SNS COLLEGE OF ENGINEERING

Kurumbapalayam(Po), Coimbatore – 641 107

Accredited by NAAC-UGC with 'A' Grade

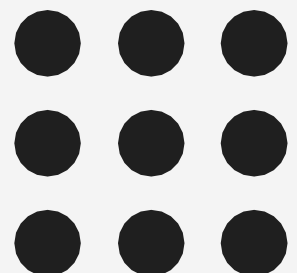**Approved by AICTE, Recognized by UGC & Affiliated to Anna University, Chennai**

Department of Information Technology

Course Name – IT8075 Software Project Management
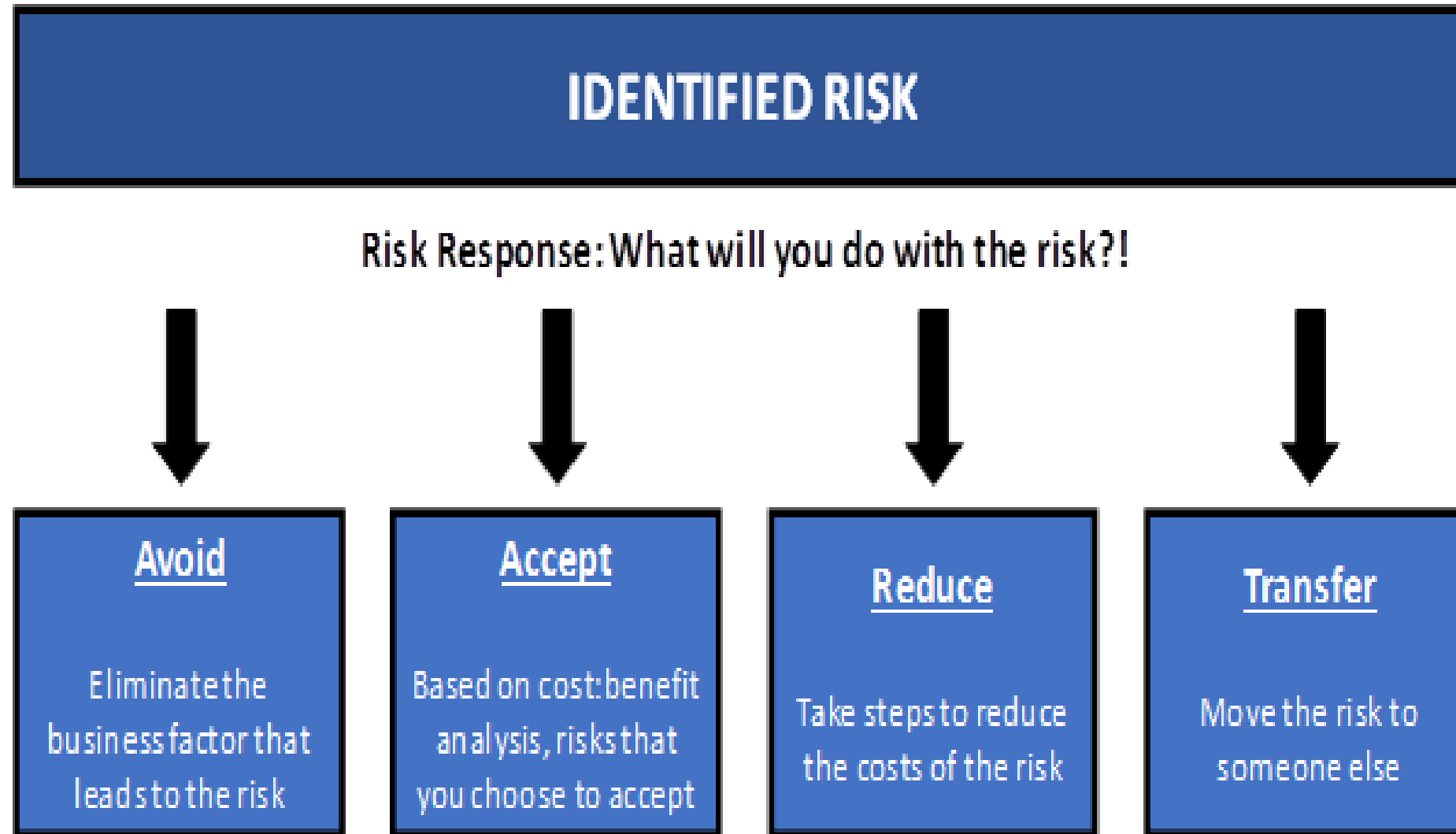
IV Year / VII Semester

Unit 3 – Activity Planning and Risk management

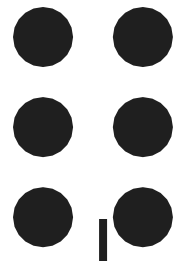## Topic 7 – Risk Planning and Management

Risk Planning

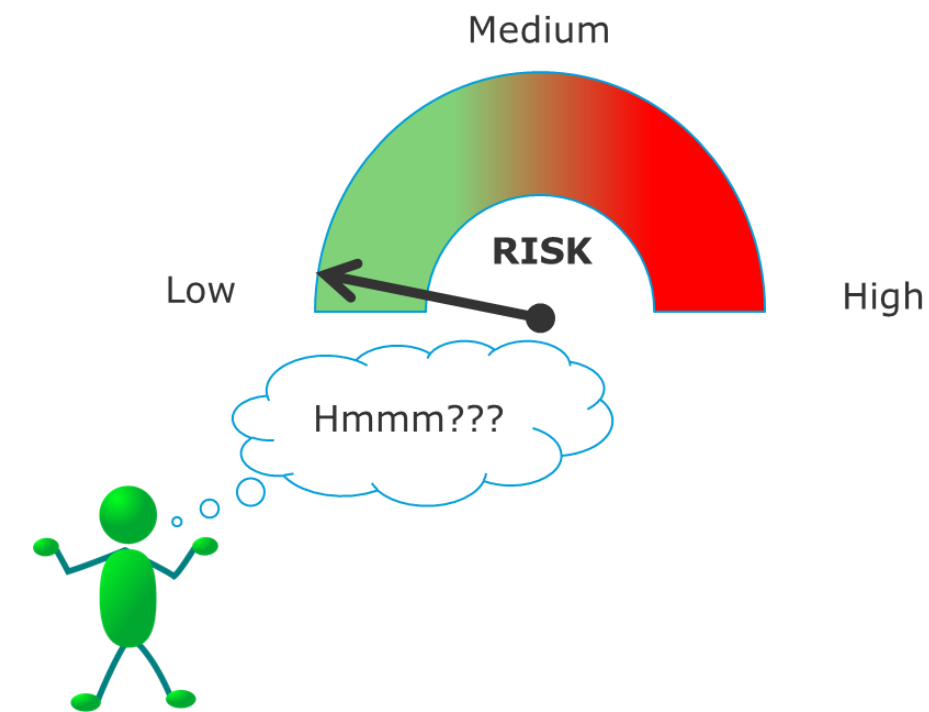How to deal with risks after identification?
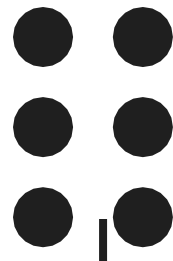
Risk Planning

Risk Acceptance

- Do-nothing option

- Ignore some risks in-order to concentrate on more damaging risks

- Damage inflicted by some risks would less than cost of action that might reduce probability of risk happening.

Risk Planning

Risk Avoidance

- Some activities so prone to accident, so avoid them altogether
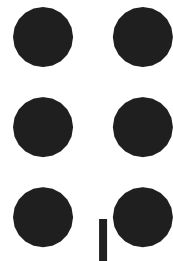
Instead of developing software from scratch

- Retain existing clerical methods

- Buy off-the-self solution

CUSTOM VS. OFF-THE-SHELF SOFTWARE

Risk Planning

Risk Reduction

- Go ahead with risks

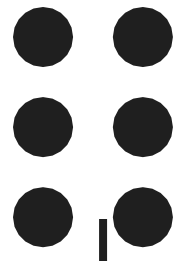- But take precautions to reduce probability of risk

Example
- Staff might be moving away from project

- Keep them with bonuses after completion.

Risk Planning

Fairley's Commercial-off-the-self (COTS)
Acquisition Risks

| Integration	Difficulties in integrating data formats and communication protocols of different applications
Upgrading	When the supplier upgrades the package, the package more longer meets the user's requirements. Sticking with old version could mean losing the supplier support for the package
No Source Code	If you want to enhance the system you might not able to do so as you do not have access to the source code
Supplier failure or buyouts	The supplier of the application might go out of business or be bought out by a rival supplier
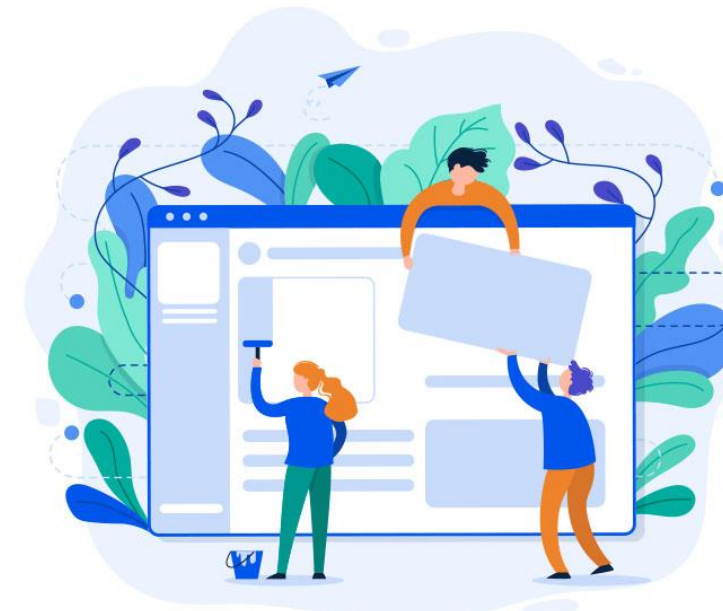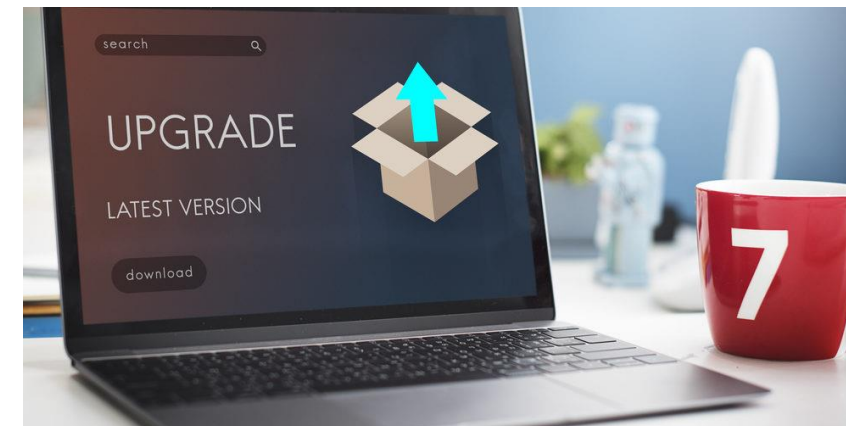
Risk Planning

Risk Reduction vs Risk Mitigation

- Risk reduction is attempt to reduce the likelihood of the risk occurring

- Risk mitigation is action to ensure that the impact of the risk lessened when it occurs.

- Mitigation is closely associated with contingency planning.
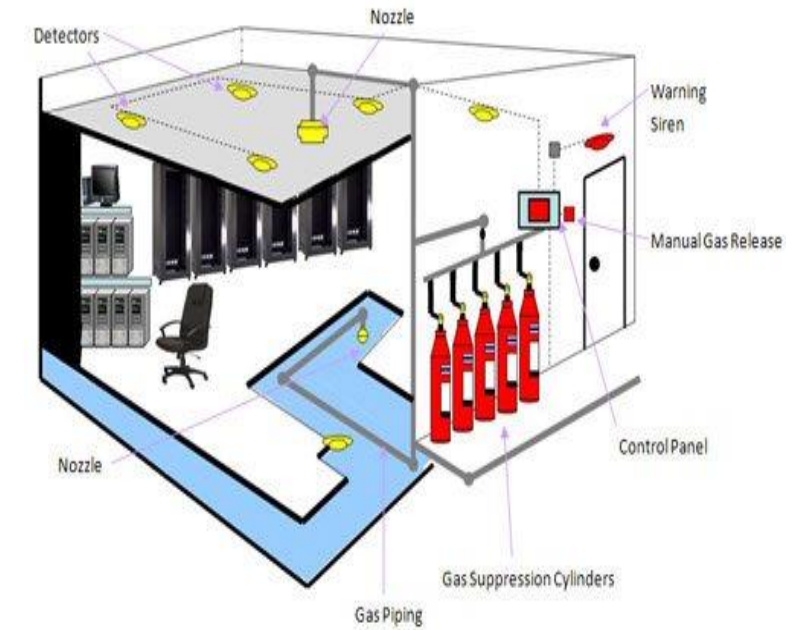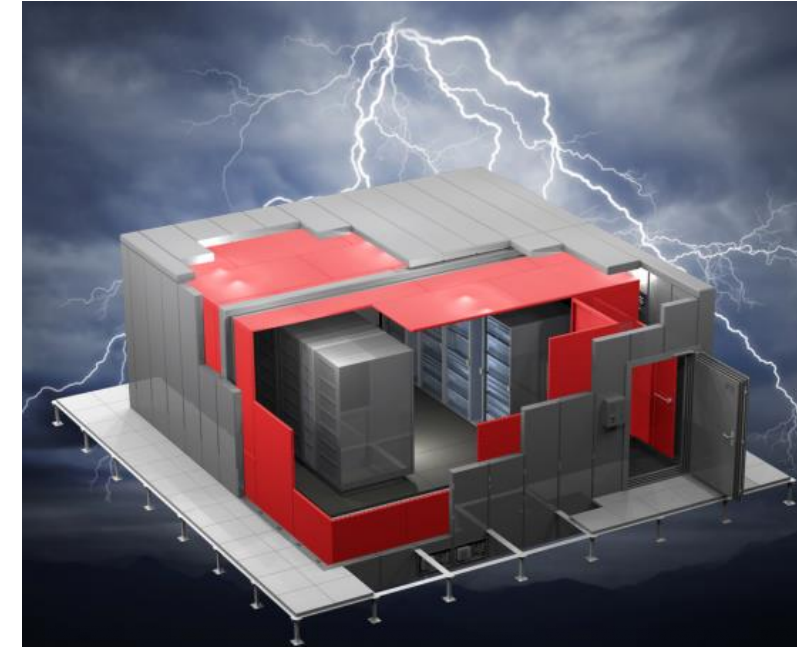
Risk Planning

Risk Transfer

- Risk is transferred to another person or organisation.

- Software development task is outsourced to an outside agency for fixed fee.

- Supplier quote higher cost to cover risks associated with it.

- External agency have productivity advantages as its developers are experienced
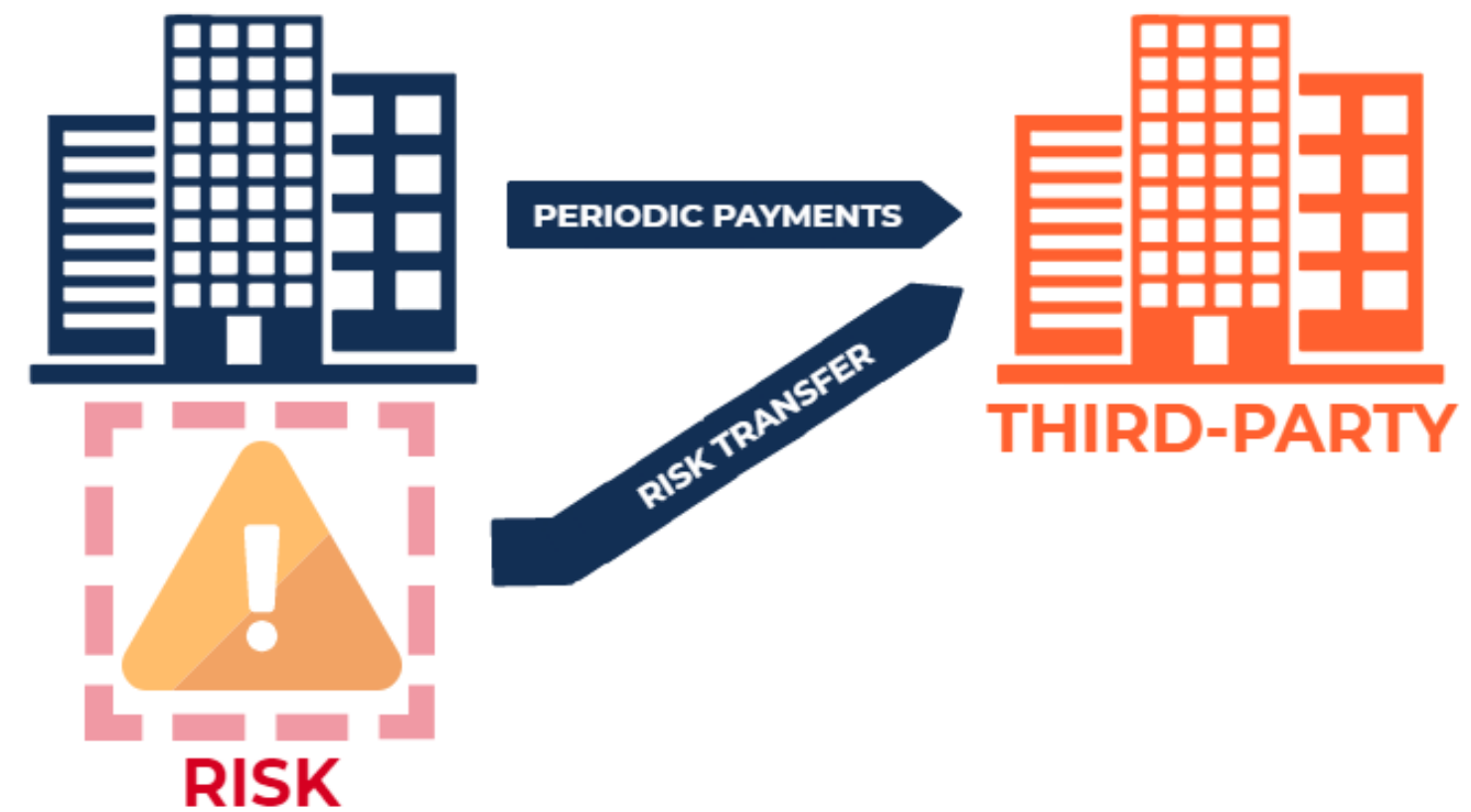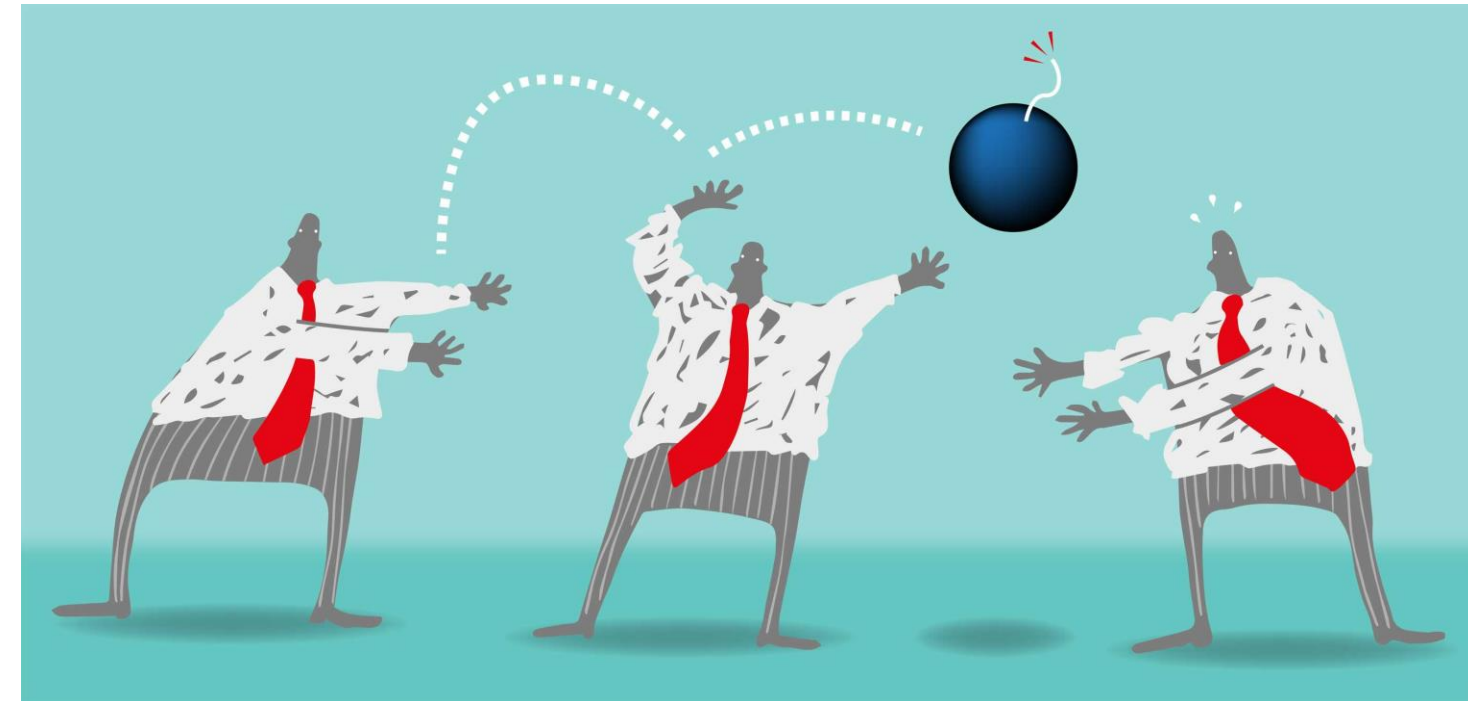
Risk Management

Contingency
- Risk reduction activities have small impact on reducing the probability of risk

Contingency plan
- Planned action to be carried out if particular risk materialize
- One staff ill, others dragged into project
- Preventive measures for risk reduction incur cost regardless of risk materialize or not
- Cost associated with contingency plan only incur if the risk actually materialize

Risk Management

Deciding on the Risk actions
- For each risk, specific actions have to be planned
- All plans must be cost effective
- Cost effectiveness of risk reduction action can be assessed by calculating Risk Reduction Leverage (RRL)

- Risk reduction leverage = (RE_{before} – Re_{after}) / (cost of risk reduction)

- RE_{before} – Risk Exposure before risk happens and risk reduction takes place

- RE_{after} – Risk exposure after taking the risk reduction action

- RRL above 1.00 – Reduction in risk exposure achieved by a measure is greater than its risk.

Risk Management

Example
- $200,000 to replace a H/W configuration used to develop S/W app.

- 1% chance of fire, 0.01 Probability

- Risk exposure = $200,000 X 0.01 = $2000

- Fire alarm installation cost = $500, It reduce chance of fire by 0.5%

- New Risk exposure = $200,000 X 0.005 = $1000.

- Risk reduction leverage = $(RE_{before} - Re_{after})$ / (cost of risk reduction)

- RRL = (2000-1000)/500 = 2

Risk Management

Creating and Maintaining Risk Register

- Most threatening risk are identified and registered in a risk register.

- More risks are identified as project progress and also registered

- At regular intervals risk register reviewed and amended

- When risk is completed it is closed as no longer relevant

- Probabilities and impact of risk likely to change during the project

THANK YOU