



PROJECT MANAGEMENT AND RESEARCH METHODS.

Final report for project management and research methods



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Introduction

In this report, you will be expected to find the Risk, sustainability issues, Ethical and social issues and quality assurance issues that are related to the Help O.S project.

For the risks, the report will be covering risk identifications, Risk management, and the risk evaluation matrix that providing a visual representation of what severity of the risk and the potential consequences of the risks.

There will also be relations and equations to the BCS code of conduct and the BCS digital Brexit report that states the current standing of the BCS regarding the Brexit vote. Also, to be found will be the predictions of the Brexit outcome on third sector organizations.

The references can be found at the bottom of this document and throughout the report.

Risk Identification

In this section, you will expect to find all the possible risks that could affect the HELP o.s project and the possible way that could counteract the risks to help get the project back on track. All the risk will then be placed on a risk evaluation matrix that will rank the probability and the effect that each risk will have on the project. This will make a visualization of what is the most probable risk and what needs to be on top priority. Each risk will have its own numerical identifier that can be used to refer to the risk evaluation matrix.

1. Data integrity and loss of data

Data integrity is a big factor in any technology project, data can be used in many different formats throughout the project. Things like the code and reports and designs of the system will be stored electronically and the loss or corruption of this data can be very costly to the project not just in money terms but also time. This would have a major impact on the project resulting in the need to rebuild and reconstruct our code and reports. The risk of this happening is significantly high due to factors such as;

- Physical Damage to storage devices
- Data corruption
- Accidental overwrites of data
- Ransomware attack on files
- Power surge to build causing data corruption

1.1 What we can do to reduce the risk?

To help reduce the risk of data loss and keep the integrity of the data safe there are a couple of countermeasures that can be taken, such as;

- Making regular backups of the project files.
- Only allow certain employees to access the data.
- Lock the data files with encryption methods to negate the changes of the data.
- Use surge protectors on the equipment.
- Store the data off-site in cases there is a disastrous event such as a fire or flood for example
- Use cloud storage, such as OneDrive or google drive

2. Development and implementation too difficult

This potential risk refers to the ability of the employees themselves. For example, would an employee be able to effectively carry out a given task on the project with the skill set they possess? This would mean acquiring the correct people for the job in the first place. It's not always that simple because of different ways people are taught, so it means that we might not be able to carry out certain tasks in the project and cause delays in time and cause the project to go over budget.

2.1 What we can do to reduce the risk?

To reduce the risk that are several precautions that could be carried out, such as properly stating the job roles of each job to ensure that the employee is able to carry out the tasks. Add screener questions to job applications to ensure that you can get the correct person for the job with the correct skill set. Also, you could outsource some external resources to complete certain tasks if they prove too difficult for the employees.

3. Late changes to the requirements

This risk could be caused by a bad during the design phase of the project, this could have a profound effect on the project meaning the deadline could be missed and the project goes over budget. The client, stakeholders and the target audience all have the power to potentially change the requirements of the project to for it to work better. For example, in the Help O.S system, there might be the need to add a lost my pet extension to help reunite pets with their owners, which could take weeks and months to implement correctly and would require more resources.

3.1 What we can do to reduce the risk?

The project could carry out extensive research during the development stage of the project, To ensure that the requirements are completely compliant towards both the clients and the stakeholders. This would help clear up any complications that could occur in the future.

4. Optimistic time and cost estimates

This risk can occur when a project manager is not completely informed of how long certain aspects of a project can take. For example, the testing and implementation stage of the project could be either days or months depending on the complexity of the project and how many variables need to be tested. It's always best to overestimate the time periods of the project to ensure that there is lots of buffer time wither the project could slow down or even come to a halt due to some mishap.

Not correctly estimating the cost is a big risk for the investors and could potentially mean the collapse of the whole project, A good example of this would be the Rassua racetrack that was going to be built in a Welsh town called Ebbw Vale, But due to budgeting constraints and unclear cost the UK government refused to back the project.

4.1 What we can do to reduce the risk?

The cost should be properly thought out during the development stage including all aspects of the project such as resources and materials costs all the way down to the coffee machine, All of this should be considered and properly thought out to ensure that there are no mishaps in the future.

5. Developing wrong software functions and Interface

The risk of developing the wrong software functions and creating a wrong interface could prove to be difficult due to an individual need when using the software. For example, the text for the software would have to be clear for all users to read so it must be color-blind friendly. Also, the implantation of software functions that are not really needed can cause some confusion amongst the users of the app.

5.1 What we can do to reduce the risk?

To reduce the risk there could be a team of people that could carry out questionnaires and obtain feedback for the design before the final implementation takes place, Early prototypes could be made in order to show the stakeholders what the final product will look like and create early user manuals to help the users find what they want on the software.

6. Problems Sourcing materials

Throughout the project and the final creation of the device, there might be some problems sourcing the materials need to create the final product such as hardware. There might not be enough of the individual components that have been produced to keep up with supply and demand needs.

6.1 What we can do to reduce the risk?

Make sure that the materials are available during the design phase and if they are not finding an alternative solution for your project. Ensure that the project has the correct materials before carrying out the implementation stage.

7. Real-time performance problems

Once the final software or hardware has been created there could be problems with the performance and possibly cause it not to work properly for certain devices or it may have a bug in the system that causes the finished product to become unusable.

7.1 What we can do to reduce the risk?

To reduce the risk you could;

- Create prototypes
- Perform simulations
- Test on common devices
- Carry out bug tests.

Risk Evaluation Matrix

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Catastrophic
Almost Certain					
Likely		4			1
Possible			2	7	
Unlikely		6	5	3	
Rare					

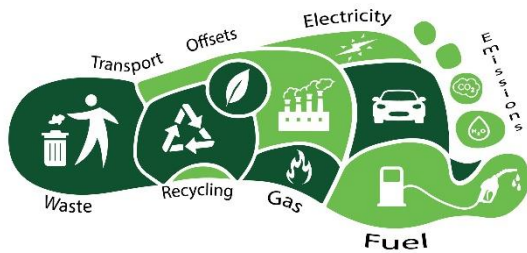
Risk Outcome
Low
Moderate
Significant
High

Risk Number	Risk title
1	Data integrity and loss of data.
2	Development and implementation too difficult.
3	Late changes to the requirements.
4	Optimistic time and cost estimates.
5	Developing wrong software functions and interface.
6	Problems sourcing materials.
7	Real-time performance problems.

Code of Practice: Sustainability issues

Environmental issues

Throughout the development of the project, there might be a few environmental issues that are going to have to be addressed in order to make the project more sustainable. Over a recent couple of year companies and people have become more aware of how my they can affect the environment by the



measurement of the carbon footprint. This gives a clear and understandable way of looking how much of an impact an individual can have on the environment. Look at figure 1, This is a diagram that visually shows the different ways that we impact the environment.

Figure 1

Help O.S is a technology-based project that has a few environmental issues that could cause it not to be sustainable and cause some issues for the company that owns the project. After doing some research the author of this document found an online journal that states the different ways that IT can affect the environment along with raising some more common issues that are linked with the IT industry as a whole.

This online journal produced by the British Computing Society [1] called “Greening your IT Work Space”, Clearly defines some of the environmental issues that can come along with creating and producing an IT project. The are some facts that are stated showing the current impact that the IT industry has on the environment. According to this Journal [1].

- “– Climate Change => warming, disasters (fires and floods), loss of biodiversity, less to go round more**
- Population growth, 2000 to 2030 of 2.2billion, of which 2.0billion likely to be located in cities***
- Rising consumption, 5 billion people consume 20% and 1 billion consume 80% (Ericsson)**
- Resource depletion, 2.5 planets for all to have US/EU living standards => rising energy, food and resource costs, & now the credit crunch and recession! => “we have to do more with less” (Buckminster-Fuller) > energy > resources > emissions” [1]**

According to these figures the environmental issue with IT, it only going to get worse unless we do something about it now. The way to look at this is we need to do more with less.

Environmental strategy for the project

There are a few things that can be done to help combat the environmental issues that can come with creating an IT Project. Such as measure the current amount of energy and footprint that the project could create. In order to calculate this, there are several things that can be observed such as;

- Efficiency off the equipment used throughout the project
- Whether the office/area is using renewable energy?
- How are the employees getting to work/ Be your workspace accessible by public transport?
- Are the electronics being left on during non-working hours?

Ways to combat these problems

Ensure that the office is in an energy efficient area that works well with public transport, encourage employees to use carpooling or public transport. Set up an automatic system that controls the computers and other equipment needed to ensure that they are not powered on during certain hours, for example, only have the equipment's on during the hours of 7:00 to 22:00. Make sure that the light is controlled by sensors so that the light can turn off when no one is around.

Social issues

The project is mainly social based, with users imputing their own information in order to inform concerned parties of their whereabouts and safety status. This is a rather big issue for the project since there has been a recent dislike towards companies storing and using user's information. Therefore, there must be a strict and clear strategy towards storing and using the data that the users give a company.

Under the recent GDPR law produced by the European Government, there are strict legal obligations that a company must follow either operating within the EU or offering goods and services outside of the EU. [2]

The GDPR applies to both personal data; and too sensitive personal data;

"The GDPR applies to 'personal data' meaning any information relating to an identifiable person who can be directly or indirectly identified in particular by reference to an identifier" [2](Page 8)

"The GDPR refers to sensitive personal data as "special categories of personal data" (see Article 9).

The special categories specifically include genetic data and biometric data where processed to uniquely identify an individual.

Personal data relating to criminal convictions and offenses are not included, but similar extra safeguards apply to its processing (see Article 10)." [2](Page 8-9)

Ways to combat this social Issues

The best way to combat this issue for the project is to be open and honest about the way they use and process the data to all the individuals involved in the project and listen to anyone who has any problems with the social issues of the project.

Follow the GDPR guidelines and inform and teach the employees of the ways to adhere to the guidelines inside the project.

Keep data secure, protected and safe in case of unauthorized use of the data such as malicious attacks and ensuring data integrity.

Financial issues

As it goes, financial issues are a major part of the project and most of the time due to financial uncertainty most projects fail, even if they were excellent and viable, without the control of the financial issues the project will not be able to be carried out.

There are many ways that a project is funded such as it is publicly funded and privately funded. Most projects that are not charity based are privately funded and are motivated by either profit or impact on the community.

Ways to combat problems with financial issues

- Clearly calculate how much the project is going to cost and if anything happens that is identified as a high, work out how much it would cost to correct the issue.
- Be honest with the stakeholders of the project.
- Inform early on if any problems may arise.
- Ensure that the project is financially viable.

Code of practice; Legal and ethical issues

As a technology project, we are bound to use a certain standard for our code of conduct, this ensures that all of the IT-based work and products is safe and regulated to ensure fair use and processing of user's data. The code of conduct at this project will follow is the BCS code of conduct that is a Widely recognized standard across the UK.

The company must first become a member of the BSC by paying a membership fee either for the company or the individual. In order to receive this membership, you need to be able to understand the fundamentals of the code of conduct and agree to their terms of use. For the project, the main standards that it will be focusing on will be the following rules from the code of conduct [3].

"1. Public Interest You shall:

a. have due regard for public health, privacy, security and wellbeing of others and the environment.

b. have due regard for the legitimate rights of Third Parties.*

c. conduct your professional activities without discrimination on the grounds of sex, sexual orientation, marital status, nationality, color, race, ethnic origin, religion, age or disability, or of any other condition or requirement

d. promote equal access to the benefits of IT and seek to promote the inclusion of all sectors in society wherever opportunities arise. " [3](Page2)

This code of conduct ensures that we maintain professionalism throughout the project with respect to the users of the product and the employees. This will ensure that we don't discriminate against individuals or different societies. The project will also have to adhere to the other section of the code of conduct. To ensure that we are legally and ethically viable as a project.

Upon breaking of this code of conduct, we are liable to answer to the law, which can cause major disruptions to the project or even cancel the project altogether.

In the upcoming months, the United Kingdom on Great Britain and Northern Ireland are due to leave the European Union, this means that there will be some potential changes in the law due to the GDPR only Applying to the countries that are in the EU. Due to this BCS has produced a digital Brexit report showing their stake on the Brexit ideal, they are currently calling for;

"BCS is calling for the urgent establishment of Royal Commission on personal data which will signal a desire for the UK to have the ambition to be a world leader in data protection and exploitation. [4]"

As the United Kingdom leaves the EU, they will have more control over the laws over the country which means that they are able to adapt and mold the law based on the current countries needs and wants.

This does require emergency laws to be implemented in order to stop companies and individuals' access and using data in an unauthorized and malicious manner and if there is a breach the company that holds the data is liable for the damage caused. Not just only legal but also causing ethical issues as well for the third sector.

The author of this document predicts that there will be a loop hole in the data protection act as the united kingdom leaves the EU, due to the amount of work that needs to be carried out converting the European law to a more moulded law there could be a possibility that third sector organisation will have to change the way they use and process personal information, which will be carried out through a grace period, while the laws are begin converted

Quality assurance issues with the project

The project is covered under the third sector of organisations which is defined by this website [5],

The third sector includes a very diverse range of organisations including some or all of the following components: Voluntary organisations. Community groups. Tenants and residents' groups. Faith groups. [5]

This means that most of the projects of the third sector are not overseen by a governing body which means that extra measures have to be taken in order to ensure the quality of the project and/or product is to a satisfactory standard, It's important to remember that third sector projects are mostly funded on a budget and have to keep to that budget in order for the project to stay successful. For example, creating a poor prototype that wasn't tested properly or doesn't comply with standards would most likely end up with the project failing and being discontinued unless there is a system in place to ensure that individuals follow guidelines such as the BCS code of conduct.

Bibliography

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