineered processes ?	none	0	
	partly	10	
	all	20	
Will the organisational structure (within the project scope) be changed ?	no	0	
	minor changes	25	
	major changes	50	
Percentage of involved processes to be improved ?	none	0	
	0 - 25% change	5	
	25 - 50% change	10	
	> 50% change	20	

Total for Complexity risk, regarding type of project - BP part **score :**

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5.4 Type Of Project - IT Part

Will new server(s) be installed ?	no partly entirely new	0 5 10	
Will new “clients” be installed ?	no partly entirely new	0 2 5	
Will new peripherals be installed ?	no partly entirely new	0 2 5	
Will new WAN’s, LAN’s and telecoms be installed ?	no partly entirely new	0 5 10	
Will special, non-standard hardware be required?	no yes	0 10	
Will a new operating system be installed ?	no yes	0 10	
Will new hardware suppliers be needed ?	no 1 - 3 new H/W suppliers > 3 new H/W suppliers	0 5 10	
Total for Complexity risk, regarding type of project - IT part		**score :**	

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5.5 Users

Users' experience with data processing ?	high average low	0 10 25	
Users' experience with SAP R/3 ?	average low none	0 5 10	
Level of training needed for end users ?	low average high	0 5 10	
Do the end users need new equipment ?	no partly yes	0 5 10	
How is the attitude of the users towards the project	positive mixed negative	0 10 20	
	Total for Complexity risk, regarding users	**score :**	

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5.6 General

Users' experience with data processing ?	high acceptable low	0 20 40	
Does a deadline for the project exist ?	no reasonable deadline vague strict	10 0 10 20	
Total for Complexity risk, regarding general aspects		**score :**	

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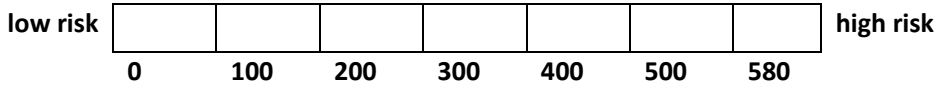
5.7 COMPLEXITY RISKS (summary)

	result	weight	score	max score
Size of the project		x 1		130
Type of project IS part		x 1		125
BP part		x 1		150
IT part		x 1		60
Users		x 1		75
General		x 1		60
Total				600

COMPLEXITY



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6 RISK CHECKLIST - Calamities

calamity description	**probability** high/average/low	**impact** high/average/low	**contingency plan** available/not necessary/to be made	**contractual arrangements** yes/no
"External" calamities – sickness key staff – priority change team members – resignation team members – energy supply failure – late delivery other projects – resignation project "sponsor" – org. change customer organisation **Project calamities** – late delivery by other contractors – delay in certain activities – absence of a decision				