

## [All] Group Meeting Minutes

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## 1. Group Meeting 1 - 28/09/22

First introductions, discussed and signed [group contract](#).

## 2. [Assignment 1] Development Team Project: Risk Identification Report

### i. Group Meeting 2 - 2/10/22

Times recorded in ICT timezone.

17:04: Everyone is here

17:11: Financial risks, Network risks, Operation risks

- Competition → can destroy business with hacking
- Keeping the brick and mortar store, digitalisation transition process
  - Hybrid model
- (Economic) Barriers to entry
  - Digitalisation process → cost analysis
    - Advertising
    - Customer service
      - Online or by phone?
      - Robot or a human?
    - Website portal
    - Database
    - Warehouse portal
    - Supplier portal
    - Logistics and transport
      - Will it stay local, or will it expand?
        - 50% expansion
        - Costs increase compared to customer increase
        - Delivery logistics
    - Payment transactions
      - Online payment with digitalization
    - Secure network
    - Employee training
  - Bad reviews
  - Black Swan Theory in Risk Assessment
    - How some small event can demolish entire RA model
- Hardware security
  - Log-ins
  - Punch cards – digital version
- Clickbait → can bring a whole company down
- Open Source Intelligence (OSINT)

17:26: Decide which areas to investigate

- Lit dump to match statistics for growth and decline
  - Semi-quantified data
  - SME specific
  - Pet-food industry
  - 3-4 studies per question
    - Go to the methods section and the discussion section
      - Look for keywords about your question
      - If there are no numbers – no need to read it
      - Once you find 3-4 studies with the data, then go for it

1. Could an online presence grow the business by up to 50%?

- Lee

2. Could changing to an inter/national supply chain reduce costs by up to 24%?

- International: Celine
- National: Marios

3. Could the business lose up to 33% of its existing customers if the business doesn't provide some online features?

- Bali

- Risk assessment – business model/risk appetite, etc.
- Marios: Scare the customer: disease and cure
  - All the danger of digitalisation, and why you should do it anyway (esp. With our company)
  - List of risks
    - Technical risks

18:17: Questions have been decided

- 3-4 studies will be due on Sunday 09/10/2022

## ii. Group Meeting 3 - 09/10/22

Minutes recorded in ICT timezone

17:06: Lee, Marios, Celine present

17:07: Recap talk with Doug

- Should not do quantitative data analysis with the numbers that we found
  - Qualitative analysis
    - Celine: interviews, surveys, thematic coding, keywords, categories

17:32: Bali joins

17:37: Focus

- Before and After digitalization models
- Legal ramifications of a breach/compliance failure
  - Protecting personal information
  - Financial information
- Government involvement in digital orgs
  - How they impact information storage, etc.
- Data security
  - Using the Cloud completely
- Hybrid model
  - Transport costs
  - Discounts for shop pickup?
    - Nike – shares went up 10%
  - Incentives
- Technical security
  - Show how the risks are outweighed by the benefits
  - There are some risks, but here's what you will gain
    - This will grow your business
    - And this will keep the data safe(r)
    - How much money will this make
    - Cost effective mitigation tools

17:46: Checklist

1. [25%] Before Digitalisation
  1. Profit risk assessment
    1. Logistics POV - Lee
  1. Customer POV - Marios
    1. Data POV - Celine
    1. Legal/compliance POV - Bali
  1. Octave - Operationally Critical Threat, Asset and Vulnerability Evaluation
    1. Asset – less than 40 ppl in a company
    1. List of mitigations (threat trees?)
2. [15%] After Digitalization
  1. Profit risk assessment
    1. Logistics
  1. Customer POV
    1. Data POV
    1. legal/compliance POV
  1. List of proposed changes:
    1. Interactive web application
      1. Customer portal
        1. Web and mobile
      2. Supplier portal
        1. Web and mobile

- 3. Administrative portal
  - 1. Owner
- 4. Manager portal
  - 1. Owner and managers
- 5. Wix for the web app
- 1. Database
  - 6. Amazon or Microsoft
  - 7. Insurance
  - 8. Back up
  - 9. Third party deniability
- 1. Staff knowledge
  - 10. Threat awareness
    - 1. Phishing
  - 1. Passwords
  - 1. Usernames
  - 1. malware
- 1. Customer welcome tutorial + help article
  - 11. Pop-up on the website
    - 1. Threat advice
    - 1. Good password practices
    - 1. Good username practices
- 1. Payment
  - 12. Credit card
  - 13. Paypal
  - 14. Banking security
  - 15. Two/multiple factor auth
  - 16. PCI compliance (pcicompliance.org)
- 1. Octave and (threat trees?)
- 1. Potential mitigations
  - 1. Have beta testers
    - 1. Authentication, session mgmt, access controls
    - 1. Staff training
    - 1. Customer tutorials
    - 1. Database security
- 3. Final summary
  - a. Will do

### iii. Group Meeting 4 - 16/10/22

Minutes recorded in AET timezone

21:00: Bali and Celine present

21:01: Marios joins

Helpful links:

- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8071260/>
- [https://www.researchgate.net/publication/350908055\\_Risk\\_Assessment\\_of\\_the\\_SME\\_Sector\\_Operations\\_during\\_the\\_COVID-19\\_Pandemic](https://www.researchgate.net/publication/350908055_Risk_Assessment_of_the_SME_Sector_Operations_during_the_COVID-19_Pandemic)
- chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/<https://www.oecd.org/industry/smes/PH-SME-Digitalisation-final.pdf>
- chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/<https://www.diva-portal.org/smash/get/diva2:1115635/FULLTEXT01.pdf>

21:29: Previous meeting's action items - share findings and reference links

21:40: Lee joins

21:53: Douglas wants threat/attack trees

17:58: Data discussion

- Marios - articles include theory, related to data; Ukraine war, Brexit drivers
- Celine - agriculture risks, transport, manufacturing firms, data harmonization
- Lee - Attack index, STRIDE graphic
- Bali - Octave methodology

BST TIME

12:13 pm : To be completed by 23/10./2022

- Each member will write 1000 words
  - o Should include every requirement from the assignment prompt
  - o Graphs/comparisons from spreadsheet for before vs after digitalisation
  - o To be combined to make up final project.
  - o Octave S and attack trees.

12:17 pm: Questions for to discuss with Doug during team meeting this week.

- What is the timeline diagram/Gantt chart?

12:20 pm: Digitalisation benefits and downsides

- Current analog model is open to many digital threats
  - o Because no CSec, attacks would be fatal
    - Disclose customer and supplier information
    - Personnel, LAN and OS/browser is particularly weak
    - Perceived weakness kills business/profit
- Digitalization
  - o Expansion of customer and supplier base
    - More profit
  - o Open to more attacks
    - Not just personnel, LAN, and OS/old browser
      - Have a website with multiple portals
        - Have to mitigate many more types of attack
  - o More resources for mitigation

- Authentication, access control, session mgmt, firewall, VPN, proxy, etc
- Can use major 3rd party vendors
  - Wix
  - Cloud
  - Amazon db

12:40: End of meeting

#### iv. Group Meeting 5 (with Doug) - 20/10/22

Minutes recorded in BST timezone  
Group 1's meeting with Doug

12:00: Everyone is attending on time

12:05: Octave-s and Stride we will follow, Doug suggests Allegro

12:07: STRIDE and DREAD are technically focused tools but miss other aspects of the Risk Management Process (RMP).

- Doug suggests not only using STRIDE and DREAD by itself.

12:08: OCTAVE analyses in Appendix.

- Think of the report as an executive summary in 1000 words.

12:10: Combine, take the best bits of each framework

- OCTAVE + STRIDE/DREAD when necessary

12:12: Include: insider threats - high risk.

12:13: Threat models – Don't use bits of other frameworks without saying why

- We'll use X, Y, Z because... (make sure to justify).
  - One or two literature sources is fine.

12:17: Second question: justify why they should go international

- quality may be affected
- international supply chain
- might lose customers if not digital
  - If can't find reports or numbers, just say so

12:19: Use tables to outline business and the changes

- a table each for before and after digitalisation.
  - Mix and match bullet points and tables.
  - Picture of existing system + table that explains plan

12:24: Something to think about: James joining our team

12:27: Peer review: a new system

- Scale 1 -> 5
- Score of 3 is satisfactory -> If we've done everything we said we'd do, then we get a 3
- If someone's done something exceptional -> 4
- If people aren't giving you the work -> 2
- Reserve the 1 and the 5 for very unusual cases
  - 1 -> hasn't participated, shown up to the meetings

- o 5 -> If someone does everything, basically, because we're all sick
- 12:34: Doug exits & team discussion
- We can focus on what we are most interested in:
    - o Celine: Gantt chart
    - o Lee: Threat tables/stats
    - o Marios: Everything
    - o Bali: Everything
  - Will have next meeting on Sunday at 10AM BST
- 13:04: End of meeting

**v. Group Meeting 6 - 23/10/22**

23.10.2022 Minutes. Noon List of Adversaries and Categories

- 12:00 pm Type of IT infrastructure in cloud computing with AWS and Microsoft Azure.
- 12:05 pm Possible use of Automated tools.
- 12:12 pm Resources for Octave-S compared
- 12:16 pm Supply Chain question under consideration to find resources.
- 12:20 pm Demographic for the use of online services. 12:20 pm
- 12:35 pm Microsoft Azure for Database and Security and Wix for Site hosting.
- Customer Portal or Application
  - Separate Wifi for Customers and Enterprise Operations.
- 12:45 pm Next meeting for Next Saturday and Sunday, 29/10/2022 and 30/10/2022
- 12:40 pm Meeting officially ended

**vi. Group Meeting 7 - 29/10/22**

Meeting Minutes 29/10/2022

Timing in BST

- 10:00 am Everyone joined the meeting
- 10:20 am Graphs regarding stride and octave were presented
- 10:34 am Mitigations measures and graphs shared
- 10:35 am Digitalisation using Azure and AWS platforms , I will explain how it is done.
- 10:39 am GDPR and PCI-DSS application
- 10:41 am Backups physical and cloud based , I will develop them
- 10:48 am Upload each individual piece of work in the drive
- Yearly/annual financial review
- 11:30 am meeting is finished.



### 3. [Assignment 2] Development Team Project: Executive Summary

#### i. Group Meeting 8 - 13/11/22

Meeting Minutes 13/11/2022

Times recorded in GMT

9:00 Team meeting starts

9:55 Everyone's area of focus:

- Lee: Bayes' Theorem + CVSS based on CAPEC
- James + Celine: Explore Monte Carlo Simulation + align to effects of digitalisation changes
- Marios + Mbali: Business strategy - including supply chain, DR, legal aspects

10:14 Next team meeting tentatively same time on Sunday

10:15 Arrange next meeting with Doug in 2 weeks to discuss if we're on the right direction

10:16 Meeting adjourned

#### ii. Group Meeting 9 - 20/11/22

Meeting Minutes 20/11/2022

Times recorded in GMT

10:00 Team meeting starts

10:15 Team discusses about using diagrams, more technical and implementation details

10:20 Monte Carlo Simulation (MCS) sample run through by James, mentions consider risk matrix

10:28 From Lee - Doug recommends use Topsis as Bayes' only limits to 2 hypotheses

10:35 Topsis run through by Lee, from CAPEC vulnerabilities, focus is on supply chain

11:20 Decide on group check-in meeting date-time with Doug - lock in Tuesdays for the next 2 weeks at 11am GMT

11:27 From generic to specific for MCS - includes overall, more than just supply chains

11:41 MCS focuses on financial justification, i.e. profits/risk of loss, TOPSIS focuses on ranking best implementation

11:46 Discussion and mapping Executive Summary checklist requirements to Module Units learnings

11:48 A few of us reflect on module content

11:57 Meeting adjourned

### **iii. Group Meeting 10 (with Doug) - 24/11/22**

Meeting Minutes 24/11/2022

Times recorded in GMT

11:30 Team meeting starts

11:33 Doug joins - Group 1's meeting with Doug officially starts

11:35 Our raised question: How can we justify the quantitative data from qualitative resources in Monte Carlo Simulation (MCS)?

11:36 Doug: MCS uses widely available probability distributions to get a prediction, there is an equation, neutron releases represent a random event. Establishing the type of probability distribution that fits our situation. Example in lecturecast - inventory using Yasai. Gives you the probability that a certain event will happen with a certain quantity - e.g. minimise the number of reordering/stock.

[eckstein.rutgers.edu/om/word-problems/inventory.html](http://eckstein.rutgers.edu/om/word-problems/inventory.html)

← → ↻ 🏠 Not Secure | eckstein.rutgers.edu/om/word-problems/inventory.html

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### "Dynamic" Simulation Example: Inventory

You sell a product for which monthly demand is Poisson with a mean of 400. The units cost you \$1,500 each, and you sell them for \$2,800. You can carry inventory from month to month, and estimate your inventory holding cost as \$10 per unit left in inventory at the end of a month.

Every time you order, there is a fixed cost of \$600, plus the \$1,500 per unit cost of the products ordered.

You want to simulate a 24-month period, at the outset of which you have 700 units in stock. For every unit in stock at the end of this period, you assess a "salvage" credit of \$1,500.

You are considering ordering policies of the following form: if the ending inventory for a given month is less than or equal to some "threshold" value  $R$ , immediately order another  $Q$  units. For simplicity, assume that these units become available immediately at the beginning of the next month.

Your boss asks you to evaluate the following possible combinations of  $R$  and  $Q$ . Which one seems to yield the highest expected profit over the 24 month period?

Policy	$R$	$Q$
1	400	800
2	400	1000
3	400	1200
4	500	1000
5	500	1200
6	600	1000
7	600	1200

For each policy, you also wish to estimate the probability of having a "stockout" at some time during the 24 month period. A "stockout" means that there is insufficient stock to meet customer demand.

This example uses the Poisson model, and has 2 variables ( $R$ ,  $Q$ ).

MCS is meant to give you the probabilities for you to use them elsewhere, not constructing the probabilities. We should look at the variables and map them.

Possible variables:

- Location - where Pampered Pets places new factories
- Production
- Deliver
- Number of years/days

11:48 Question on RPO/RTO and DR, design diagram for cloud model.

Doug: Yes, good for discussion. Get an **idea on indicative and relative costs**. When you go for a cloud alternative - it's not Nirvana, there's tradeoffs. How to choose solutions (if there's no need for one, not just choose the easiest to build solution) - vendor lock-in, flexible system, real-world proposal, put into business terms. Consider financial implications, no need to give a cost, bear in mind the implications.

11:50 CAPEC, TOPSIS question. Doug: No need to go into maths.

11:54 Question on report layout. Doug's suggestion: main body of report 2k words - exec summary. Addresses questions (inc. any data needed), present results - details in appendix. Bullet points are fine. Use tables.

11:58 Final seminar is a group presentation.

12:00 e-portfolio question - what is needed to get a distinction. Doug: If you did all the activities - max of 20 marks, roughly 20% of the e-portfolio. 20% on collaboration - discussions, dedicated activities for e-portfolio that counts for participation, seminars. Reflection which is in the last seminar. Other % such as the use of references.

12:10 Group meeting with Doug adjourned

12:34 Team meeting adjourned

**iv. Group Meeting 11 - 27/11/22**

Meeting Minutes 27/11/2022

Times recorded in GMT

9:00 Team meeting starts

9:10 Discussion about DR solution architecture - NetApp + VMware likely too costly (150k) compared to AWS + VMware

9:15 Include Business Impact Analysis (BIA) for Business Continuity (BC) Plan along with DR solution

9:20 Discussion about MCS Inventory and stock cost/profit

9:48 Discussion about executive summary outline

10:01 Team meeting adjourned

**v. Group Meeting 12 (with Doug) - 1/12/22**

Meeting Minutes 1/12/2022

Times recorded in GMT. Note that the following minutes are not exhaustive.

11:30 Team meeting with Doug starts

11:32 Mention of DR discussion

11:35 Discussion on TOPSIS, relating to Bayesian probability with supply chains - conditional probability change, how it affects product quality

11:37 Yasai, inventory problem

11:39 MCS is a modelling tool

11:50 Link to spreadsheet or in Appendix, include YT videos.

11:52 If we are too limited by words, DR diagram and some comments on it.  
Glossary in Appendix.

12:00 Team meeting adjourned

**vi. Group Meeting 13 - 2/12/22**

Meeting Minutes 2/12/2022

Times recorded in GMT

10:30 Team meeting for DR Diagram peer review starts

11:00 Discuss executive summary outline

11:40 Team meeting adjourned

**vii. Group Meeting 14 - 4/12/22**

Meeting Minutes 4/12/2022

Times recorded in GMT

9:00 Team meeting starts

9:20 Discuss overall executive summary references, appendix, DR components

10:00 Team meeting adjourned

**viii. Group Meeting 15 - 6/12/22**

Meeting Minutes 6/12/2022

Times recorded in GMT

9:00 Team meeting starts

9:05 Reflect on assignment 2 executive summary submission

9:15 Unit 12 Seminar 6 Presentation Discussion

9:50 Team meeting adjourned