CSIP5403: Research Methods and Applications

Lecture 7: Risk Management

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Outline

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Project Risk Analysis

- A significant proportion of student fail to complete their MSc either as a result of failing their MSc project or as a result of non submission
- Many projects grind to a halt as a result of poor communication between the student and supervisor
    - establish agreed methods and frequency of communication at the outset
- It is worth to carry out an analysis of the risks involved in a project and to plan for managing theses
    - Simple process of evaluation, action and reflection
    - Discuss with supervisor
    - It can make the difference between . . .

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Risk Table

An effective way of presenting risk of a project

Risk identification	Probability	Impact	Assessment (combine probability and impact)	Risk monitoring, mitigation and management

Table: Perceived risks of the project . . . , their assessment and the action to put in place to mitigate them.

Risk Identification

- Fundamental: be proactive rather than reactive
- If you do not identify the risk it will identify you!
- Conduct it before the project, after the commencement of the project and during the life time of the project

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Risk Identification

Risks can be classified into[1]

- Project risks – may affect the plan and cause schedule to slip or costs to rise
- Technical risks – the problem is harder than first thought, and the implementation is therefore difficult/impossible
- Business risks – may threaten the viability of the project/product

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[1]Adapted from Pressman, R., (2004). Software Engineering A Practitioner's Approach. 5th Edition, McGraw-Hill Education. London. Chapter 6

Risk Identification

Project risks – most important category; centre around the key stakeholders

The student: risks may include illness leading to delays in schedule, lack of understanding, lack of commitment, personal problems etc

The supervisor(s): risks may include non-availability, lack of support, delays in getting feedback etc

Research participants: it is easy to underestimate the time taken to set up interviews and the difficulty involved in getting survey participants

Other project risks may include: budget; misunderstanding of requirements; lack of clear objectives; lack of resources

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Risk Identification

Technical risks – In IT projects these can be categorised according to different stages of the lifecycle:

Design

Implementation

Interfacing

Verification

Maintenance

Risk Identification

Business risks – less important for MSc project

Market

Strategy

Sales

Management

Budgetary/personnel commitment

Risk Projection

- Also known as risk estimation, or likelihood projection
- Use range of values
  - Very unlikely
  - Unlikely
  - Possible
  - Probable
  - Very probable

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Risk Impact

- Estimate the consequences should the risk mature
- interested in consequences on: cost, schedule, performance (quality), and support
- Use range of values
  - Catastrophic
  - Serious
  - Important
  - Marginal
  - Negligible

Risk Assessment

- It is essential to consider the compound combination of risks.
- It is at this stage that we are deciding which risks need to be managed: some prioritisation is essential in order that the risk management process does not become a risk in itself.
- The prioritisation can be shown in the table by organising it so that the most significant risks are ranked highest
- Risks of low impact, but high likelihood are more important typically than those of high impact but low likelihood
- Use range of values
  - Very high
  - High
  - Medium
  - Low
  - Very low

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Risk Mitigation, Monitoring and Management

- The objective of risk monitoring is to describe a process to check on the status of the risk through the project
- The objective of risk mitigation is to reduce either the probability of the risk or the impact of the risk or both
- Risk management includes the action (contingency planning) to be taken in the event of the risk occurring and the documentation involved
- Risk management is reactive where mitigation is proactive.

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Risk identification	Probability	Impact	Assessment (combine probability and impact)	Risk monitoring, mitigation and management
Resources: Lack or inadequate amount of time and budget allocated to applicants	Probable	Very Serious	Very high	Applicants expect full support from FoT and DMU.
DMU: Lack of agreement on contractual conditions by DMU and partners institutions	Possible	Very Serious	Very High	Consult with DMU Academic Quality (AQ).
Validation: Time/expense associated with validation of the course becomes excessively long	Possible	Serious	High	Plan in advance validation events, and make full use of resources provided by Head of Studies and Head of Academic Quality in the Faculty and DMU AQ.
Consortium Partners: time taken to set up meetings and difficulty involved in getting collaborators to be fully engaged in the project mainly due to being in different geographic regions	Possible	Important	High	Applicants to be proactive in going to consortium institutions to meet them. To maintain regular contact by email, phone and video conference to avoid escalation of potential problems that can jeopardise the whole consortium.
Consortium Partners: May decide to withdraw	Unlikely	Serious	Medium	Maintain regular contact as above to avoid this happening
Management: Applicants non-availability,lack of commitment.	Very unlikely	Serious	Low	Applicants committed to the success of the project.

For Further Reading

📕 Chapman C, Ward S
Project Risk Management 2e
John Wiley 2003

📕 Pressman, R.,
Software Engineering A Practitioner's Approach. 5th Edition
McGraw-Hill Education 2004

📄 Guidelines on compiling a risk log/risk register

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