

## Internal verification of assessment decisions – BTEC (RQF)

| INTERNAL VERIFICATION – ASSESSMENT DECISIONS  |  |                   |             |
|---|--|-------------------|-------------|
| Programme title   | BTEC Higher National Diploma in Computing                        |                   |             |
| Assessor  |  | Internal Verifier |             |
| Unit(s)   | Unit 06: Managing a Successful Computing Project                 |                   |             |
| Assignment title  | Managing a Project on cyber security risks due to Remote working |                   |             |
| Student's name  | Ryan Wickramaratne   |                   |             |
| List which assessment criteria the Assessor has awarded.  | Pass   | Merit             | Distinction |
|   |  |                   |             |
| INTERNAL VERIFIER CHECKLIST   |  |                   |             |
| Do the assessment criteria awarded match those shown in the assignment brief?   | Y/N  |                   |             |
| Is the Pass/Merit/Distinction grade awarded justified by the assessor's comments on the student work?   | Y/N  |                   |             |
| Has the work been assessed accurately?  | Y/N  |                   |             |
| <b>Is the feedback to the student:</b><br>Give details:<br><ul style="list-style-type: none"> <li>• Constructive?</li> <li>• Linked to relevant assessment criteria?</li> <li>• Identifying opportunities for improved performance?</li> <li>• Agreeing actions?</li> </ul> | Y/N<br>Y/N<br>Y/N<br>Y/N   |                   |             |
| Does the assessment decision need amending?   | Y/N  |                   |             |
| Assessor signature  |  | Date              |             |
| Internal Verifier signature   |  | Date              |             |
| Programme Leader signature (if required)  |  | Date              |             |

| Confirm action completed                 |  |      |  |
|--|--|------|--|
| Remedial action taken<br>Give details:   |  |      |  |
| Assessor signature                       |  | Date |  |
| Internal Verifier signature              |  | Date |  |
| Programme Leader signature (if required) |  | Date |  |

## Higher Nationals - Summative Assignment Feedback Form

|                    |  |                              |  |
|--------------------|--|------------------------------|--|
| Student Name/ID    |  |                              |  |
| Unit Title         | Unit 6 Managing a Successful Computing Project |                              |  |
| Assignment Number  | 1  | Assessor                     |  |
| Submission Date    | 16/08/2022                                     | Date Received 1st submission |  |
| Re-submission Date |  | Date Received 2nd submission |  |

### Assessor Feedback:

**LO1. Explain server technologies and management services associated with hosting and managing websites.**

Pass, Merit & Distinction Descriptors P1 ☐ P2 ☐ M1 ☐ M2 ☐ D1 ☐

**LO2. Categorise website technologies, tools and software used to develop websites.**

Pass, Merit & Distinction Descriptors P3 ☐ P4 ☐ M3 ☐ D1 ☐

**LO3. Utilise website technologies, tools and techniques with good design principles to create a multipage website.**

Pass, Merit & Distinction Descriptors P5 ☐ P6 ☐ M4 ☐ D2 ☐

**LO4. Create and use a Test Plan to review the performance and design of a multipage website.**

Pass, Merit & Distinction Descriptors P7 ☐ M5 ☐ D3 ☐

|                               |                     |       |
|-------------------------------|---------------------|-------|
| Grade:                        | Assessor Signature: | Date: |
| Resubmission Feedback:        |                     |       |
| Grade:                        | Assessor Signature: | Date: |
| Internal Verifier's Comments: |                     |       |
| Signature & Date:             |                     |       |

\* Please note that grade decisions are provisional. They are only confirmed once internal and external moderation has taken place and grades decisions have been agreed at the assessment board.

Assignment Feedback

|  |  |             |  |
|--|--|-------------|--|
| <b>Formative Feedback: Assessor to Student</b> |  |             |  |
| <b>Action Plan</b>                             |  |             |  |
| <b>Summative feedback</b>                      |  |             |  |
| <b>Feedback: Student to Assessor</b>           |  |             |  |
| <b>Assessor signature</b>                      |  | <b>Date</b> |  |
| <b>Student signature</b>                       |  | <b>Date</b> |  |

# **Pearson**

# **Higher Nationals in**

# **Computing**

Unit 6: Managing a Successful Computing Project

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## **General Guidelines**

1. A Cover page or title page – You should always attach a title page to your assignment. Use previous page as your cover sheet and make sure all the details are accurately filled.
2. Attach this brief as the first section of your assignment.
3. All the assignments should be prepared using a word processing software.
4. All the assignments should be printed on A4 sized papers. Use single side printing.
5. Allow 1” for top, bottom, right margins and 1.25” for the left margin of each page.

## **Word Processing Rules**

1. The font size should be **12** point and should be in the style of **Time New Roman**.
2. **Use 1.5 line spacing**. Left justify all paragraphs.
3. Ensure that all the headings are consistent in terms of the font size and font style.
4. Use **footer function in the word processor to insert Your Name, Subject, Assignment No, and Page Number on each page**. This is useful if individual sheets become detached for any reason.
5. Use word processing application spell check and grammar check function to help editing your assignment.

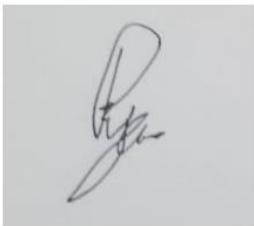
## **Important Points:**

1. It is strictly prohibited to use textboxes to add texts in the assignments, except for the compulsory information. eg: Figures, tables of comparison etc. Adding text boxes in the body except for the before mentioned compulsory information will result in rejection of your work.
2. Carefully check the hand in date and the instructions given in the assignment. Late submissions will not be accepted.
3. Ensure that you give yourself enough time to complete the assignment by the due date.
4. Excuses of any nature will not be accepted for failure to hand in the work on time.
5. You must take responsibility for managing your own time effectively.
6. If you are unable to hand in your assignment on time and have valid reasons such as illness, you may apply (in writing) for an extension.
7. Failure to achieve at least PASS criteria will result in a REFERRAL grade.
8. Non-submission of work without valid reasons will lead to an automatic REFERRAL. You will then be asked to complete an alternative assignment.
9. If you use other people's work or ideas in your assignment, reference them properly using HARVARD referencing system to avoid plagiarism. You have to provide both in-text citation and a reference list.
10. If you are proven to be guilty of plagiarism or any academic misconduct, your grade could be reduced to A REFERRAL or at worst you could be expelled from the course

## **Student Declaration**

I hereby, declare that I know what plagiarism entails, namely to use another's work and to present it as my own without attributing the sources in the correct way. I further understand what it means to copy another's work.

1. I know that plagiarism is a punishable offence because it constitutes theft.
2. I understand the plagiarism and copying policy of the Pearson UK.
3. I know what the consequences will be if I plagiaries or copy another's work in any of the assignments for this program.
4. I declare therefore that all work presented by me for every aspects of my program, will be my own, and where I have made use of another's work, I will attribute the source in the correct way.
5. I acknowledge that the attachment of this document signed or not, constitutes a binding agreement between myself and Pearson, UK.
6. I understand that my assignment will not be considered as submitted if this document is not attached to the attached.



[ryandilthusha@gmail.com](mailto:ryandilthusha@gmail.com)

**Student's Signature:**

**(Provide E-mail ID)**

**16/08/2022**

**Date:**

**(Provide Submission Date)**

## Assignment Brief

|                              |  |
|------------------------------|--|
| Student Name /ID Number      | Ryan Wickramaratne (COL 00081762)                                |
| <b>Unit Number and Title</b> | Unit 6: Managing a Successful Computing Project                  |
| Academic Year                | 2021/2022  |
| Unit Tutor                   | Ms. Sumudu   |
| <b>Assignment Title</b>      | Vulnerability Assessment - Management Information System Project |
| Issue Date                   |  |
| Submission Date              | 16/08/2022   |
| IV Name & Date               |  |

### Submission Format:

The submission should be in the form of an individual report written in a concise, formal business style using single spacing (refer to the assignment guidelines for more details). You are required to make use of headings, paragraphs, and subsections as appropriate, and all work must be supported with research and referenced using Harvard referencing system. Please provide in-text citation and a list of references using Harvard referencing system.

Please note that this is an individual assessment and your report should include evidences to that you have conducted a research to collect relevant data individually.

### Unit Learning Outcomes:

**LO1** Establish project aims, objectives and timeframes based on the chosen theme.

**LO2** Conduct small-scale research, information gathering and data collection to generate knowledge to support the project.

**LO3** Present the project and communicate appropriate recommendations based on meaningful conclusions drawn from the evidence findings and/or analysis.

**LO4** Reflect on the value gained from conducting the project and its usefulness to support sustainable organizational performance.



## Assignment Brief and Guidance:

Research Theme: Remote working

**Research Topic: What are the key cyber security risks of working remotely e.g. employees downloading unsecure apps or sharing their work devices with family members?**

*“The option to work remotely was already being embraced by some businesses in the pre-pandemic era. These businesses were making some progress to adapt their working practices to accommodate remote working by allowing those in certain job roles to take the opportunity to work from home, albeit a day or two a week. However, on the whole there had been a reluctance to have staff working remotely and this has largely centred around productivity concerns, security implications and technology issues.*

*The global pandemic however necessitated and accelerated the move to remote working. The vast majority of businesses have now shifted some or all of their operations online, and almost all of their staff are working from home. The enabling force behind this necessary shift has been the different technologies and platforms that facilitate workers to achieve business goals remotely. This sudden shift to remote working took place within weeks and months and has not been without issues. Several surveys conducted during this period cited business leaders complaining about how technology problems have impacted their business and employees while working remotely. The biggest issues remote workers face are being frequently disconnected from corporate networks, slow file downloads, poor quality of video meetings and long response times when loading apps. As a result, building secure, effective and integrated technology capability, to continue this flexibility in the workforce, has now become a priority for all organisations”.*  
(Pearson, 2020)

**You are expected to carry out a small-scale research in order to explore the cyber security risks of working remotely due to the pandemic, from the standpoint of a computing professional.** The research that you carry out can be based on an organization that you have access to gather sufficient information to investigate the cyber security risks of remote working.

The report should include,

- A comprehensive project management plan
- Evaluation of data collection methods and data analysis tools and/or techniques should be provided
- Appropriate recommendations should be provided
- Reflect on the value gained from conducting the project and its usefulness to support sustainable organisational performance

#### **TASK – 01**

1.1 Define the scope of the project and devise aims and objectives of the project that you are going to carry out. You also should include a brief introduction to the selected company, remote working process and technologies used, explanation to the project and other relevant information about the research.

1.2 **Produce** a comprehensive project plan including the following.

- Cost, scope, time, quality, communication, risk, and resources management plan
- Comprehensive Work Breakdown Structure (WBS) with clearly defined activities and milestones
- Gantt chart to illustrate project schedule with realistic time allocated for each activity and clearly defined deadlines for milestones.

#### **TASK – 02**

Carry out a research to investigate the cyber security risks of remote working by applying appropriate qualitative and quantitative research methodologies and critically evaluate the reliability, accuracy and the appropriateness of the research methods applied. your answer also should include a critical evaluation of the project management process and a justification to the selected research methodologies.

### **TASK – 03**

- 3.1 Analyse research data collected to support your research project using appropriate tools, techniques and critically evaluate how selected tools, techniques uphold authenticity and the accuracy of the data collected.
- 3.2 Draw valid conclusions and recommendations from the research data analysed and communicate your recommendations to the top management of the organization through an action plan. The action plan should include a justification to the recommendations suggested.

### **TASK – 04**

- 4.1. Reflect on the objectives of the **cyber security risks project** and your own learning experience gained through following a quality research and the project management process. Critically evaluate the ways in which the research project carried out supports the organization to sustain its performance/ security in a remote working environment and how the project supported you to improve your own learning and performance.

## Grading Rubric

| Grading Criteria   | Achieved | Feedback |
|--|----------|----------|
| <b>LO1 Establish project aims, objectives and time frames based o the chosen theme</b>   |          |          |
| <b>P1</b> Devise project aims and objectives for a chosen scenario.  |          |          |
| <b>P2</b> Produce a project management plan that covers aspects of cost, scope, time, quality, communication, risk and resources.  |          |          |
| <b>P3</b> Produce a work breakdown structure and a Gantt Chart to provide timeframes and stages for completion.  |          |          |
| <b>M1</b> Produce a comprehensive project management plan, milestone schedule and project schedule for monitoring and completing the aims and objectives of the project. |          |          |
| <b>LO2 Conduct small-scale research, information gathering and data collection to generate knowledge to support the project</b>  |          |          |
| <b>P4</b> Carry out small-scale research by applying qualitative and quantitative research methods appropriate for meeting project aims and objectives.                  |          |          |
| <b>M2</b> Evaluate the accuracy and reliability of different research methods applied.   |          |          |
| <b>D1</b> Critically evaluate the project management process and appropriate research methodologies applied.   |          |          |
| <b>LO3 Present the project and communicate appropriate recommendations based on meaningful conclusions drawn from the evidence findings and/or analysis</b>              |          |          |
| <b>P5</b> Analyze research and data using appropriate tools and techniques.  |          |          |

|  |  |  |
|--|--|--|
| P6 Communicate appropriate recommendations as a result of research and data analysis to draw valid and meaningful conclusions.                                 |  |  |
| M3 Evaluate the selection of appropriate tools and techniques for accuracy and authenticity to support and justify recommendations.                            |  |  |
| <b>D2</b> Critically evaluate the research and data analysis tools used in the project development stages.   |  |  |
| <b>LO4 Reflect on the value gained from conducting the project and its usefulness to support sustainable organisational performance</b>                        |  |  |
| <b>P7</b> Reflect on the value of undertaking the research to meet stated objectives and own learning and performance.   |  |  |
| <b>M4</b> Evaluate the value of the project management process and use of quality research to meet stated objectives and support own learning and performance. |  |  |
| <b>D3</b> Critically evaluate how the project supports sustainable organisational performance.   |  |  |

## **Acknowledgement**

I would like to express my special thanks of gratitude to my MSCP lecturer Ms. Sumudu for providing invaluable guidance and giving immense amount of knowledge to work on this assignment perfectly. I specially thanks her because he helped us in doing a lot of research and I came to know about so many new things about the managing successful computer project.

Secondly, I would like to thank my parents and friends who helped me a lot in finalizing this project within the limited time frame.

## **Executive Summery**

This entire assignment is based small-scale research in order to explore the cyber security risks of working remotely due to the pandemic, from the standpoint of a computing professional. Based on Lions Restoration organization that I had access to gather sufficient information to investigate the cyber security risks of remote working.

This report includes comprehensive project management plan, Evaluation of data collection methods and data analysis tools and/or techniques should be provided, Appropriate recommendations, Reflect on the value gained from conducting the project and its usefulness to support sustainable organizational performance.

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| <i>Evaluate the effectiveness of Project Planning phase with its value .....</i>  | 121        |
| <i>Evaluate the effectiveness of Project Execution phase with its value .....</i>   | 122        |
| <i>Evaluate the effectiveness of Project Monitoring and Controlling phase with its value.....</i>   | 123        |
| <i>Evaluate the effectiveness of Project Closing phase with its value .....</i>   | 124        |
| <i>Value of entire Project Management Process.....</i>  | 125        |
| <b>CRITICALLY EVALUATE HOW THE PROJECT SUPPORTS SUSTAINABLE ORGANIZATIONAL PERFORMANCE</b>  | <b>126</b> |
| <b>CONCLUSION .....</b>   | <b>131</b> |
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## **Devise project aims and objectives for a chosen scenario.**

### **Our Story (Brief Introduction about the Company)**

Lions Restoration is a company based in Australia. This company uses cutting-edge technology to provide high-quality restoration services. This company's technicians are all IICRC-certified and well-trained. This company is a member of the Restoration Industry Association (RIA) as well as a certified business from Institute of Inspection Cleaning and Restoration Certification (IICRC).

Some of the services provided by this company are as following.

- Provide high quality water damage restoration
- High quality cleaning carpets and upholstery.
- Flooring solutions such as carpet supply, installation, and restoration.
- Fixing malodorous issues and providing antimicrobial treatments.
- Fire, smoke restoration and consultation.

This is a company with reputation, and it has a solid track record and a good example of industry leadership. This company had already accepted working remotely. By allowing employees in particular job roles to take advantage of the chance to work from home, however a day or two a week, their organizations were making progress in adapting their working procedures to accommodate remote working. However, the global epidemic forced and triggered the shift to remote working. Almost all of this company's employees now work remotely, and some of their processes have been moved entirely online. The various tools and platforms that enable workers to accomplish corporate goals remotely have been the driving factor behind this essential transition.



*Figure 1. 1 Lion Restoration in action*

## Project Aim and Objectives

“Aim” and “Objectives” seems to interchangeable phrases on the surface. To get more idea like dive in the meaning of them. A aim is an achievable outcome which is typically broad for a long term. Goal is undoubtedly very crucial for any project to be success.

But an objective on the other hand is define a specific and measurable actions which each team member must take to in order to achieve the aim. In other words, objectives are steppingstones towards the aim. Hence objectives can be called as mini aims.

Hence, the main difference between the aim and objective is aim provide direction and objective measures how we should follow that direction.

### Project Aim and Objectives of the project

Table 1. 1 Aim and Objectives of the project

| Project Aim and objectives for the research   |                                      |
|---|--------------------------------------|
| Project Aim   | Objectives                           |
| To improve Lions Restoration company’s cyber security, use my IT professional skills to conduct research about “cyber security risks of working remotely due to the pandemic” withing 1 and half month. | Requirements gathering and analysis. |
|   | Project charter development.         |
|   | Project plan development.            |
|   | Data collection.                     |
|   | Data analyzation.                    |
|   | Finalizing the document.             |

**Comprehensive project management plan covers aspects of scope, cost, time (triple constraints) quality, communication, risk resources, milestone schedule and project schedule for monitoring and completing the aims and objectives of the project.**

## **Project Scope Statement**

*Table 1. 2 Project Scope Statement*

| <b>Scope of the Project - Lions Restorations</b>  |                            |
|---|----------------------------|
| Project Title : Key cyber security risks of working remotely  | Date Prepared : 30/06/2022 |
| Project Manager : Ryan Wickramaratne  |                            |
| <p>Project Scope Description :</p> <p>The global epidemic forced and triggered the shift to remote working. Almost all of Lions Restoration company's employees now work remotely, and some of their processes have been moved entirely online. Because of that this sudden shift to remote working took place came with issues. Hence, this is small-scale research in order to explore the cyber security risks of working remotely due to the pandemic, from the standpoint of a computing professional.</p> |                            |
| <p>Project Deliverables :</p> <p>The project's deliverables will include a well-researched project about key cyber security risks of working remotely due no later than 15<sup>th</sup> June 2022. This project demonstrates</p>  |                            |

how to manage these key cyber security risks and how to overcome them with an estimated budget and everything.

This project provides a report on the significant impact of unencrypted document sharing, weak passwords, unsecure home Wi-Fi, employees downloading unsecure apps or lending their work devices to family and friends, phishing schemes in remote working, and possibly actionable recommendations based on research data analysis results.

**Project Objective :**

To improve Lions Restoration company's cyber security, use my IT professional skills to conduct research about "cyber security risks of working remotely due to the pandemic" withing 1 and half month.

**Success (Acceptance) criteria:**

Putting in place founded solutions from this project to vulnerabilities in cyber security concerns at Lions Restorations Company.

**Inclusions :**

This project will provide full details about cyber security risks and types and full guidance to prevent cyber-attacks by understanding Lions Restoration company's vulnerabilities.

This project includes a study on the impact of unencrypted document sharing, weak passwords, unsecured home Wi-Fi, downloading unsecured applications or sharing their work devices with family and friends, and phishing schemes in remote working.

**Exclusions :**

This project will not provide guidance to remove the remote working infrastructure of this company.

Constraints:

The project has a strict deadline of June 15th, 2022, and a fixed budget of \$5,000 dollars. And cannot change the personal infrastructure of this company. And also cannot add or remove the human resources for this company.

Resources : Internet, Interviews, Questionnaires.

## Project Cost Management

### Project Cost Assessment

| Project Budget Template |                                     |                                       |        |         |        |           |             |                       |
|-------------------------|-------------------------------------|---------------------------------------|--------|---------|--------|-----------|-------------|-----------------------|
| Project Name:           |                                     | Cyber Security Risks Research Project |        |         |        |           |             |                       |
| Department:             |                                     | IT                                    |        |         |        |           |             |                       |
| Supervisor Name:        |                                     | Ryan Wickramaratne                    |        |         |        |           |             |                       |
| WBS                     | Project Tasks                       | Materials                             |        | Travel  | Other  | BUDGETED  | ACTUAL      | BALANCE<br>UNDER/OVER |
|                         |                                     | Unit Price                            | Units  |         |        |           |             |                       |
| 1.1                     | Requirements gathering and analysis |                                       |        |         |        |           |             | -                     |
|                         | Books and Documents                 | 500.0                                 | 5.0    | 1000.0  | 0.0    | 2,000.00  | 3,500.00    | (1,500.00)            |
|                         | Communication Process               |                                       |        | 5000.0  | 5000.0 | 1,000.00  | 10,000.00   |                       |
|                         | Analysis software cost              | 1.0                                   | 2000.0 | 0.0     | 0.0    | -         | 2,000.00    | (2,000.00)            |
| 1.2                     | Project charter development         |                                       |        |         |        |           |             | -                     |
|                         | Document process                    | 0.0                                   | 0.0    | 0.0     | 0.0    | 2,000.00  | -           | 2,000.00              |
| 2.1                     | Project plan development            |                                       |        |         |        |           |             | -                     |
|                         | Document process                    | 0.0                                   | 0.0    | 0.0     | 0.0    | 2,000.00  | -           | 2,000.00              |
|                         | Software costs                      | 4000.0                                | 1.0    | 0.0     | 0.0    | 2,000.00  | 4,000.00    | (2,000.00)            |
| 3.1                     | Data Collection                     |                                       |        |         |        |           |             | -                     |
|                         | Collecting data through internet    |                                       |        |         | 2000.0 | 5,000.00  | 2,000.00    | 3,000.00              |
|                         | Collecting data through people      | 0.0                                   | 0.0    | 4000.0  | 2000.0 | 2,000.00  | 6,000.00    | (4,000.00)            |
|                         | Telephone cost                      | 0.0                                   | 0.0    | 0.0     | 2000.0 | 3,000.00  | 2,000.00    | 1,000.00              |
| 3.2                     | Data Analyzation                    |                                       |        |         |        |           |             | -                     |
|                         | Document Process                    | 0.0                                   | 0.0    | 0.0     | 0.0    | 2,000.00  | -           | 2,000.00              |
|                         | Analyzing process                   | 0.0                                   | 0.0    | 0.0     | 4000.0 | 6,000.00  | 4,000.00    | 2,000.00              |
| 4.1                     | Data Collection                     |                                       |        |         |        |           |             | -                     |
|                         | Document Process                    | 0.0                                   | 0.0    | 0.0     | 0.0    | 2,000.00  | -           | 2,000.00              |
|                         | Software costs                      | 1000.0                                | 2.0    | 600.0   | 1000.0 | -         | 3,600.00    | (3,600.00)            |
| SUBTOTAL                |                                     |                                       |        | 10600.0 |        | 29,000.00 | \$37,100.00 | (8,100.00)            |

Figure 1. 2 Project Cost Assessment



## Project Time Schedule and Milestones

Once the project plan has been signed off, it was the time to move on the project schedule. I expanded the project plan by outlining activities. This is the step which focusing on the activities. A project schedule simply indicates what has to be done.

Project schedule is a timetable that includes start and end dates with milestones. And the milestones in other hand defines the specific points within a project's life cycle. Milestone is used to measure the progress toward the ultimate goal. Project or the goal cannot achieve instantly. Instead, I only know the deadline of the project and the final goal which I want to achieve it.

As told before milestones are representing the achievements that I've to get when drive towards the ultimate goal. The milestones help me to ensure I'm on right track towards the goal. Milestones do not impact with the project duration. Instead, they focus on major project progress points that must be reached to achieve the ultimate goal.

So, when I create the project schedule, first I did was enter the start and end date of the project. Then I added milestones to be achieved with allocated times. I listed our every objective to be covered with relevant time frame. So, I would have proper timeline to follow to reach the goal step by step. Please refer the Gannt chart in the next section.

*Table 1. 3 Project Schedule of Milestones*

| Project Schedule of Milestones |                                  |                            |          |
|--------------------------------|----------------------------------|----------------------------|----------|
| Milestone No                   | Milestone Outline                | Complete before            | Duration |
| 1                              | Finalizing the initiation phase. | 13 <sup>th</sup> May 2022  | 10 Days  |
| 2                              | Finalizing the planning phase,   | 23 <sup>rd</sup> May 2022  | 5 Days   |
| 3                              | Finalizing the execution phase.  | 7 <sup>th</sup> June 2022  | 10 Days  |
| 4                              | Finalizing the closure phase.    | 15 <sup>th</sup> June 2022 | 5 Days   |

## Quality Management Plan

Table 1. 4 Quality Management Plan

|   | Quality Planning   | Quality Management Plan Components  |   |   |
|---|--|---|---|---|
|   |  | Quality Control (Do)  | Quality Assurance (Check)   | Quality Improvement (Act)   |
| <b>What is Done?</b>  | <p>Determine what quality will be on the research project and determine how it will be measured.</p> <p>The Quality Management Plan's primary goal is to ensure that the project deliverables are of sufficient quality and fit for purpose. Quality assurance and control are essential components of the Quality Management Plan.</p>                  | <p>Monitor specific project research outputs to see if they meet the quality management plan's performance measurement thresholds.</p>  | <p>Determine whether quality measurement is appropriate by evaluating overall performance on an ongoing basis to ensure the project meets the assignment learning outcomes.</p> | <p>When corrective actions, such as Change Requests, are identified, the project's effectiveness and efficiency improve. The Quality Management Plan may need to be revised.</p>              |
| <b>When is it done?</b>   | <p>Project Planning Phase.</p> <p>Process :-</p> <ul style="list-style-type: none"> <li>* Develop Project scope with aims and objectives.</li> <li>* Estimating the resources.</li> <li>* Data Analysis (Quantitative &amp; Qualitative)</li> <li>* Acquisition Strategy for Project Delivery</li> </ul>   | <p>Project Execution and Control Phase</p> <p>Process :-</p> <ul style="list-style-type: none"> <li>* Research data analysis.</li> <li>* Collect questionnaire 90% of answers.</li> <li>* Learned lessons.</li> </ul> | <p>Project Execution and Control Phase</p> <p>Process :-</p> <ul style="list-style-type: none"> <li>* Execute and control the project</li> </ul>                                | <p>Project Planning Phase with Project Execution and Control Phase</p> <p>Process :-</p> <ul style="list-style-type: none"> <li>* Change management.</li> <li>* Review the project</li> </ul> |
| <b>The Quality Strategy for the "key cyber security risks of remote work" The project involves:</b> | <ul style="list-style-type: none"> <li>* Quality-related problems were encountered when using the project management procedures.</li> <li>* Quality issues were encountered during the output development process.</li> <li>* Relevant standards must be followed.</li> <li>* Activities in the work plan that must be carried out correctly.</li> </ul> |   |   |   |

## Project Communication Plan

### The designed communication plan for the project

| Stakeholder  | Purpose  | Medium             | Time duration needed |
|--|--|--------------------|----------------------|
| Marlon Abeyratne<br>(Lions Restoration Company Owner)                    | To introduce the project and its objectives with its deliverables. And to get clear idea about the management and staff hierarchy.   | In person meeting  | 1 Day                |
| Madhee Abeyratne<br>(General Manager of Lions Restoration Company)       | Review the status of the project and to get more information about security levels in the company.   | In person meeting  | 2 Days               |
| Shashin Karunaratne<br>(Head Supervisor)                                 | To get more details about the staff and staff management procedures. And to get more information about security measurements and the behavioral procedures of the company. | Video Conferencing | 2 Days               |
| Staff members<br>(Project Coordinators of the Lions Restoration Company) | To get their knowledge about the cyber security and to check their behavioral status relate to that.   | Telephone          | 4 Days               |
| Technicians of the Lions Restoration Company                             | To get their knowledge about the cyber security and to check their behavioral status relate to that.   | Telephone          | 4 Days               |
| Start Date   | 1 <sup>st</sup> July   |                    |                      |
| End Date   | 10 <sup>th</sup> July  |                    |                      |
| Handle By  | Project Owner (Ryan Wickramaratne)   |                    |                      |
| Estimated Budget   | Rs. 10 000/=   |                    |                      |

## Risk Management Plan

### Risk Report Form for the Project

Risks can be reported on a risk form and forwarded to the Risk Manager for evaluation.

Below is a sample risk report form made by me for the project

Table 1. 5 Risk Report Form for the Project

| RISK REPORT FORM  |   |                       |
|---|---|-----------------------|
| <b>Date</b>   | 7 <sup>th</sup> June 2022   |                       |
| <b>Risk description</b>   | Cost Planning Errors  |                       |
| <b>Is the risk date driven?<br/>i.e., if the risk was to occur<br/>would be on or related to a<br/>date or event?</b> | * This risk is not date driven.<br>* This risk is driven by the external factors such as politics and economy of the country.                     |                       |
| <b>Deliverables impacted</b>  | * Milestones of the project.<br>* Project cost.<br>* Can be effect for every task in the project schedule.  |                       |
| <b>Initial assessment</b>   | Impact : Significant  | Likelihood : Frequent |
| <b>Suggested risk response</b>  | * Arrange a cost plan.<br>* Need to update the cost plan while maintaining the project.<br>* Take financial expert guide when making a cost plan. |                       |

## Project Risk Management Plan

Table 1. 6 Risk Register with Risk Levels according to Risk Heat Map

| Identified Risk   | Risk Rating | Consequences   | Risk Mitigation Suggested  |
|---|-------------|--|--|
| Project planning and inclusions are inadequate.                     | 15          | <ul style="list-style-type: none"> <li>Can't complete the project on due date.</li> </ul>  | <ul style="list-style-type: none"> <li>Set some pre alternative actions to take.</li> </ul>  |
| Scheduling or estimation mistakes                                   | 20          | <ul style="list-style-type: none"> <li>Can't complete the project on due date.</li> <li>Loss of money.</li> <li>Loss of time.</li> </ul> | <ul style="list-style-type: none"> <li>Keep track of schedules every day and include schedule review to the daily agenda.</li> </ul>   |
| Unexpected tasks that need to be handled.                           | 10          | <ul style="list-style-type: none"> <li>Loss of money.</li> <li>Loss of time.</li> <li>Loss of focus.</li> </ul>                          | <ul style="list-style-type: none"> <li>Check past projects for costs and actual performance.</li> <li>Examine all plans and surveys for quantity.</li> </ul>   |
| Power Failure   | 25          | <ul style="list-style-type: none"> <li>Loosing vital data.</li> </ul>  | <ul style="list-style-type: none"> <li>Have cloud backup and recovery service.</li> <li>Make sure computers has a backup battery.</li> </ul>   |
| Lack of communication results in unclear and confusing information. | 25          | <ul style="list-style-type: none"> <li>Having misunderstandings.</li> <li>Can't find appropriate communication channels.</li> </ul>      | <ul style="list-style-type: none"> <li>Create a communication plan which includes the timing, purpose, and target audience for each communication.</li> <li>Make careful to identify stakeholders up front and to include them in the communication plan.</li> </ul> |
| Project delays are caused by stakeholders.                          | 20          | <ul style="list-style-type: none"> <li>Delay of the project.</li> <li>Can't complete the project on due date.</li> </ul>                 | <ul style="list-style-type: none"> <li>Identify stakeholders, analyze power, and influence and create a stakeholder engagement plan.</li> </ul>  |

## Color coded Heat Map to Visualize Project Risks

This color-coded heat map visually represent the above risks positions.

|        |                     |                   |               |                   |                 |                 |
|--------|---------------------|-------------------|---------------|-------------------|-----------------|-----------------|
| IMPACT | Catastrophic<br>(5) | 5                 | 10            | 15                | 20              | 25              |
|        | Significant<br>(4)  | 4                 | 8             | 12                | 16              | 20              |
|        | Moderate<br>(3)     | 3                 | 6             | 9                 | 12              | 15              |
|        | Low<br>(2)          | 2                 | 4             | 6                 | 8               | 10              |
|        | Negligible<br>(1)   | 1                 | 2             | 3                 | 4               | 5               |
|        |                     | Improbable<br>(1) | Remote<br>(2) | Occasional<br>(3) | Probable<br>(4) | Frequent<br>(5) |
|        |                     | LIKELIHOOD        |               |                   |                 |                 |

Figure 1. 3 Example of Color coded Heat Map

## Project Management Plan

### Introduction about this Project Plan

This Project Plan is the primary document used to formally manage the project. This document contains a list of the activities, tasks, and resources needed to execute the project and realize the business benefits indicated in the Project Business Case.

The following are included in this Project Plan:

- A description of the major steps taken to complete the project.
- A schedule containing events, tasks, timeframes, dependencies, resources, and timeframes.
- A list of the assumptions and restrictions determined throughout the planning process.

### Introduction about Scope of the Project

A scope of work document is an arrangement on the activities that will be completed on the project. A project manager's scope of work comprises deliverables, a timeframe, milestones, reports and etc. Project scope management is the process of establishing and recording what is and is not within the scope of a project. Project management specialists use a unique set of approaches to allocate the resources required to accomplish a desired objective. Properly determining the project scope is critical for large-scale projects with many contingencies and moving pieces. Understanding the scope of a project is equally important for smaller initiatives because it clarifies expenses and requirements. Project scope management consists of three stages or "phases": planning, controlling, and closing. Understanding these phases can assist us in setting attainable project goals.

## **Phase One – Plan the Project Scope**

The Planning Stage is basically the initial phase of project scope management. This stage has three key steps that aid in the successful establishment of the project scope.

### **1) Establish Expectations**

The first stage is to document the needs and expectations of each project stakeholder, which includes everyone from team members to customers, in order to meet the standards that must be met for them to consider the project a success. We can obtain this information in a variety of ways, including direct talks, meetings, focus groups, and workshops that try to clearly identify the qualitative and quantitative indicators of success.

### **2) Allocate Resources**

Secondly, creating a project schedule begins with defining the project's demands, including the right distribution of resources such as people, money, and equipment, as well as setting overall project goals. It is practically hard to understand what has to be done without first considering our aims. This allows tasks to be assigned to each contributor and establishes the guidance and instructions required to complete a project on schedule and within budget.

### **3) Clarify Objectives**

The third phase in project scope planning necessitates a thorough understanding of all project goals. While a project may have multiple objectives, it is the role of the project manager to work closely with stakeholders to reach an agreement on the precise goals and define how we will measure final success. When conflicts arise during this stage, the outcome is surely compromised because each team member could be projecting to a different outcome.



## **Phase Two – Control The Project Scope**

The second process is to develop a work breakdown structure that identifies the smaller, more manageable components that will comprise each project. The venue, for example, is a key consideration when planning a launch event. Because "venue" has so many options, it is divided into manageable sections such as identifying choices, the booking price, the deadline for booking the venue, and logistics such as sound system, lighting, seats, and even security. Each of these minor concerns can be further subdivided if necessary, such as "audio system," which can comprise speakers, microphones, electrical outlets, and a sound specialist.

### **1) Work Breakdown Structure**

When estimating expenses, comprehending the resources and talents needed, and determining whether or not the deadlines and ultimate delivery date are realistic, a Work Breakdown Structure is especially helpful. It is also the most crucial phase in creating a schedule for each of the project's components. Build project plans, allocate tasks, and schedule resources using project management software to simplify the process. Once the project is underway and all of this information is in one location, project management software can make it simple for us to determine the current status of each task and delivery.

### **2) Change Control Process**

The ability to anticipate expenses, comprehend the resources and talents needed, and determine whether or not the deadlines and ultimate delivery date are achievable all benefit from using a work breakdown structure. It is also the most crucial phase in creating a schedule for each of the project's components. Build project plans, allocate tasks, and schedule resources using project management software to simplify the process. Once the project is underway and all of this information is in one location, project management software can make it simple for to determine the current status of each task and delivery.

With a change control procedure in place, changes can be dealt with more easily; but, unmanaged changes lead to "scope creep," which can have a significant negative influence on schedules and outcomes in the future. Once a problem has been recognized as having the potential to affect the project scope, a change control procedure typically outlines how it would be examined: costs, staffing, timeframe, tools, and material. It also specifies who would recommend accepting things as they are or making changes to plans and intended outcomes, as well as who is responsible for approving the final choice.

### **Phase Three – Closing Out the Project**

The methods for completing the project, including each stage of delivery and the finished result, are covered in the final phase. Scope verification, which mostly deals with accepting the deliverables, is a crucial component of this. It enables the project to be verified and confirmed at several points throughout its delivery as well as at the end.

#### **1) Feedback**

Before beginning the project, the project manager might request approval of the work breakdown structure, for instance, and then periodically check in with the client to see if they are happy with the project's progress and the completed items as they stand. In order to receive feedback on the work completed and make corrections before the project is finished and it is too late, it offers a way to monitor the project's progress.

#### **2) Audit**

The project will be audited as the last step to determine whether goals were met and whether expenses were within the budget that had been set. As a result, it is possible to comprehend the project's worth and make changes, reopen the project, or recalibrate it in order to map results closer to the desired objectives.

Finally, effective project scope management necessitates a clear articulation of each stage of the process to ensure that each team member understands their role in reaching the ultimate result and that stakeholders agree on the parameters, deliverables, and goals. It executes the plan, schedule, and control mechanisms that allow for budget overruns, clear thinking about the intended objective, addressing issues that may cause change along the route, and finally staying on track to reach a favorable outcome.

## **Work breakdown structure and a Gantt Chart to provide timeframes and stages for completion.**

### **Work Breakdown Structure (WBS)**

#### **Introduction**

Breaking work down into smaller pieces is a typical productivity method intended to make work more manageable and accessible. The Work Breakdown Structure (WBS) is a tool that uses this technique for projects and is one of the most significant project management papers. It incorporates scope, cost, and schedule baselines all on its own, ensuring that project plans are in alignment.

The Work Breakdown Structure is defined in the Project Management Institute's (PMI) Project Management Book of Knowledge (PMBOK) as a "deliverable-oriented hierarchical decomposition of the work to be completed by the project team." WBSs are classified into two types: deliverable-based and phase-based. The Deliverable-Based method is the most frequent and preferred approach. The Elements indicated in the first Level of the WBS are the key distinction between the two methodologies.

A good WBS simply makes the project easier to manage. Every project is unique, just as every project manager and WBS are unique. The WBS that best addresses the question of "What structure makes the project more manageable?" is thus the optimal WBS.

## Work Breakdown Structure for the project

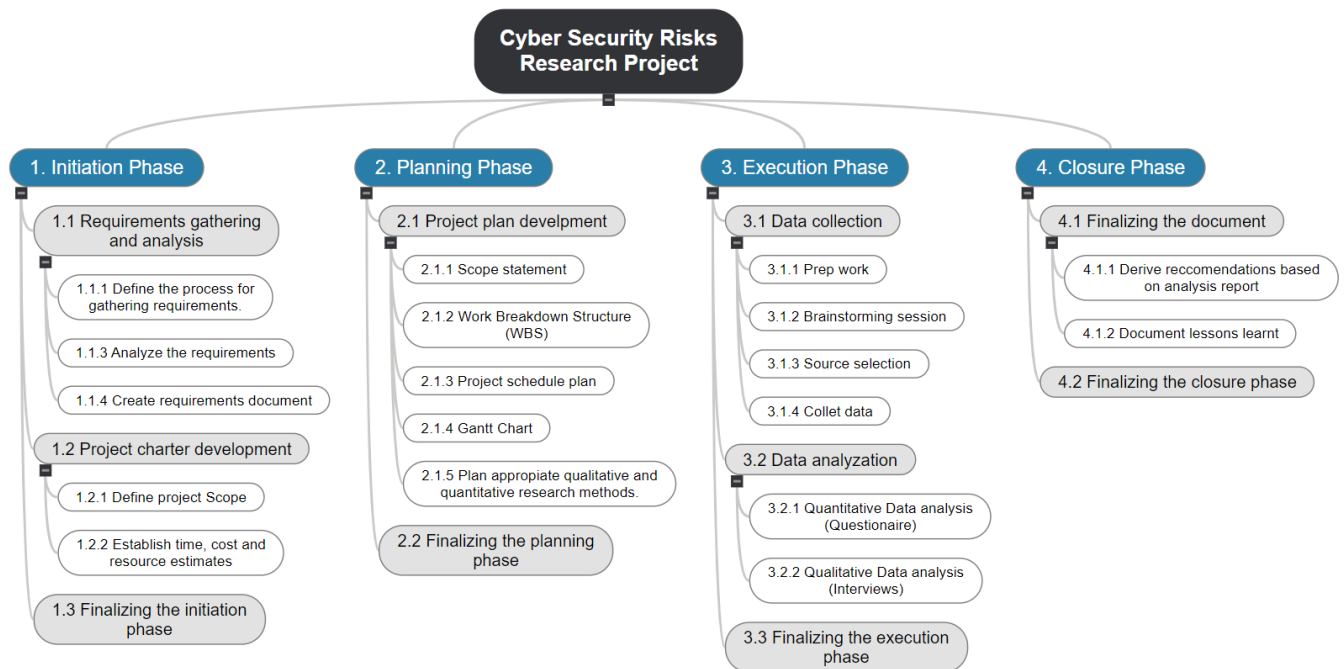


Figure 1. 4 Work Breakdown Structure for the project

## Gantt Chart

### Introduction

One of the most common and effective methods of displaying activities (tasks or events) displayed against time is a Gantt chart, which is frequently used in project management. A list of the activities is located on the chart's left side, and a suitable time scale is located along the top. A bar is used to symbolize each activity, and the position and length of the bar correspond to the activity's beginning, middle, and finish dates.

This allows us to quickly determine following things:

- What each of the actions requires.
- When the start and end of each action.
- How much time is allocated to each activity?
- Where, and to what extent, certain activities overlap with others.
- The time when the entire project will begin and end.

([What is a Gantt Chart?](#), n.d.)

## **Gantt Charts and Work Breakdown Structures (WBS)**

A work breakdown structure (WBS) is a diagram that illustrates the goals and scope of a project. A Gantt chart is a diagram that employs bars to show the project's schedule of activities.

As having a clearly defined goal and completion date is essential for a project to be completed successfully, both the work breakdown structure and Gantt chart are crucial tools in the planning process. It's important to get objective and timetable right because they affect other factors like project cost and personnel requirements. The work breakdown structure serves as the basis for the Gantt chart in industries like construction and software development. The two resources aid managers in project planning.

Gantt charts show when we are making things, and work breakdown structures show what we are making. The WBS organizes work in a hierarchical, bottom-to-top fashion. The Gantt chart shows time development linearly from left to right. Work breakdown structures are sometimes said to as noun-focused, meaning that they include specific milestones and goals rather than tasks. The work breakdown structure, for instance, shows the building's component parts, such as the roof, electrical system, and foundation, when one is being built.

The Gantt chart, in contrast, emphasizes dates, displays the sequence of project operations, and takes into account any relationships between tasks. Dependencies are relationships between activities where one activity's ability to begin or finish depends on the advancement or completion of another. For instance, before painting a wall, it must first be built. These connections establish the critical route, a scheduling technique that aids in project duration estimation by finding the longest chain of dependent operations and estimating the time required to execute each one.

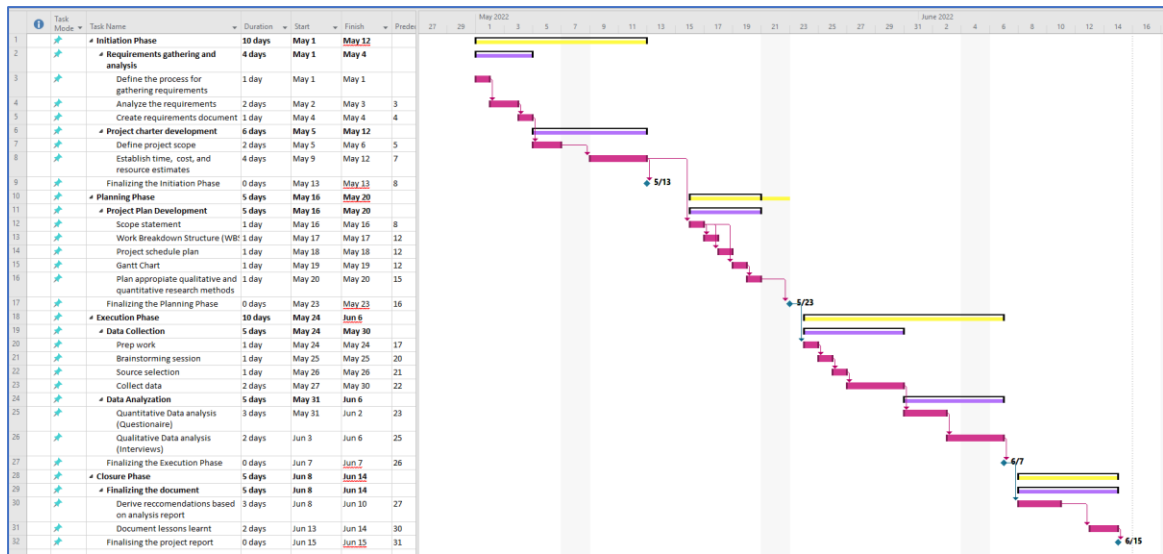


Figure 1.5 Entire Gantt Chart full picture

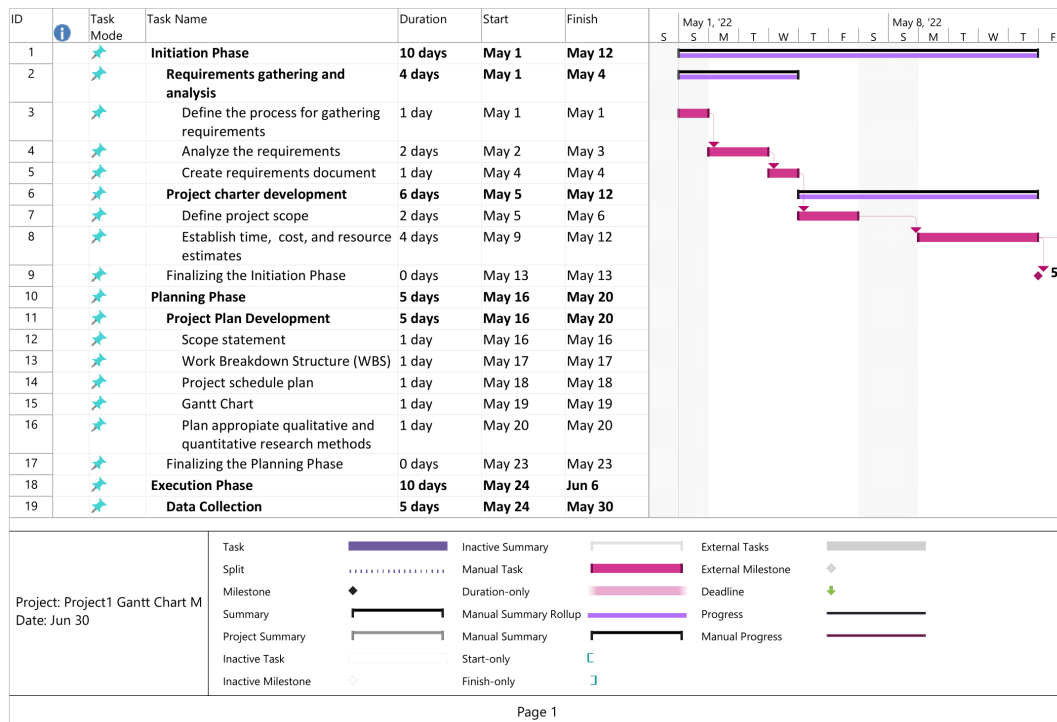


Figure 1.6 Gantt Chart Part 1



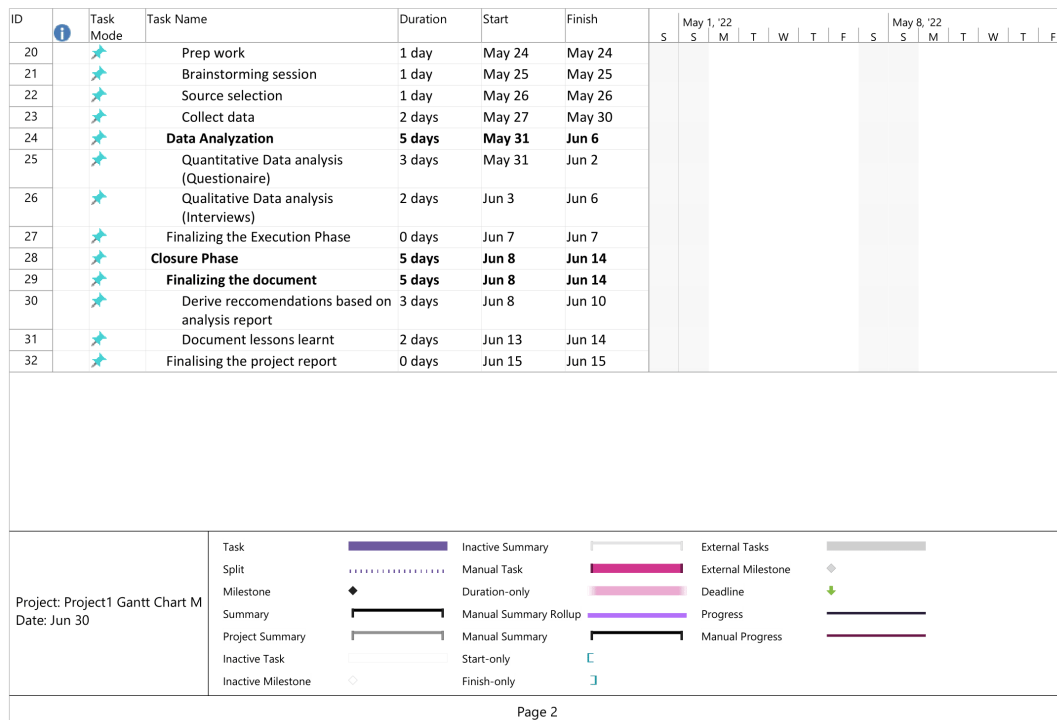


Figure 1. 7 Gantt Char Part 2

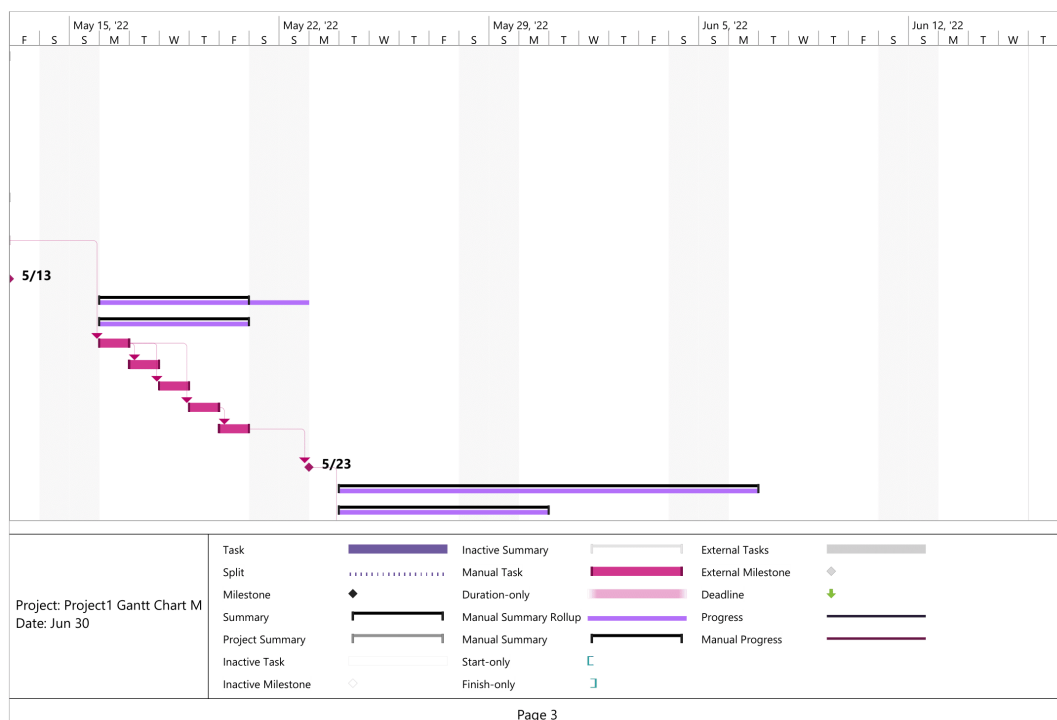


Figure 1. 8 Gantt Char Part 3

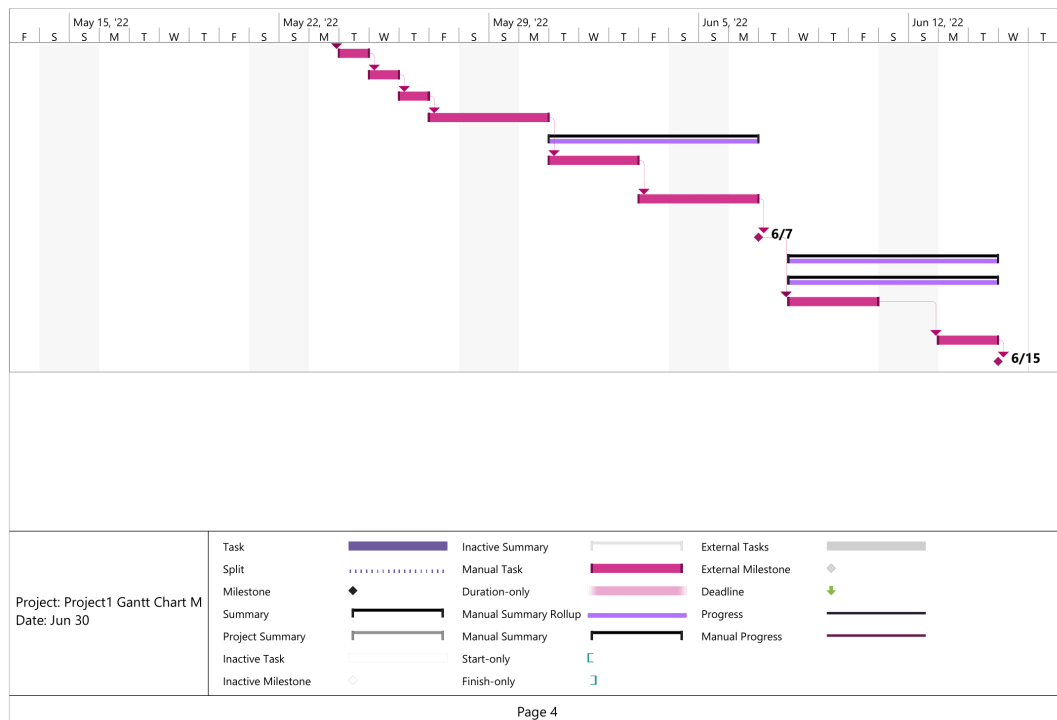


Figure 1. 9 Gantt Char Part 4

There are several steps in each objective and there are milestones too. The Duration column indicate the duration of dates planned to complete. And I was aware to leave Saturday and Sunday as non-working days because those are non-working days for lot of people so I can't have proper communication since then. And we considered as them resting days also.

And the Start and Finish columns indicate the planned starting date and finishing dates of the tasks. And finally, predecessor column presents task ID numbers. Meaning the tasks that come immediately before the next task. For example, when consider my Gantt Chart the Task ID 3 must do immediately right after the task ID 2.

## **Conducting small-scale research by applying qualitative and quantitative research methods appropriate for meeting project aims and objectives.**

### **Quantitative research methodology**

#### **Introduction**

The most common research methodology in the social sciences is quantitative methodology. It refers to a collection of methods, approaches, and assumptions used to investigate numerical patterns in order to examine psychological, social, and economic processes. Numerous numerical data are gathered during quantitative research. Personal income is an example of a numerical data set that is intrinsically quantitative, whereas other numerical data sets force their numerical structure

When I was gathering quantitative data, they performed simple to extremely complex statistical analyses that aggregate the data (e.g., total average, ratios), reveal relationships between the data or try comparing across data collected. In contrast to qualitative research, quantitative research use procedures including questionnaires, systematic observations, and experiments. In qualitative research, narratives and/or open-ended observations are gathered and analyzed using techniques like focus groups and interviews.

The purpose of the quantitative research was to generate knowledge and insight about society. Social scientists, including communication scholars, employ quantitative research to examine events or occurrences that effect individuals. Social scientists are interested in people. Quantitative research is a technique for learning about a specific group of people known as a sample population. Quantitative research employs scientific inquiry and depends on data that is observed or measured to investigate issues about the sample population.

## **Quantitative research types**

### **Survey Research :-**

The most fundamental tool for all quantitative outcome research approaches and studies is survey research. Surveys are used to ask questions to a sample of respondents and can in many forms, including internet polls, online surveys, paper surveys, web-intercept surveys, and so on. Every researcher, large or small, wants to know what their audience think about their products and services and other such information.

An organization can perform survey research by asking several survey questions, collecting data from a group of audience, and analyzing the collected data to provide numerical results. It is the first stage in gathering data for any research project. This form of research can be carried out with a specific target audience group as well as across many groups with comparison analysis. A requirement for this form of research is that the sample of respondents be drawn at random. Because a large number of respondents will be addressed utilizing random selection, a researcher can easily maintain the accuracy of the obtained results. Traditionally, survey research was done in person or over the phone, but with the advancement of internet mediums such as email and social media, survey research has moved to online mediums as well.

## Qualitative research methodology

### Qualitative research types I've choose

#### 1) One-on-one interview :



One of the most popular qualitative research methodologies is conducting in-depth interviews. It is a one-on-one interview with only one respondent at a time. This is purely a conversational strategy that allows for in-depth information from the respondent.

One of the benefits of this strategy is that it allows for the collection of exact data about what people believe and their motivations. If the researcher has prior experience, asking the proper questions can help in the collection of useful data. If further information is required, the researchers should ask such follow-up questions that would assist them in gathering more information. These interviews can be conducted in person or over the phone and can span anything from 30 minutes to two hours or more. When the in-depth interview is conducted face to face, it is easier to read the respondents' body language and match the responses. I gathered information from the company staff using this qualitative research method.

Since this organization has 50 employees, it is difficult and time consuming to interview each and every one of them. Because of that, I chose 5 employees as a random sample for each question and recorded their responses to each question. Then I've analyzed the results for each question and with overall results.

## Cyber Security Risks Research

Fill this form evaluate and to enhance the the system of Polly Pipe in Braintree. Your honest answer is highly expected.  
If you have any issues contact us by [ryandilthusha@gmail.com](mailto:ryandilthusha@gmail.com)

 [ryandilthusha@gmail.com](mailto:ryandilthusha@gmail.com) (not shared) [Switch account](#) 

\* Required

Write your name ? \*

Your answer

Write your Employee Number \*

Your answer

What is your Department ? \*

Your answer

1) Do you use secure password for home wi-fi which used in Remote Working ?

☐ Yes

☐ No

2) Do you use virus guard for the workstation which used in Remote Working ?

☐ Yes

☐ No

Figure 2. 1 Survey Research questionnaire part 1

3) Do you use a password for the device you use to sign into Remote Working?

☐ Yes

☐ No

4) Do you change password of your workstation Windows account that you use to sign into Remote Working monthly basis?

☐ Yes

☐ No

5) Do you set your remote working device to automatically lock after a period of inactivity?

☐ Yes

☐ No

6) Do you check and configure your remote working workstation app privacy settings ?

☐ Yes

☐ No

7) Do you use multi-factor authentication to log into accounts ?

☐ Yes

☐ No

Figure 2. 2 Survey Research questionnaire part 2

8) Do you use someone else's wi-fi by your remote working workstation ?

☐ Yes

☐ No

9) Do you frequently update your remote working device virus guard ?

☐ Yes

☐ No

10) Do you frequently backup your data ?

☐ Yes

☐ No

11) Do you click on website links when you receive from friend or unknown ?

☐ Yes

☐ No

12) Do you install and play games by your remote working device ?

☐ Yes

☐ No

13) Do you use the same password for more than one account or service ?

☐ Yes

☐ No

Figure 2. 3 Survey Research questionnaire part 3



13) Do you use the same password for more than one account or service ?

☐ Yes

☐ No

14) Do you use Social Security numbers, phone numbers, addresses, or other personally identifiable information as passwords ?

☐ Yes

☐ No

15) Do you delete old data that no longer need on your remote working device ?

☐ Yes

☐ No

16) Do your family/friends/close people have access to your remote working device?

☐ Yes

☐ No

17) Do you use download or using crack files ?

☐ Yes

☐ No

18) Do you use public Wi-Fi to do sensitive transactions ?

☐ Yes

Figure 2. 4 Survey Research questionnaire part 4

device?

☐ Yes

☐ No

17) Do you use download or using crack files ?

☐ Yes

☐ No

18) Do you use public Wi-Fi to do sensitive transactions ?

☐ Yes

☐ No

19) Do you sign out of online services or portals after doing work ?

☐ Yes

☐ No

20) Do you save passwords in your web browser ?

☐ Yes

☐ No

**Submit** **Clear form**

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**Google Forms**

Figure 2. 5 Survey Research questionnaire part 5

**Analyze research and data using appropriate tools and techniques and Communicate appropriate recommendations as a result of research and data analysis to draw valid and meaningful conclusions.**

### Quantitative research for the project

#### Question 01 :

Do you use secure password for home wi-fi which used in Remote Working ?

YES

NO

Table 2. 1 Data collection table for Question 1

| Do you use secure password for home wi-fi which used in Remote Working ? |                   |
|--|-------------------|
| Answers  | Number of answers |
| YES  | 10                |
| NO   | 40                |

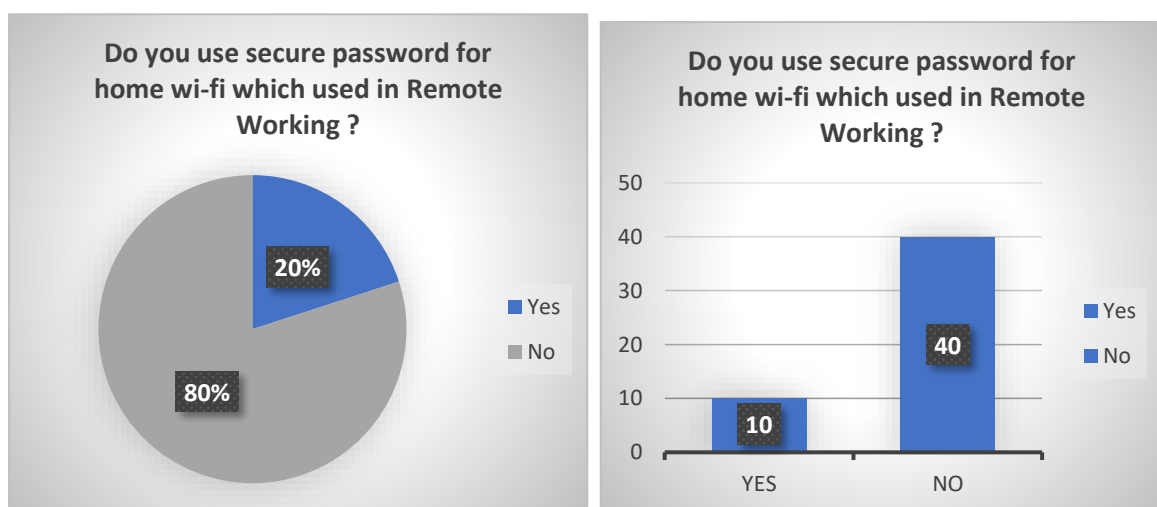


Figure 2. 6 Visualize the collected data using Pie Chart and Column chart for Question 1

**Data Analysis →**

According to the data analysis results 80% of employees doesn't use secure password for home wi-fi which used in Remote Working.

**Recommendations →**

Advice staff to use secure password for home wi-fi which used in Remote Working.

## Question 02 :

Do you use virus guard for the workstation which used in Remote Working ?

YES

NO

Table 2. 2 Data collection table for Question 2

| Do you use virus guard for the workstation which used in Remote Working ? |                   |
|---|-------------------|
| Answers   | Number of answers |
| YES   | 3                 |
| NO  | 47                |

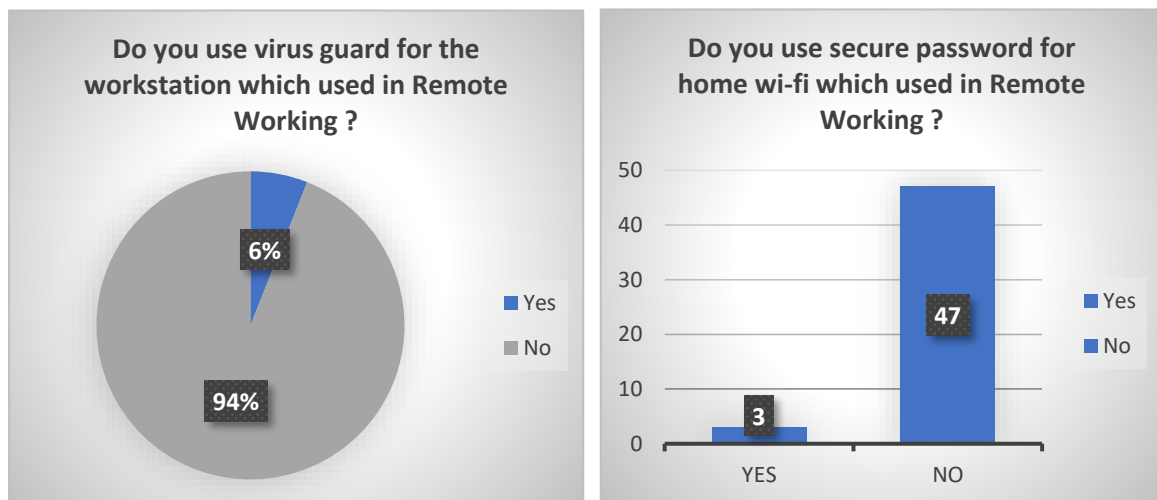


Figure 2. 7 Visualize the collected data using Pie Chart and Column chart for Question 2

## Data Analysis →

According to the data analysis results 94% of employees doesn't use virus guard for the workstation which used in Remote Working.

## Recommendations →

Provide staff with proper virus guard software with license keys.

### Question 03 :

Do you use a password for the device you use to sign into Remote Working ?

YES

NO

Table 2. 3 Data collection table for Question 3

| Do you use a password for the device you use to sign into Remote Working ? |                   |
|--|-------------------|
| Answers  | Number of answers |
| YES  | 20                |
| NO   | 30                |

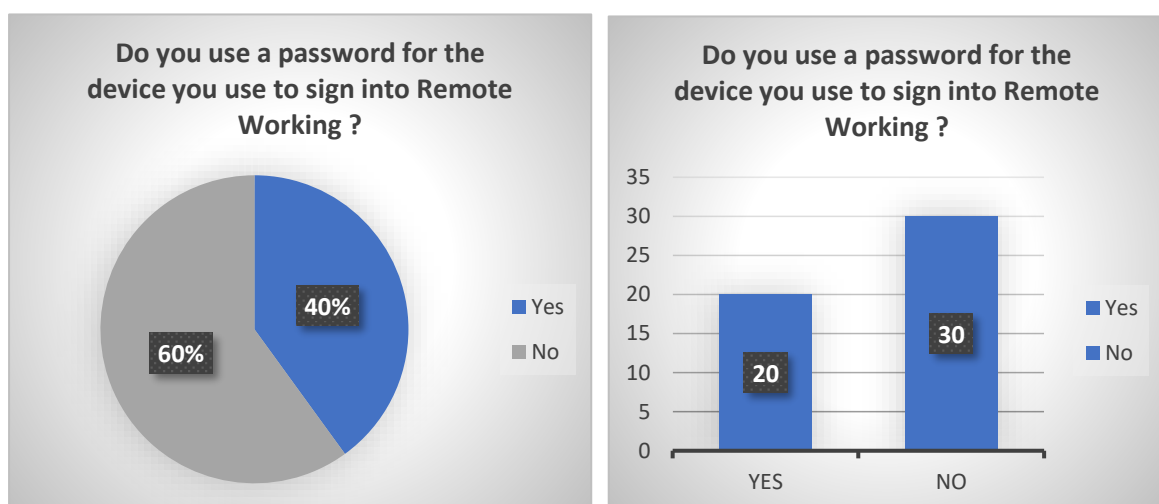


Figure 2. 8 Visualize the collected data using Pie Chart and Column chart for Question 3

### Data Analysis →

According to the data analysis results 60% of employees doesn't use a password for the device they use to sign into Remote Working.

### Recommendations →

Advice staff to you use a password for the device you use to sign into Remote Working.

#### Question 04 :

Do you change password of your workstation Windows account that you use to sign into Remote Working monthly basis?

YES

NO

Table 2. 4 Data collection table for Question 4

| Do you change password of your workstation Windows account that you use to sign into Remote Working monthly basis? |                   |
|--|-------------------|
| Answers  | Number of answers |
| YES  | 0                 |
| NO   | 50                |

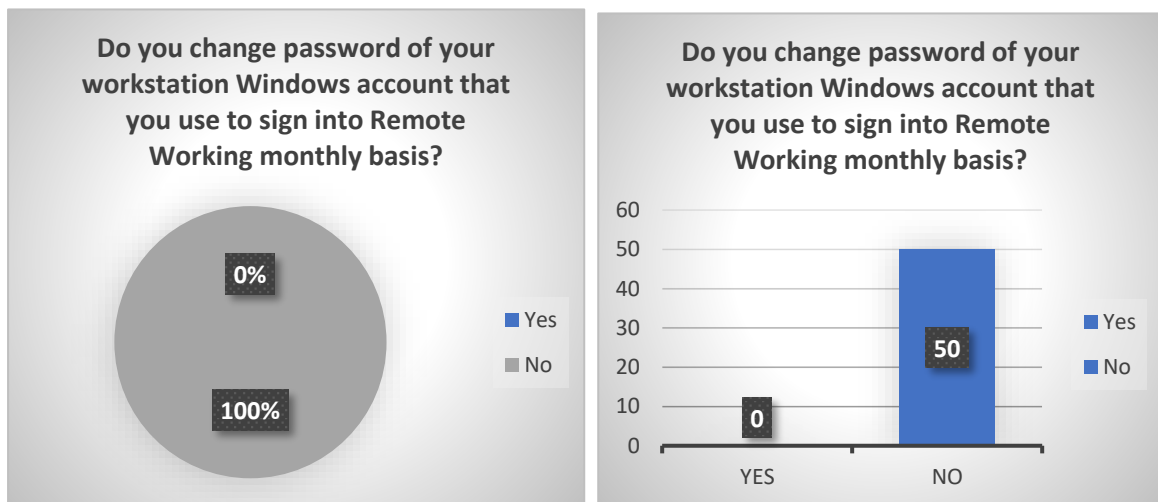


Figure 2. 9 Visualize the collected data using Pie Chart and Column chart for Question 4

#### Data Analysis →

According to the data analysis results 100% of employees doesn't change password of their workstation Windows account that they use to sign in to Remote Working monthly basis.

#### Recommendations →

Remind staff to change password of their workstation Windows account that they use to sign in to Remote Working monthly basis.

### Question 05 :

Do you set your remote working device to automatically lock after a period of inactivity?

YES

NO

Table 2. 5 Data collection table for Question 5

| Do you set your remote working device to automatically lock after a period of inactivity? |                   |
|---|-------------------|
| Answers   | Number of answers |
| YES   | 24                |
| NO  | 26                |

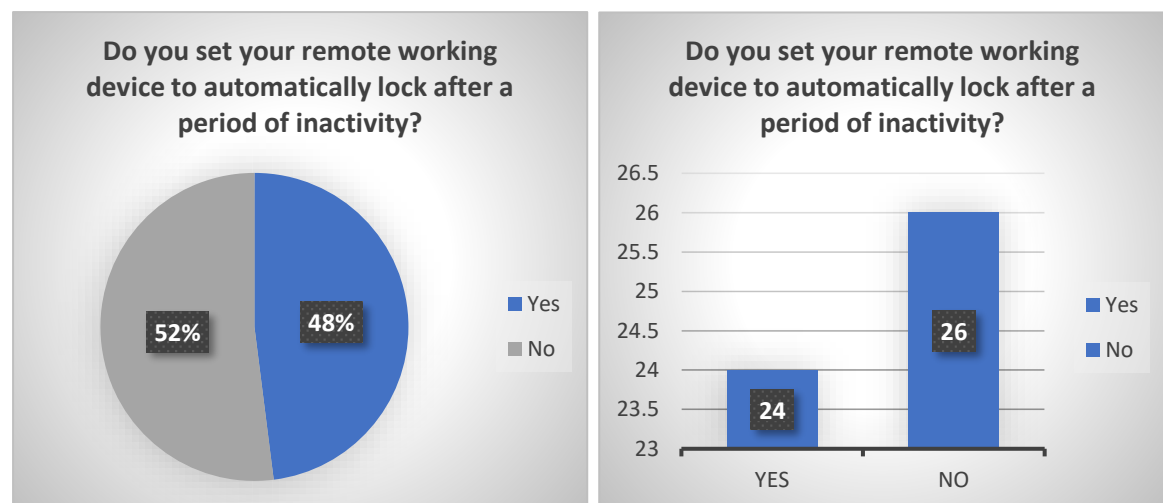


Figure 2. 10 Visualize the collected data using Pie Chart and Column chart for Question 5

### Data Analysis →

According to the data analysis results 52% of employees doesn't set their remote working device to automatically lock after a period of inactivity

### Recommendations →

Advice staff to set their remote working device to automatically lock after a period of inactivity.



### Question 06 :

Do you check and configure your remote working workstation app privacy settings ?

YES

NO

Table 2. 6 Data collection table for Question 6

| Do you check and configure your remote working workstation app privacy settings ? |                   |
|---|-------------------|
| Answers   | Number of answers |
| YES   | 10                |
| NO  | 40                |

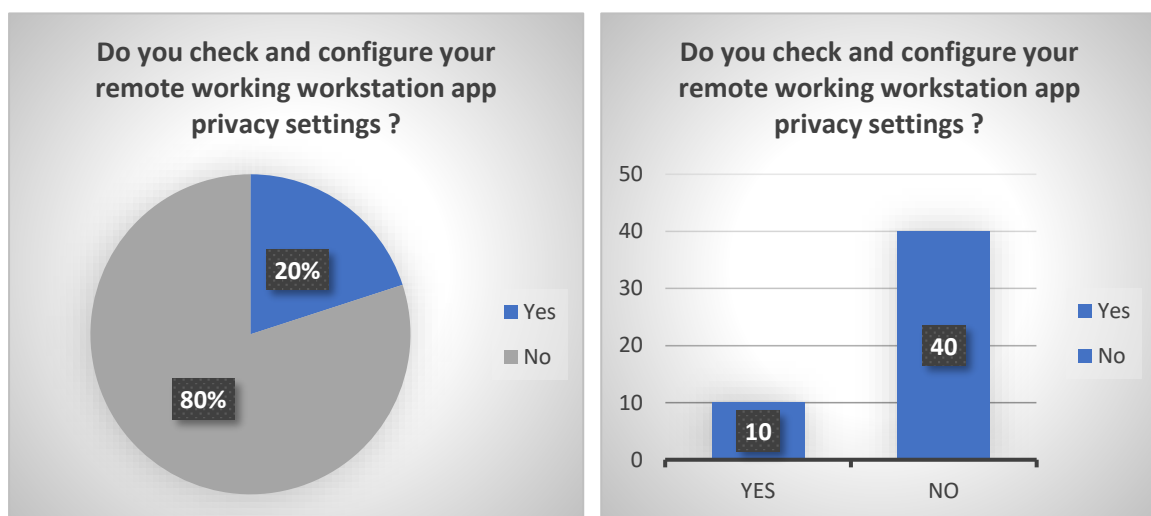


Figure 2. 11 Visualize the collected data using Pie Chart and Column chart for Question 6

### Data Analysis →

According to the data analysis results 80% of employees doesn't check and configure their remote working workstation app privacy settings.

### Recommendations →

Advice staff to check and configure their remote working workstation app privacy settings by running an audit on these apps.

### Question 07 :

Do you use multi-factor authentication to log into accounts ?

YES

NO

Table 2. 7 Data collection table for Question 7

| Do you use multi-factor authentication to log into accounts ? |                   |
|---|-------------------|
| Answers   | Number of answers |
| YES   | 06                |
| NO  | 48                |

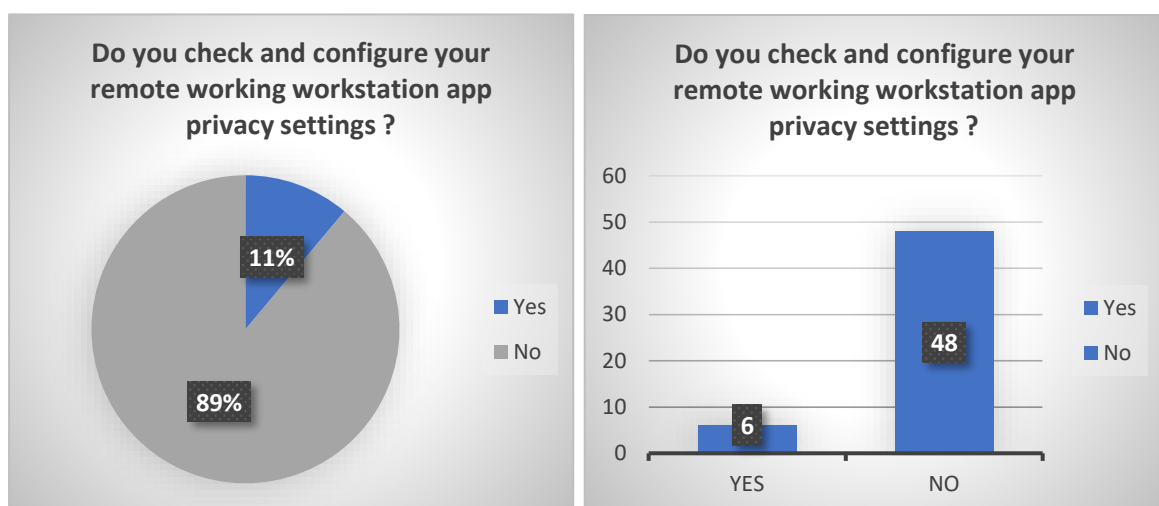


Figure 2. 12 Visualize the collected data using Pie Chart and Column chart for Question 7

### Data Analysis →

According to the data analysis results 89% of employees doesn't use multi-factor authentication to log into accounts.

### Recommendations →

Advice staff to use multi-factor authentication to log into accounts and check whether they use multi-factor authentication to log into accounts.

### Question 08 :

Do you use someone else's wi-fi by your remote working workstation ?

YES

NO

Table 2. 8 Data collection table for Question 8

| Do you use someone else's wi-fi by your remote working workstation ? |                   |
|--|-------------------|
| Answers  | Number of answers |
| YES  | 45                |
| NO   | 5                 |

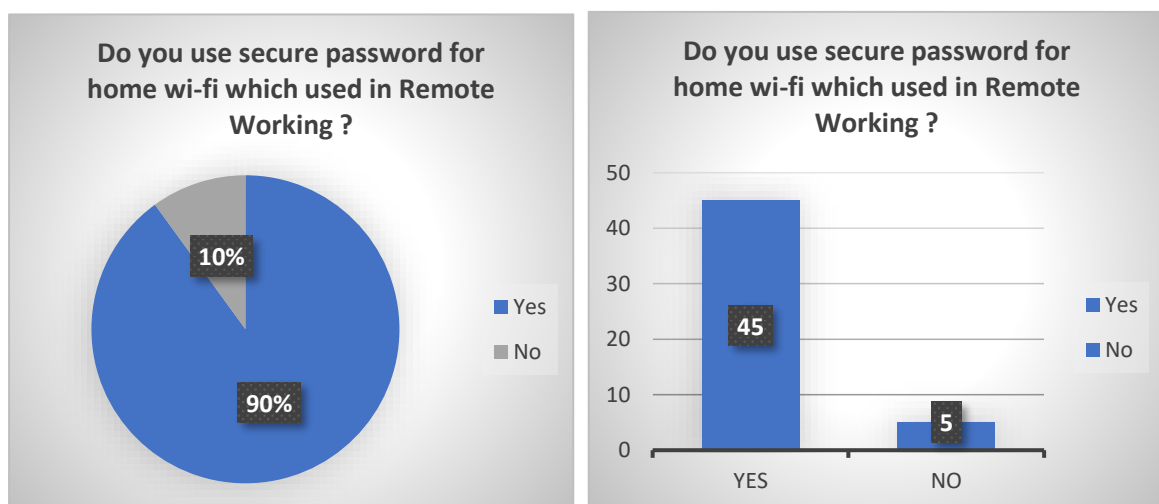


Figure 2. 13 Visualize the collected data using Pie Chart and Column chart for Question 8

### Data Analysis →

According to the data analysis results 90% of employees use someone else's wi-fi by their remote working workstation.

### Recommendations →

Educate staff about cyber security risks and reset the network configuration their remote working devices while running a virus scan.

### Question 09 :

Do you frequently update your remote working device virus guard ?

YES

NO

Table 2. 9 Data collection table for Question 9

| Do you frequently update your remote working device virus guard ? |                   |
|---|-------------------|
| Answers   | Number of answers |
| YES   | 8                 |
| NO  | 42                |

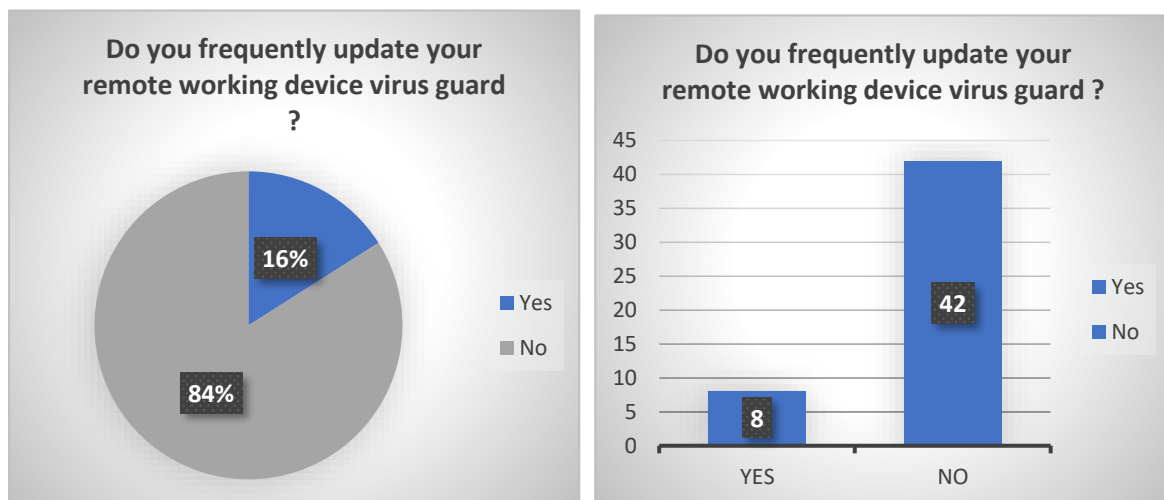


Figure 2. 14 Visualize the collected data using Pie Chart and Column chart for Question 9

### Data Analysis →

According to the data analysis results 84% of employees doesn't frequently update and patch their remote working device virus guard.

### Recommendations →

Advice staff to frequently update and patch their remote working device virus guard and remind them to do that weekly basis.

### Question 10 :

Do you frequently backup your data ?

YES

NO

Table 2. 10 Data collection table for Question 10

| Do you frequently backup your data ? |                   |
|--------------------------------------|-------------------|
| Answers                              | Number of answers |
| YES                                  | 22                |
| NO                                   | 28                |

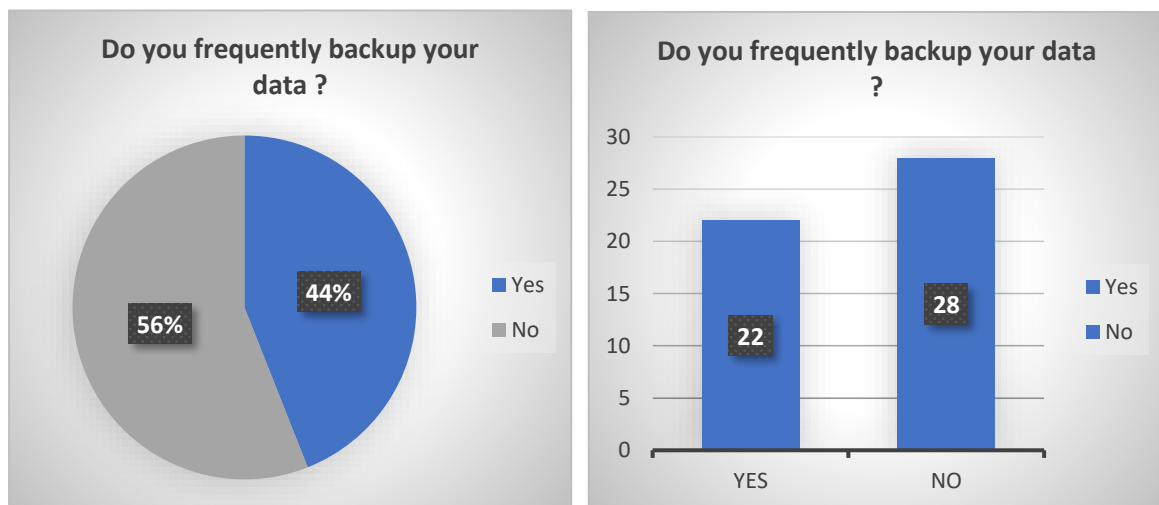


Figure 2. 15 Visualize the collected data using Pie Chart and Column chart for Question 10

### Data Analysis →

According to the data analysis results 56% of employees doesn't frequently backup their data.

### Recommendations →

Provide employees with suitable backup methods and add a schedule plan for backing up their work data on a daily basis.

### Question 11 :

Do you click on website links when you receive from friend or unknown ?

YES

NO

Table 2. 11 Data collection table for Question 11

| Do you click on website links when you receive from friend or unknown ? |                   |
|---|-------------------|
| Answers   | Number of answers |
| YES   | 37                |
| NO  | 13                |

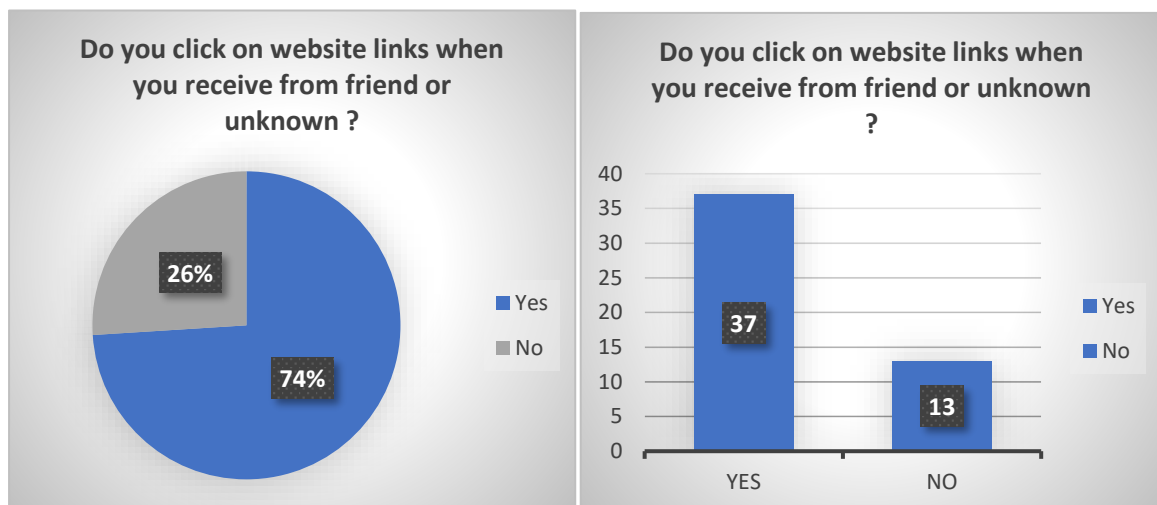


Figure 2. 16 Visualize the collected data using Pie Chart and Column chart for Question 11

### Data Analysis →

According to the data analysis results 74% of employees click on website links when they receive it from friend or unknown.

### Recommendations →

Educate staff about phishing attacks and advise them to click on only the links coming through official emails from the company.

## Question 12 :

Do you install and play games by your remote working device ?

YES

NO

Table 2. 12 Data collection table for Question 12

| Do you install and play games by your remote working device ? |                   |
|---|-------------------|
| Answers   | Number of answers |
| YES   | 27                |
| NO  | 23                |

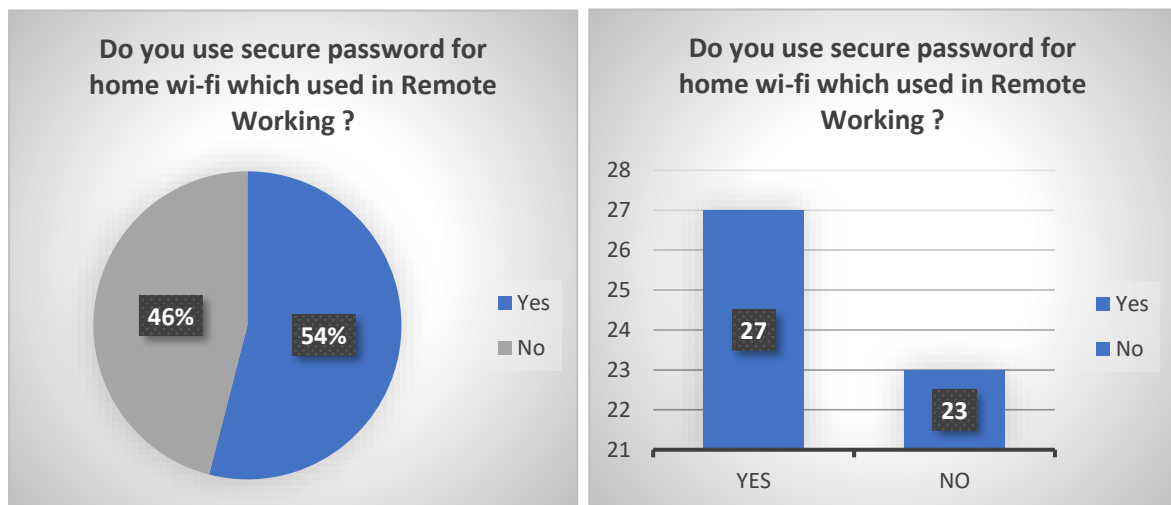


Figure 2. 17 Visualize the collected data using Pie Chart and Column chart for Question 12

## Data Analysis →

According to the data analysis results 54% of employees install and play games by their remote working device.

## Recommendations →

Staff should be thoroughly advised to not to play games on their remote working device and disable authority to install any software without company admin rights.

### Question 13 :

Do you use the same password for more than one account or service ?

YES

NO

Table 2. 13 Data collection table for Question 13

| Do you use the same password for more than one account or service ? |                   |
|---|-------------------|
| Answers   | Number of answers |
| YES   | 48                |
| NO  | 02                |

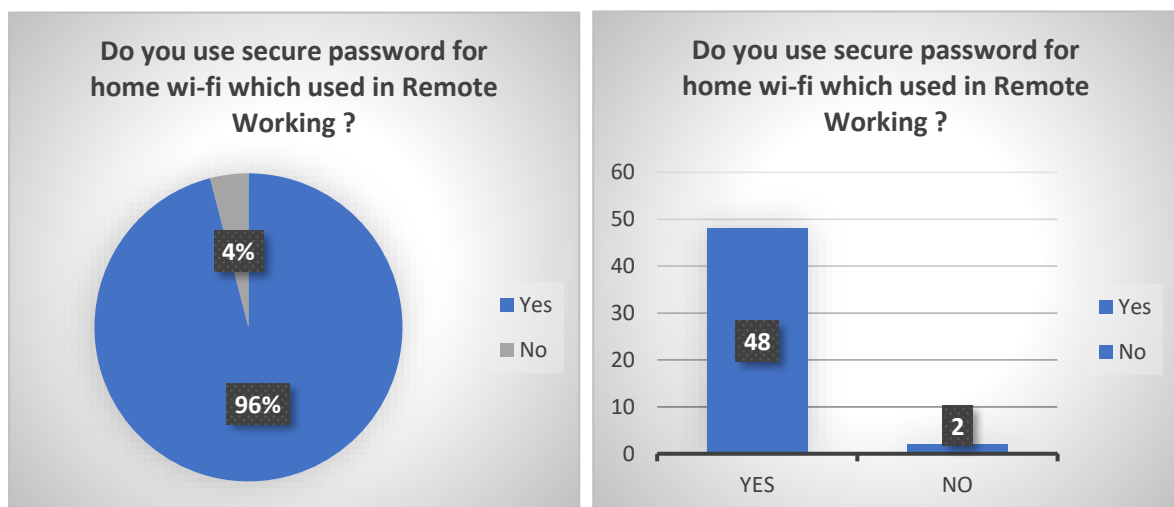


Figure 2. 18 Visualize the collected data using Pie Chart and Column chart for Question 13

### Data Analysis →

According to the data analysis results 96% of employees use the same password for more than one account or service.

### Recommendations →

Educate staff about how to use strong passwords for more than one account or service.



### Question 14 :

Do you use Social Security numbers, phone numbers, addresses, or other personally identifiable information as passwords ?

YES

NO

Table 2. 14 Data collection table for Question 14

| Do you use Social Security numbers, phone numbers, addresses, or other personally identifiable information as passwords ? |                   |
|---|-------------------|
| Answers   | Number of answers |
| YES   | 49                |
| NO  | 01                |

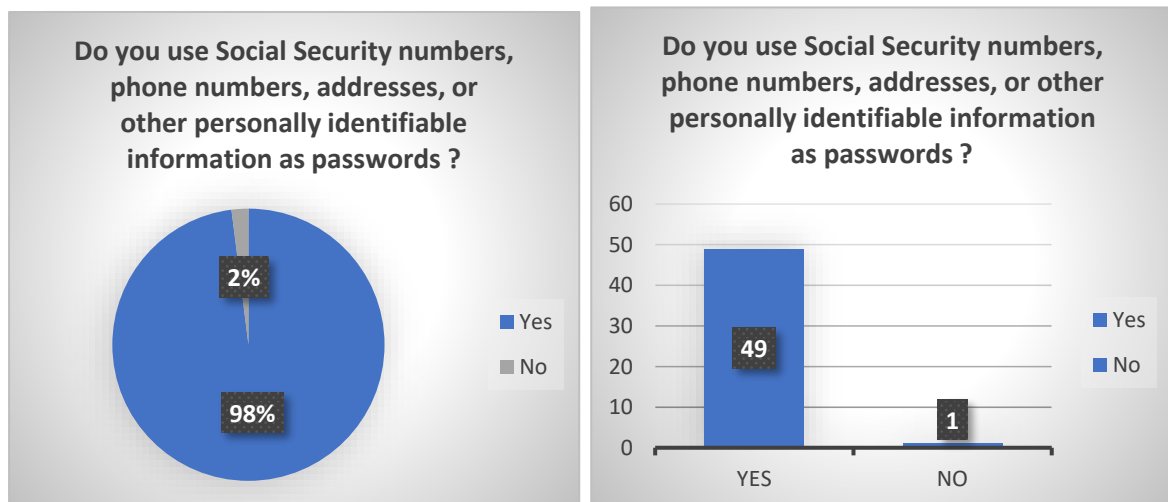


Figure 2. 19 Visualize the collected data using Pie Chart and Column chart for Question 14

### Data Analysis →

According to the data analysis results 98% of employees use Social Security numbers, phone numbers, addresses, or other personally identifiable information as passwords.

### Recommendations →

Educate staff about how to use strong passwords without using personal identifiable information.

### Question 15 :

Do you delete old data that no longer need on your remote working device ?

YES

NO

Table 2. 15 Data collection table for Question 15

| Do you delete old data that no longer need on your remote working device ? |                   |
|--|-------------------|
| Answers  | Number of answers |
| YES  | 15                |
| NO   | 35                |

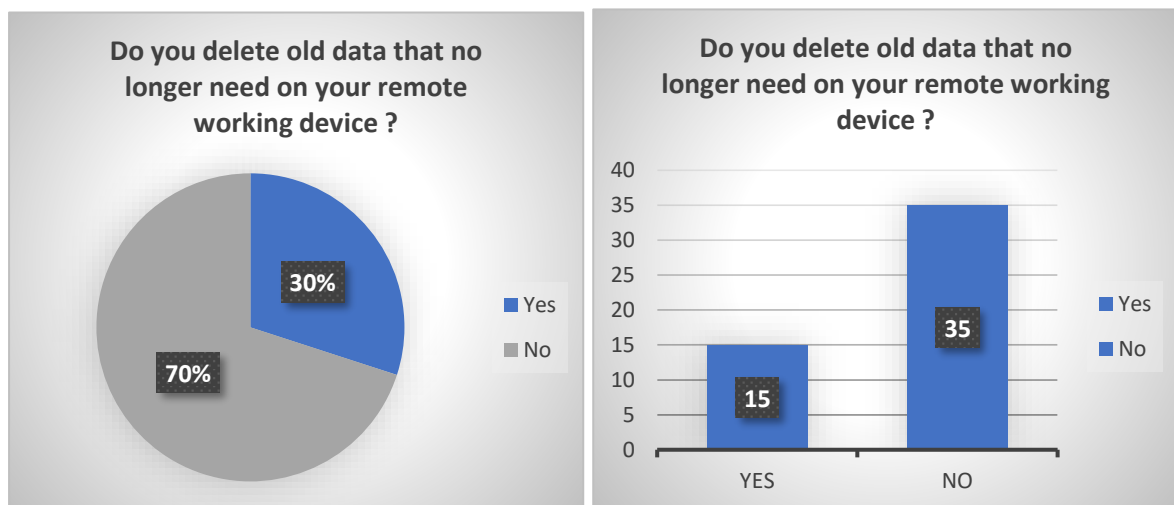


Figure 2. 20 Visualize the collected data using Pie Chart and Column chart for Question 15

### Data Analysis →

According to the data analysis results 70% of employees doesn't delete old data that no longer need on their remote working device.

### Recommendations →

Educate staff about how to safely archive or destroy older data from the remote working device.

### Question 16 :

Do your family/friends/close people have access to your remote working device ?

YES

NO

Table 2. 16 Data collection table for Question 16

| Do your family/friends/close people have access to your remote working device ? |                   |
|---|-------------------|
| Answers   | Number of answers |
| YES   | 35                |
| NO  | 15                |

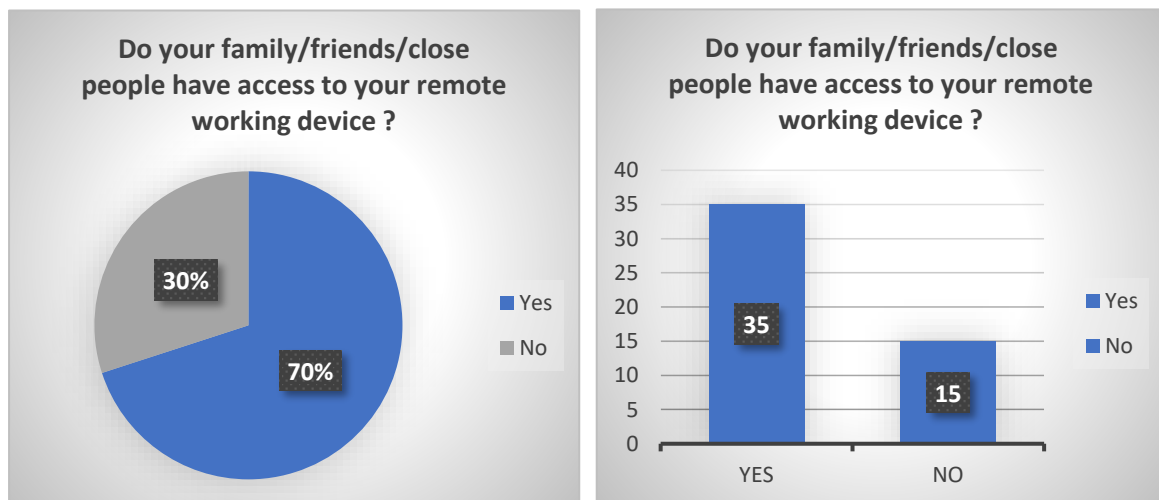


Figure 2. 21 Visualize the collected data using Pie Chart and Column chart for Question 16

### Data Analysis →

According to the data analysis results 70% of employees' family/friends/close people have access to their remote working device.

### Recommendations →

Advice staff to change passwords and other credentials as soon as possible. Advice HR to add a company policy relate to that issue while educating staff about that.

### Question 17 :

Do you use download or using crack files ?

YES

NO

Table 2. 17 Data collection table for Question 17

| Do you use download or using crack files ? |                   |
|--|-------------------|
| Answers                                    | Number of answers |
| YES  | 34                |
| NO   | 16                |

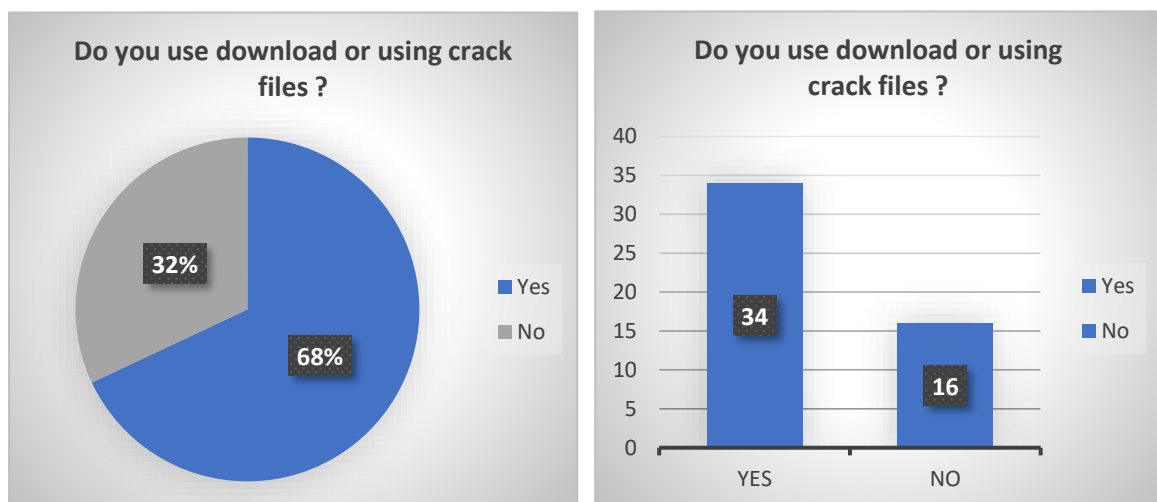


Figure 2. 22 Visualize the collected data using Pie Chart and Column chart for Question 17

### Data Analysis →

According to the data analysis results 68% of employees download or using crack files.

### Recommendations →

Install antivirus software to employees' remote working device and setup firewall to that.

### Question 18 :

Do you use public Wi-Fi to do sensitive transactions ?

YES

NO

Table 2. 18 Data collection table for Question 18

| Do you use public Wi-Fi to do sensitive transactions ? |                   |
|--|-------------------|
| Answers  | Number of answers |
| YES  | 15                |
| NO   | 35                |

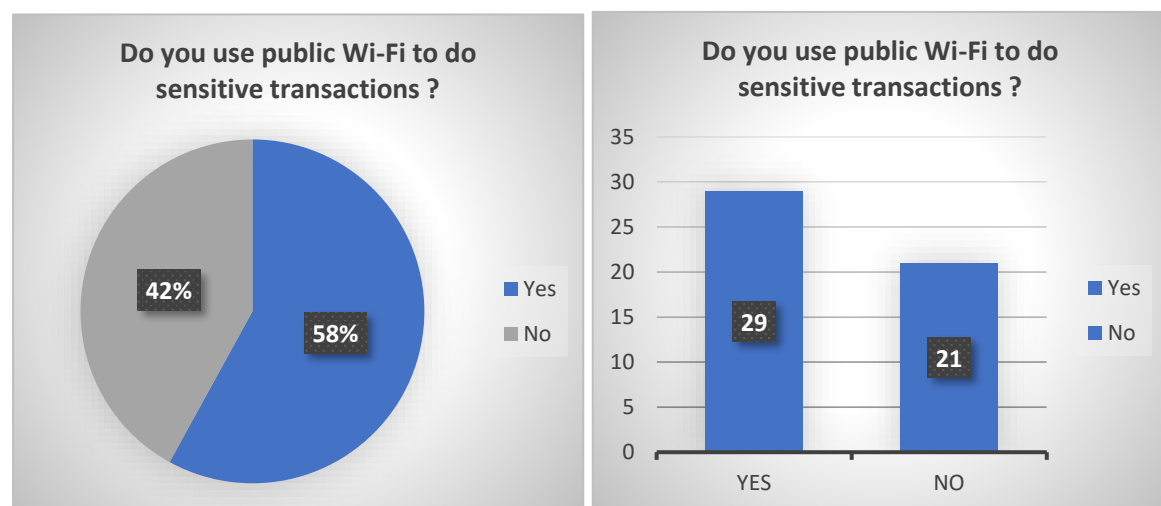


Figure 2. 23 Visualize the collected data using Pie Chart and Column chart for Question 18

### Data Analysis →

According to the data analysis results 58% of employees use public Wi-Fi to do sensitive transactions.

### Recommendations →

Educate staff about cyber security risks and reset the network configuration their remote working devices while running a virus scan.

And advise them to change their credential details as soon as possible.

### Question 19 :

Do you sign out of online services or portals after doing work ?

YES

NO

Table 2. 19 Data collection table for Question 19

| Do you sign out of online services or portals after doing work ? |                   |
|--|-------------------|
| Answers  | Number of answers |
| YES  | 5                 |
| NO   | 40                |

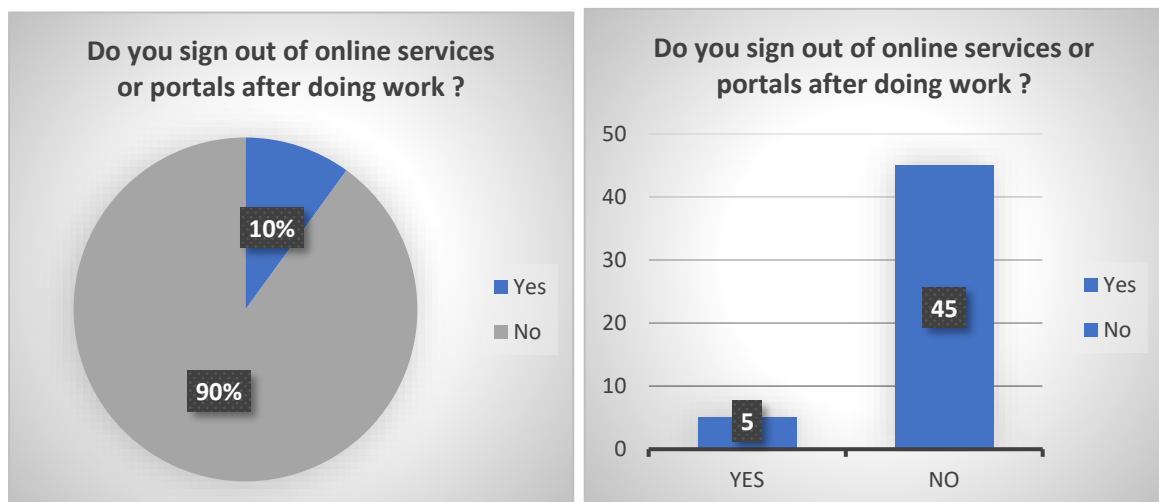


Figure 2. 24 Visualize the collected data using Pie Chart and Column chart for Question 19

### Data Analysis →

According to the data analysis results 90% of employees doesn't sign out of online services or portals after doing work.

### Recommendations →

Send a daily reminder at the end of the day to the staff group to sign out of online services or portals that they have used for the day.

## Question 20 :

Do you save passwords in your web browser ?

YES

NO

Table 2. 20 Data collection table for Question 20

| Do you save passwords in your web browser ? |                   |
|---|-------------------|
| Answers                                     | Number of answers |
| YES   | 50                |
| NO  | 0                 |

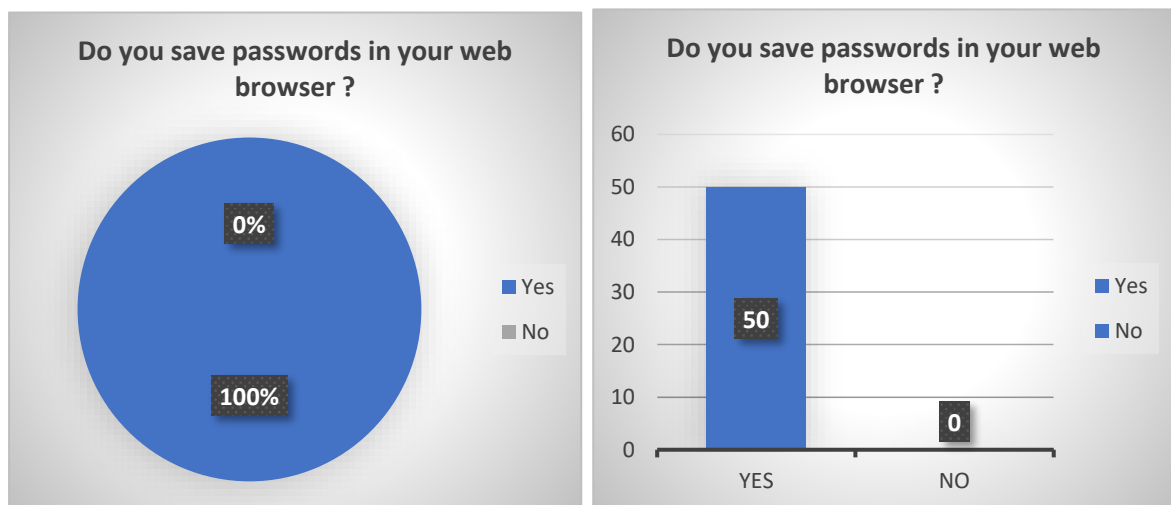


Figure 2. 25 Visualize the collected data using Pie Chart and Column chart for Question 20

## Data Analysis →

According to the data analysis results 100% of employees save passwords in their web browser.

## Recommendations →

Advise employees not to save passwords in their web browsers and schedule to clear their web browser cache and cookies daily.

## Qualitative research methodology

### Qualitative research types I've choose

#### 2) One-on-one interview :

As mentioned before one of the most popular qualitative research methodologies is conducting in-depth interviews. It is a one-on-one interview with only one respondent at a time. This is purely a conversational strategy that allows for in-depth information from the respondent.

One of the benefits of this strategy is that it allows for the collection of exact data about what people believe and their motivations. If the researcher has prior experience, asking the proper questions can help in the collection of useful data. If further information is required, the researchers should ask such follow-up questions that would assist them in gathering more information. These interviews can be conducted in person or over the phone and can span anything from 30 minutes to two hours or more. When the in-depth interview is conducted face to face, it is easier to read the respondents' body language and match the responses. I gathered information from the company staff using this qualitative research method.

Since this organization has 50 employees, it is difficult and time consuming to interview each and every one of them. Because of that, I chose 5 employees as a random sample for each question and recorded their responses to each question. Then I've analyzed the results for each question and with overall results.



## **Conducted Qualitative Research**

### **Question 01 :**

Me : Do you use secure password for home wi-fi which used in Remote Working ?

Staff 1 : Of course, I do.

Staff 2 : Nope.

Staff 3 : I don't care about the password strength. Nobody cares.

Staff 4 : Who does?

Staff 5 : I even don't know of my password.

### **Data Analysis →**

It is seemed that most of the employees in the company doesn't use a secure password for home wi-fi which used in Remote Working which making the company's data vulnerable to outsiders.

### **Recommendations →**

Advice staff to use secure password for home wi-fi which used in Remote Working.

Practice employees to use passwords.

### **Question 02 :**

Me : Do you use virus guard for the workstation which used in Remote Working ?

Staff 1 : No. Who has enough money to pay those things?

Staff 2 : Yes, I use Kaspersky. But it cost too much.

Staff 3 : No, I think my PC has windows firewall.

Staff 4 : I don't have buddy. I don't have enough money to pay annual fee.

Staff 5 : No, it cost so much.

### **Data Analysis →**

It appears that almost all employees in the company do not use virus guard for the workstations used in remote working because it is too expensive for them.

### **Recommendations →**

Provide staff with proper virus guard software with license keys.

**Question 03 :**

Me : Do you use a password for the device you use to sign into Remote Working ?

Staff 1 : No.

Staff 2 : Yes of course.

Staff 3 : Yeah man!

Staff 4 : Nobody expect me use my device. So, I don't use password for the device bro.

Staff 5 : I don't know how to setup a password sir.

**Data Analysis →**

According to the qualitative research most of employees doesn't use a password for the device they use to sign into Remote Working.

**Recommendations →**

Advice staff to you use a password for the device you use to sign into Remote Working.

**Question 04 :**

Me : Do you change password of your workstation Windows account that you use to sign into Remote Working monthly basis?

Staff 1 : No.

Staff 2 : why we do that?

Staff 3 : (Laugh).

Staff 4 : Is that necessary?

Staff 5 : Of course not.

**Data Analysis →**

According to the qualitative research it seemed every one of employees doesn't change password of their workstation Windows account that they use to sign in to Remote Working monthly basis.

**Recommendations →**

Remind staff to change password of their workstation Windows account that they use to sign in to Remote Working monthly basis.

**Question 05 :**

Me : Do you set your remote working device to automatically lock after a period of inactivity?

Staff 1 : Yes, it is 5min.

Staff 2 : Yes of course.

Staff 3 : Yeah man!

Staff 4 : I don't have.

Staff 5 : Sorry, no.

**Data Analysis →**

According to the qualitative research it seemed few of employees doesn't set their remote working device to automatically lock after a period of inactivity

**Recommendations →**

Advice staff to set their remote working device to automatically lock after a period of inactivity.

**Question 06 :**

Me : Do you check and configure your remote working workstation app privacy settings ?

Staff 1 : No. Is that even possible?

Staff 2 : Yes, I'm much concern about my privacy.

Staff 3 : I tried once, but I couldn't do that.

Staff 4 : I didn't care about that buddy.

Staff 5 : Nah buddy.

**Data Analysis →**

According to the qualitative research most of employees doesn't check and configure their remote working workstation app privacy settings.

**Recommendations →**

Advice staff to check and configure their remote working workstation app privacy settings by running an audit on these apps.

**Question 07 :**

Me : Do you use multi-factor authentication to log into accounts ?

Staff 1 : No.

Staff 2 : Yes, I recently learned that.

Staff 3 : What is that?

Staff 4 : I heard about that. Didn't have a chance to learn that

Staff 5 : Nope.

**Data Analysis →**

According to the qualitative research most of employees doesn't use multi-factor authentication to log into accounts.

**Recommendations →**

Advice staff to use multi-factor authentication to log into accounts and check whether they use multi-factor authentication to log into accounts.

**Question 08 :**

Me : Do you use someone else's wi-fi by your remote working workstation ?

Staff 1 : mmm yeah.

Staff 2 : Let me check that... Ah yeah!

Staff 3 : I use my brother's hotspot.

Staff 4 : I use my girlfriend's Wi-Fi sometimes.

Staff 5 : Yeah!

**Data Analysis →**

According to the qualitative research it seemed every one of employees use someone else's wi-fi by their remote working workstation.

**Recommendations →**

Educate staff about cyber security risks and reset the network configuration their remote working devices while running a virus scan.



**Question 09 :**

Me : Do you frequently update your remote working device virus guard ?

Staff 1 : No.

Staff 2 : Never since install it.

Staff 3 : (Laugh). No, no.

Staff 4 : Sometimes.

Staff 5 : Of course not.

**Data Analysis →**

According to the qualitative research it seemed most of employees doesn't frequently update and patch their remote working device virus guard.

**Recommendations →**

Advice staff to frequently update and patch their remote working device virus guard and remind them to do that weekly basis.

**Question 10 :**

Me : Do you frequently backup your data ?

Staff 1 : Of course not.

Staff 2 : No.

Staff 3 : Yessssss. One drive I'm using.

Staff 4 : I use google drive

Staff 5 : No.

**Data Analysis →**

According to the qualitative research more than half set of employees doesn't frequently backup their data.

**Recommendations →**

Provide employees with suitable backup methods and add a schedule plan for backing up their work data on a daily basis.

**Question 11 :**

Me : Do you click on website links when you receive from friend or unknown ?

Staff 1 : Yeah, what are those?

Staff 2 : No.

Staff 3 : No those are spams, I know that.

Staff 4 : Dude! No (Laugh).

Staff 5 : Sometimes I do.

**Data Analysis →**

According to the qualitative research more than half set of employees click on website links when they receive it from friend or unknown.

**Recommendations →**

Educate staff about phishing attacks and advise them to click on only the links coming through official emails from the company.

### **Question 12 :**

Me : Do you install and play games by your remote working device ?

Staff 1 : Yeah, man I play Call Of Duty.

Staff 2 : Yeah bro.

Staff 3 : No. I'm not a gamer.

Staff 4 : I'm too old enough to play games.

Staff 5 : Yes, PUBG I'm playing.

### **Data Analysis →**

According to the qualitative research more than half set of employees install and play games by their remote working device.

### **Recommendations →**

Staff should be thoroughly advised to not to play games on their remote working device and disable authority to install any software without company admin rights.

**Question 13 :**

Me : Do you use the same password for more than one account or service ?

Staff 1 : Yeah.

Staff 2 : Most of times.

Staff 3 : Yes, it's easier.

Staff 4 : Rather than remembering many passwords it's much convenient right?

Staff 5 : Yes, I do.

**Data Analysis →**

According to the qualitative research it seemed every one of employees use the same password for more than one account or service.

**Recommendations →**

Educate staff about how to use strong passwords for more than one account or service.

**Question 14 :**

Me : Do you use Social Security numbers, phone numbers, addresses, or other personally identifiable information as passwords ?

Staff 1 : Yeah. I use my ID number.

Staff 2 : Phone number with few numbers I'm using.

Staff 3 : Yes.

Staff 4 : Yes, I do.

Staff 5 : mmmm Yes for 1 account.

**Data Analysis →**

According to the qualitative research it seemed every one of employees use Social Security numbers, phone numbers, addresses, or other personally identifiable information as passwords.

**Recommendations →**

Educate staff about how to use strong passwords without using personal identifiable information.

**Question 15 :**

Me : Do you delete old data that no longer need on your remote working device ?

Staff 1 : Yeah, I use Clean Master for that.

Staff 2 : Most of times.

Staff 3 : No, I don't have time for that.

Staff 4 : I don't care about that.

Staff 5 : No, I must do that and I'm always forgetting it.

**Data Analysis →**

According to the qualitative research more than half set of employees doesn't delete old data that no longer need on their remote working device.

**Recommendations →**

Educate staff about how to safely archive or destroy older data from the remote working device.

**Question 16 :**

Me : Do your family/friends/close people have access to your remote working device ?

Staff 1 : My little sister has, No harm from her.

Staff 2 : My family do.

Staff 3 : My wife has. I can't keep secrets with her

Staff 4 : Yes.

Staff 5 : Nobody has.

**Data Analysis →**

According to the qualitative research most of employees' family/friends/close people have access to their remote working device.

**Recommendations →**

Advice staff to change passwords and other credentials as soon as possible. Advice HR to add a company policy relate to that issue while educating staff about that.



**Question 17 :**

Me : Do you use download or using crack files ?

Staff 1 : If I say yes, will I get into trouble?

Staff 2 : Sometime I do for gaming.

Staff 3 : No no.!

Staff 4 : I don't know what you are talking about.

Staff 5 : Yes, I did for some software.

**Data Analysis →**

According to the qualitative research more than half set of downloads or using crack files.

**Recommendations →**

Install antivirus software to employees' remote working device and setup firewall to that.

**Question 18 :**

Me : Do you use public Wi-Fi to do sensitive transactions ?

Staff 1 : Of course not.

Staff 2 : I don't care about that.

Staff 3 : Yes.

Staff 4 : Yes.

Staff 5 : No, it's very risky.

**Data Analysis →**

According to the qualitative research more than half set of use public Wi-Fi to do sensitive transactions.

**Recommendations →**

Educate staff about cyber security risks and reset the network configuration their remote working devices while running a virus scan. And advise them to change their credential details as soon as possible.

**Question 19 :**

Me : Do you use download or using crack files ?

Staff 1 : No.

Staff 2 : Is that necessary?

Staff 3 : No, I don't.

Staff 4 : No.

Staff 5 : No.

**Data Analysis →**

According to the qualitative research it seemed every one of employees doesn't sign out of online services or portals after doing work.

**Recommendations →**

Send a daily reminder at the end of the day to the staff group to sign out of online services or portals that they have used for the day.

**Question 20 :**

Me : Do you save passwords in your web browser ?

Staff 1 : Yes.

Staff 2 : Yes.

Staff 3 : Yes, It's made easier to log in again.

Staff 4 : I know it's risky, but I do.

Staff 5 : Yup.

**Data Analysis →**

According to the qualitative research it seemed every one of employees save passwords in their web browser.

**Recommendations →**

Advise employees not to save passwords in their web browsers and schedule to clear their web browser cache and cookies daily.

## **Conclusion →**

According to results I've found through quantitative research and qualitative research; they are almost the same. They all generally lead to the same answer ratio. As the given results of the research show, at the Lions Restoration company, most of the staff don't care about their privacy and the security of the data. Hence, they need to be educated about cyber security, follow up on their mistakes, and give proper advice while updating the company policies.

And I've mentioned what needs to be done to maintain the cyber security of the company in the analysis for each problem. HR and company management should thoroughly go through my research and my action plan as soon as possible to prevent future cyber-attacks and threats.

## **Evaluate the Accuracy and Reliability of different research methods applied.**

The three most significant features of quantitative and qualitative research are data validity, reliability, and accuracy. In this case, accuracy is a necessary requirement for validating the source data. Validating accuracy in this research ensured that the data obtained is correct or incorrect. As a result, it helped to confirming the correctness is critical for any survey.

### **Methods to check Accuracy in research**

I demonstrated the accuracy of study data by using three key characteristics: valid data, reliable data, and generalizable data. There are two methods we can check the data's accuracy:

1. Check with another reliable data source.
2. Examine using real-world data.

I also had to aware of data input bias, which can have an impact on the survey. The following are some examples of biases I concerned:

- Design flaws in the survey.
- The study includes biased survey questions.
- Bias in reference.
- Bias in data analysis.

By examining these biases during the survey's execution, I ensured the research's accuracy.

### **Methods I used to improve research accuracy**

- I have established Accuracy Standards [I have established highly robust data entry standards and validation].
- I have established Data Accuracy Objectives. [I have set objectives to improve overall data accuracy]
- I attempted to minimize overloading [I used this to avoid errors, simplify and smooth the data entry procedure].
- I examined the information. [By reviewing I ensured that the data is valid.]
- I attempted to have Automate Error Reports [ I have created automated error reports for the same type of data].

### **Methods I used to check Reliability in research**

- Plan ahead : This research was relied heavily on planning, thus I had to aim to organize my research methods and investigations ahead of time to ensure that we and our team are prepared. I had to consider where I will conduct research with our sample group, how I will distribute testing materials or criteria, and how I will explain the objective of the research to participants.
- Make note of the environment : Since I was performing research with the same sample group on several occasions, it was generally a good idea to take note of the surroundings when the group is tested. This was due to the fact that some conditions, such as whether it is raining, the room is cold, or someone is coughing, might influence the group's inclination to fully participate.
- Consider the participants : I was aware to consider how our sample group will respond to and understand the things we offer to them when we develop our research materials. A group of children, for example, may require a simple set of survey questions to be read to them, whereas a group of adults (our company employees) may be able to read more sophisticated questions themselves.

- Review results thoroughly : When comparing the results of our research, I made sure to thoroughly check the results to ensure we capture any inaccuracies and appropriately establish the dependability of the results. I even invited a colleague to review the findings with us and provide feedback on the dependability of the data acquired by our research methods.
- Think about the type of research : Since each field of study evaluates something different, different forms of research may benefit more from specific reliability tests than others. In marketing, we may employ numerous focus groups on a regular basis to establish a product's attractiveness, whereas a sociologist may watch behavior and compare notes on a regular basis to obtain diverse professional viewpoints on a problem.

### **Methods I used to improve Reliability in research**

- I have increased the number of items (e.g., on questions, survey types).
- I have removed any confusing questions.
- I standardized the conditions.
- I moderated the test's ease and complexity.
- I reduced the impact of external events (such as special holidays).
- I standardized operations.
- I have maintained consistent scoring systems (e.g., essay or performance rubric).



### **Methods I used to improve Validity in research**

- I ensure that our aims and objectives are clearly defined and implemented.
- I documented staff expectations.
- Aligned our assessment metric with our aims and objectives. In addition, I had to test assessed by people from different departments to get input from someone who isn't as engaged in the research.
- I asked from employees to review the assessment for problematic wording or other issues.
- I compared our measure to other accessible measures or data.
- I carefully planned and implemented design of the research.
- I created operational definitions.
- I Adhered to a typical study design. I had to randomized of control groups and also match subjects.
- I had to look for contradictory evidence and negative situations.
- Used numerous methods to triangulate.
- "Member checks" have performed by asking feedback from participants on data and findings.
- Avoided using researchers who are biased.
- I used appropriate methodology, a suitable sample, and sufficient resources for the research.
- I selected an acceptable timeframe.
- Avoided respondent dropout rates.
- Took precautions to ensure that questionnaires are returned.
- Ensured that data collection techniques are uniform.
- This research was built on respondents' motivations.

## **Critically evaluate the project management process and appropriate research methodologies applied**

One of the most important processes in any project is project management. This is because the core process that brings all other project activities and procedures together is project management. There are several project management activities to choose from. These numerous project management tasks can be divided into five primary stages, though. These five primary project management processes are detailed below.

### **Critically evaluate the project management process step by step**

#### **1) Project Initiation**

A new project or phase is launched properly using starting processes. The project manager needs to be well aware of the phase's or project's goals and objectives. Additionally, before beginning a project or phase, the project manager must acquire formal approval from senior management. To confirm the costs and benefits, the feasibility study within the limits may also be examined. All of the project stakeholders who will be involved in the project in some form will also be identified by the project manager.

The first thing I needed to do was understand the phase's or project's goals and objectives. Furthermore, before starting a project or phase, I obtained formal approval from senior management. Then I checked the costs and rewards, and I analyzed the feasibility study within the limitations. In this step, I identified all of the project stakeholders who will be involved in the project in any way.

In my opinion with this phase I was able to find the deliverables from this project. Then I was able to define the objectives and resources I needed for this project and, by doing so, I was able to estimate the total cost for the project as such done the critical evaluation. And also, by creating a work breakdown structure and by using Gannt Chat, I was able to develop a project timeline and distinguish milestones within the project. And also, by producing a risk plan, I was able to mitigate risks that could delay or harm my project as such done the critical evaluation.

## 2) Project Planning

In project management, planning is a significant and extensive process. The creation of an integrated project plan is necessary. A detailed project timeline, cost and resource estimation, resource development, communication plans, risk response plans, procurement plans, and stakeholder engagement plans are just a few of the planning procedures that are involved. A comprehensive plan is created and includes all of the secondary plans.

In my opinion by developing a Project Management Plan in this phase, I was able to create a roadmap for the project. In the project initiation phase, I found what needed to be done. In this phase, I planned everything. Since I prepared a scope plan, I was able to plan ways to gather resources and requirements. I was able to create a Work Breakdown Structure and Gantt Chart to visualize the roadmap for the project, and I was able to set timeframes and put milestones according to that. I was also able to define activities that needed to be done and I was able to estimate activity durations to develop a better schedule for them as such done the critical evaluation.

And also, since I was able to initiate a cost plan, I was able to estimate all the budget for the project. By doing so, I was able to gain trust from the management and I was able to gather estimated costs through management for the project when I was needed.

And then, since I'd prepared a communication plan, I was able to gather resources and information easily throughout the project. I created a risk management plan to avoid threats and vulnerabilities and perform at my optimum speed throughout the project. By creating a heat map for the risks, I was able to give my priority to high risks, and by doing so, the entire project went smoothly to the end, despite having difficulties at the beginning as such done the critical evaluation.

### 3) Project Execution

To carry out the plan, execution processes are used. All project tasks are completed in accordance with the plan. The appropriate resources are brought on board, and they are assigned specific duties. Appropriate suppliers and service providers are also chosen, and particular project tasks are assigned to them. The project's deliverables are developed by the team and the suppliers. The project manager is also responsible for team formation, communication, quality assurance, and stakeholder management, as well as completing all project deliverables.

In my opinion in this phase, I was able to execute the plan I'd created. By brainstorming and by doing some prep work, I was able to collect data. For that, I've used both qualitative and quantitative research methods. I gathered information through an interview technique. Despite it taking a lot of time, I was able to get highly accurate data rather than quantitative research. But since this technique required a lot of time, I had to spend a lot of money at that time. But in the Quantitative Research method, I was able to send surveys to staff members of the company and collect data within a short time. It's less accurate than qualitative research techniques but gave me a similar proportion of answers related to that. And also, at this stage, I was able to update project documents with the time and also update the project plan due to changes in environmental factors as such done the critical evaluation.

### 4) Control and Monitoring

Monitoring project progress and identifying variations on a regular basis is crucial to project management. To keep the project on track, it is critical to implement the recommended corrective action, preventative action, and defect corrections. The progress of the project is measured against the baselines of scope, time, cost, and quality. Various change requests are also tracked and managed. These procedures run simultaneously with project execution activities throughout the project lifecycle.

In my opinion in this phase, I was able to monitor and control the progress of the project against the baselines of scope, time, cost, and quality. I did some change requests that are also tracked and managed. I was also able to update schedule forecasts in this phase.

I was also able to control the costs and resources according to the budget I had. Then I was able to monitor the communication effectively in this phase, which helped me to reduce the miscommunication. I was also able to monitor the risks in this phase. These procedures helped me to run simultaneously with project execution activities throughout the project lifecycle as such done the critical evaluation.

#### 5) Project Closeout

The closing process group ensures that all project or phase activities are correctly closed. The project deliverables are sent to stakeholders. Lessons learned are cataloged. All project documentation is archived to ensure that it is accessible for future reference.

In my opinion in this phase, I was able to derive recommendations based on the analysis report and produce solutions for the company. I documented the lessons I've learned, and I was able to create a reflection report in this phase. This was the final phase of the project management process, and this stage indicated the end of the project after the final delivery as such done the critical evaluation.

### **Critically evaluate the entire project management process**

In my opinion when speak about the entire Project Management Process I could ensure that our work is completed on time and within budget with proper planning. Using project management methods, I was able to map the project's journey from the start and predict where the deadlines and projected spend would fall, allowing me to more efficiently allocate our resources and avoid delays and project overspend.

And also, as such done the critical evaluation with more efficient project management processes, I was able to decrease the complexity of collaborative efforts, increase the transparency, and ensure accountability, even when working throughout departments or teams.

In my opinion with Good project management we were able to gain a better understanding of where our resources are being expended, what we need to set priorities and when, and when we are at risk of going off track if we kept better records of how our project is progressing. As such done the critical evaluation, we were able to predict issues before they became issues, avoid slowdowns, and make smarter, data-driven decisions with good project management.

## **Evaluate the selection of appropriate tools and techniques for accuracy and authenticity to support and justify recommendations.**

### **Analyze research and data using appropriate tools and techniques**

As a result, the various data analysis tools and methodologies have used as follows:

- **Descriptive Analysis :** Descriptive analysis is a sort of data analysis that helped to explain, show, or summarize data points in a constructive way so that patterns might develop that meet all of the data's conditions. It was one of the most crucial procedures in statistical data analysis in this project. I've used this method to analyze the data.
- **Pie Chart :** It was used to show the proportion of several classes. This tool is only appropriate for a single data set. It can, however, be made multi-layered to indicate the proportion of data in multiple categories. I've used this method also to analyze the data.
- **Column Chart:** These charts used to show numerical differences across categories. The column chart adjusts the column height to match the differences. In the case of a bar chart, the axes swap. I've used this method also to analyze the data.
- **Qualitative Analysis :-** The issues were being thoroughly investigated. Interviews were not limited to specific questions and could be guided/redirected in real time by the researcher. As new information became available, the research framework and direction were quickly revised.
- **Quantitative analysis :-** Quantitative research was quick, focused, scientific, and relatable. As a researcher, I was attracted to the quantitative method because of its speed and efficiency. Data computing equipment allows for fast processing and analysis of data, even with large sample sizes.
- **Google Forms :-** Google Forms is a free online tool from Google that allows us to create forms, surveys, and quizzes, as well as edit and share them collaboratively with others. I was able to create and analyze surveys using Google Forms right in

my mobile or web browser without any special software knowledge. I was able to see results as they came in. And, using charts and graphs, I was able to quickly summarize survey results.

Since I was using different kinds of tools and techniques to grab the data and analyze it, it helped me to keep the accuracy of the data with authenticity. With that, I was able to keep accountable for the information I received, and it helped to produce greater output rather than keep a low profile of data accuracy and authenticity.



## Use of the Pie Chart

A Pie Chart is a sort of graph that shows data in the form of a circular graph. The graph's parts are proportional to the fraction of the total in each group. In other words, each slice of the pie is proportional to the size of that category in the overall group. The full "pie" represents one hundred percent of the total, whereas the pie "slices" represent portions of the whole.

A pie chart shows data as a clear and understandable image. It visually represents data as a little portion of a larger total and can be a powerful tool for communicating with even the naivest of audiences. It enables the audience to swiftly comprehend information or to quickly compare data in order to perform an analysis. By using this graphic, readers won't have to analyze or measure the underlying numbers themselves. Additionally, we can alter individual data points in the pie chart to emphasize points we want to convey.

Pie charts lose their effectiveness when they contain too many pieces of information. If there are too many pieces of data, they may become packed and difficult to see, and even adding data labels and numbers may not be helpful in this situation. In order to limit this issue, I compared only two sets of data using a pie chart.



Figure 3. 1 Pie Chart Example that I've used for this project

## **Evaluation of Pie Chart**

Earlier chapter The pie chart has been thoroughly evaluated. This is a summary of the outcome.

Why I used Pie Charts :

- Show the relative percentages of various data classes.
- The circle's size can be adjusted to be proportional to the total amount it stands for.
- Visually summarize a massive data collection
- Compare to other graph types in being visually simpler.
- Allow for visual verification of calculation reasonableness or correctness
- Minimally more explanation is required.

## Use of the Column Chart

Pie charts do not allow for quick measurement comparison. Column graphs can represent data by height for rapid measurement and comparison. A column chart uses vertical columns to plot data series, making it the most common type of Excel chart. Because it's simple to compare column lengths, column charts are an effective approach to demonstrate change over time. To plot data using a part-to-whole relationship instead of a pie chart, column charts can be used, just as bar charts.

As a result, column charts assist in the summarization of data sets for improved visibility. Additionally, we can simply represent the percentages of various categories, just like pie charts. Additionally, we can very efficiently display each data set as a statistical method. As a result, I analyze the data sets using column charts as well. Observing the total values for the divisions is interesting. Pie charts, donut charts, and waterfall charts frequently perform better in these circumstances. For this reason, I used pie charts in this project.

For Pie Charts I've used portions of the whole of the data set to view and for Column Charts I've used the data set values. Hence, I can get a quick understanding of both types of data sets by looking at these 2 graphs.

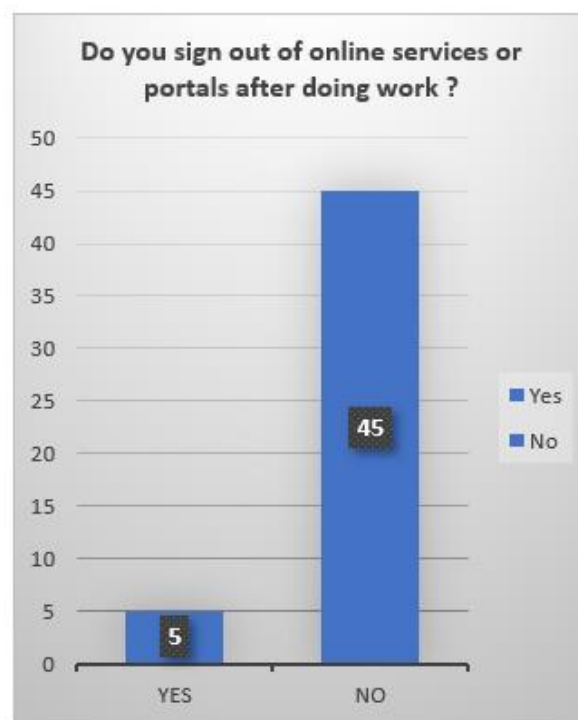


Figure 3. 2 Column Chart Example that I've used for this project

## **Evaluation of Column Chart**

Earlier chapter The column chart has been thoroughly evaluated. This is a summary of the outcome.

Why I used Column Charts :

- Display a frequency distribution for each category of data.
- Show the proportions or relative values of different categories.
- Put a lot of information in a visual, understandable form.
- Make trends more visible than in tables.
- It improves in the long-term analysis of trends.
- Data sets are compared using it. Data sets are not related to one another.
- Most used technique for representing data. Various industries employ it as a result.
- Estimates can be produced rapidly and precisely.
- Allow for visible assistance on calculation accuracy and validity.
- Easily compares two or three data sets and is accessible to a large audience.

## Critically evaluate the research and data analysis tools used in the project development stages

### Phase 1: Project Initiation

Project initiation aims to provide an overall definition of the project. A project charter that outlines the goals and specifications of the project served as the starting point for this process. It listed the project's needs, stakeholders, and specifications. I also gathered ideas and templates for the project scope using online project management tools.

### Phase 2: Project Planning

I created the project infrastructure that will allow me to accomplish the goal within the predetermined time and budget constraints in the planning phase process group. I've used and bought Microsoft Project Software for that. and used it to create a Gantt chart and determine the project's milestones and time frame. With that I was also able to update the goal and objectives by looking at them. I was able to see what needs to be done to finish the project as a result. I was able to assign team members to tasks, specify start and end dates, and establish task dependencies. There were additionally various views, such as a task grid, Kanban board, and timeline.

Then the rest of process began with a project management plan, defined the project's scope, created a work breakdown structure, and more. It ended with qualitative and quantitative risk analyses, along with risk mitigation strategies.

When defining the project scope, I've used Microsoft Word application to create tables and write the details in that.

But for creating Work Breakdown Structure, I've used MindView Mind Mapping Software. Using the professional mind mapping program MindView, I was able to organize brainstorming and visually present ideas. The mind mapping features of MindView were a useful way to develop and organize ideas, outline reports, and speed up decision-making when making Work Breakdown Structure.

Then to create the cost plan I've used Microsoft Excel. In a project, the most popular tool is Excel, particularly for forecasting and budgeting. When creating the cost plan, I was able to work in spreadsheets and set calculation functions and tools. And also, I was able to print out the cost plan whenever I want since I've used Microsoft Excel.

These tools were essential to creating the project's road map and ensuring its success. When I reached the end of this stage of the life cycle, everyone on my team had a clear understanding of the project's vision and exactly what they needed to do to finish on time and within budget.

### **Phase 3: Project Execution**

The actual work was done during the project execution stage. One of my job as a project manager was to create efficient workflows and carefully monitor the progress of my project. In this phase of Quantitative Analysis, I used Google forms to collect employee questionnaire responses. Because of Google Forms, I was able to create forms without any deep IT knowledge and see the results as they came in. And, using google forms charts and graphs, I was able to quickly summarize survey results.

Then to have interview session I've mainly used Microsoft Teams application. Employees and I were able to easily swap between various methods of communication using Microsoft Teams, such as video chat, calling and instant messaging. All of this was possible within a single window.

And for analyzation I used Pie Chart in Excel since it can show the proportion of several classes. This tool is only appropriate for a single data set. It can, however, be made multi-layered to indicate the proportion of data in multiple categories. Excel charts enabled me to generate data visualizations. I was able to build several types of charts in which the data is displayed graphically by highlighting a piece of data within an Excel file and passing it into the charting tool. These charts provided a clearer image of a set of data values than a table with rows of numbers, allowing me to use this knowledge to analysis and future planning.

And since column charts can be used to show numerical differences across categories, I used this tool for analyzation too. The column chart adjusts the column height to match the differences. In the case of a bar chart, the axes swap. I've used this method also to analyze the data.

I was able to produce a balance between automation and customization thanks to Excel's chart function. In addition to modifying the data provided within a chart, I was able to fine-tune the chart settings to any detail. Using pieces of paper and drafting charts takes a long time and cannot be customized to our needs. Charts in Excel allowed me to modify them after they were created by selecting a chart and picking from the available options to change the chart type, data, or other parameters.

As far as I can tell, using both a Pie Chart and a Bar Chart in Excel had a positive impact on this project. I mainly used pie charts because they show the relative percentages of each data set, I've used. Because of this, I was able to easily detect the proportional difference between each data set. Since this pie chart can summarize the data I want, I am able to minimize the explanation when data is presented. And I was able to compare other graphs easily just because I mainly used pie charts.

But the thing is, I can't display data set changes over time by using Pie Charts. To maintain the continued progress of this project, I had to use column charts as an alternate to the Pie Chart analysis tool. This would help me in the long-term analysis of trends. Since I've used a column chart, I was able to show the relative values of different data sets easily. Since column charts show lengths of data values, I was able to get an idea about the extent of data value changes just by looking at the chart.

#### **Phase 4: Project monitoring and controlling**

The monitoring and controlling phase entailed keeping track of the project's actual progress against my plan and taking corrective action as needed. I did that by using a Gantt chart that I made using Microsoft Project. And I used the Trello application to keep track of my project. Trello enabled me to work more collaboratively and efficiently. Trello's boards, lists, and cards helped me organize and prioritize my project in a way that was enjoyable, flexible, and rewarding.

#### **Phase 5: Project closing**

This was the final stage of the project management process. The project closure stage signified the completion of the project following the final delivery. When I was in the phase, I had to seek support from experts in order to deliver better results.

I used the MS Teams application to communicate with them since it can be used for not only calling and chatting, but also for real-time document collaboration, file sharing, and many other activities.

Then I used a reflection report to review my project progress, improve my understanding of the topic I was researching, and develop academic skills. After the project was finished, I held a reflection meeting to discuss their project-related successes and failures. This was a good way to assure ongoing development within the company and boost team productivity in the long run.



## **Reflect on the value of undertaking the research to meet stated objectives and own learning and performance.**

### **Reflection Report**

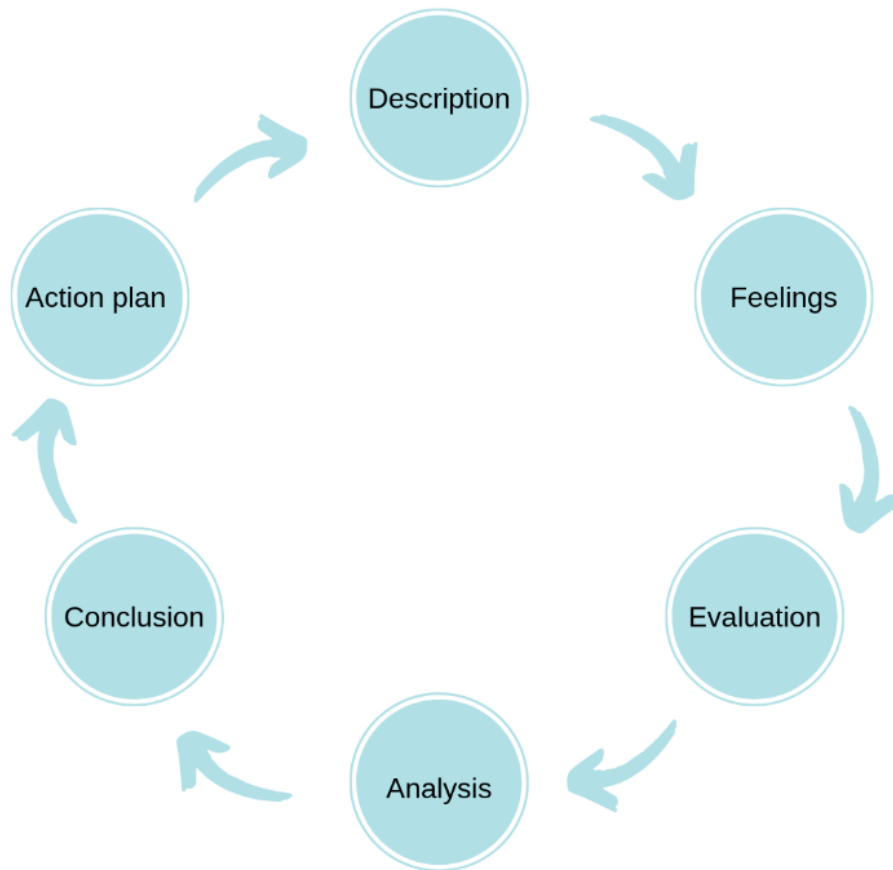
#### **Reflection modal type used in the project**

##### **1) Gibb's Reflective Cycle :**

Gibbs' Cycle of Reflection The final model expands on the previous three and includes extra phases. It is one of the more sophisticated models of reflection, but having numerous steps of the process to assist us may be reassuring. Gibb's cycle is divided into six stages:

- Description
- Feelings
- Evaluation
- Analysis
- Conclusion
- Action plan

Gibb's model begins with an overview of the experience being reflected on, just like other models. Then it pushes us to pay attention to how we feel both during and after the encounter. The next stage is to assess the event. From our perspective, what was excellent and what was bad? The circumstance can then be examined using this evaluation in an effort to make sense of it. This analysis will lead to a conclusion on what additional steps we might have taken to achieve a different result, if any. The last step entails creating an action plan of steps we can implement the next time we encounter a similar circumstance.



*Figure 4. 1 Gibbs's Reflective Cycle*

(Reflective Practice Toolkit, n.d.)

## Gibbs' model of reflection for the project

Table 4. 1 Gibbs' model of reflection for the project

| Stage One : Description  |  |
|--|--|
| What Happened?   | <p>I'm currently employed by Lions Restoration as an IT professional. I was given the task of developing secure, efficient, and integrated technology capability in order to maintain the workforce's flexibility through the concept of remote working due to the recent technological revolution brought on by the pandemic. Therefore, I conducted a small-scale study to examine the cyber security hazards of working remotely due to the pandemic from the perspective of a computing professional.</p> <p>And I've noticed that there are numerous risks in the Lions Restoration organization. I discovered these potential threats in this company through quantitative and qualitative research.</p>   |
| Stage Two : Feelings   |  |
| <p>What did you feel about it?</p> <p>What were your thoughts?</p> | <p>Being that this is a vast corporation with many departments, I felt quite miserable when this project first started. Additionally, this business was grown through Sri Lanka and Australia. I was quite frightened to begin this study. The IT revolution also created a lot of cyber security threats, and because many employees lacked the necessary knowledge, they even cared little for taking security precautions when working remotely.</p> <p>I was in a terrible state of despair. I just thought about the event and realized I needed to speak to some fellow researchers and get help for this when I rang in sick the next week.</p> <p>Since I've seen so many possible threats in the Lions Restoration group, I'm terrified to face them all at once. I had no idea what to do and was utterly confused at first.</p> |

| Stage Three : Evaluation   |  |
|--|--|
| What about the experience was positive or negative?  | <p>I didn't feel well enough to start the project at the time, and I wanted to give up. I departed without speaking to anyone at the end of the day on purpose.</p> <p>I was feeling more upbeat, though, after talking to a colleague researcher about their own experience. I came to understand that everyone experiences anxiety before beginning a project. After that, I felt energized because I had a few fellow researchers to support me with ideas and resources by sharing their knowledge and experience.</p> <p>And because of this research project, I was able to expand my capabilities, which was beyond my reach. I was able to broaden my knowledge of IT security through this project, and it felt great to learn something new.</p>   |
| Stage Four : Analysis  |  |
| <p>What sense can you make of it all?</p> <p>Why did things go well?</p> <p>Why didn't it go well?</p> | <p>My fearfulness at the start of the project complicated the problem. The management activities also worsened the issue because they did not allow me enough time to overcome my worries and purposefully overburdened me with other tasks. Management said that they were assisting me in overcoming my fears, but I do not believe this is the truth. However, because I only mentioned the incident a week later during a conference with the other fellow researchers, I was able to resolve the stressful situation.</p> <p>Everything went smoothly because I had my fellow researcher pals to support me. They guided me through difficult times and helped me schedule time for setting up Gannt charts. Even Though I was discouraged from the start, my time was limited, as was the funding for this project. I was able to overcome these</p> |

|   |   |
|---|---|
|   | <p>issues, nevertheless, thanks to good cost and time management. This challenging circumstance allowed me to improve my project management abilities.</p> <p>Since I've used quantitative and qualitative analysis, I found that everything that I found was very accurate. So I was able to draw conclusions and come up with some solutions to these security risks in the company.</p>  |
| <b>Stage Five : Conclusion</b>  |   |
| <p>What did I learn from this situation?</p> <p>What skills do I need to develop for me to handle a situation like this better?</p> <p>What else could I have done?</p> | <p>In retrospect, there are some things I would do differently. I should have spoken to the fellow researchers and sought their help and got their opinions immediately after I had this project to do. I should have also been more proactive at the start of the project.</p> <p>I believe I established a professional relationship with the staff members in the prior weeks and gained insight into their behavior in the workplace.</p> <p>I need to improve my time management abilities and my mental health in order to deal with situations like this. And I need to improve my interviewing abilities so that I can dig further into a subject to gather more information when conducting research.</p> <p>I was also able to expand my knowledge and capabilities on the security side of IT. I was educated as a software engineer in college, but this project showed me that I can do more for myself and the company.</p> |
| <b>Stage Six : Action Plan</b>  |   |
| How will I develop the required skills I need?  | <p>In the future, I will make an effort to establish relationships with staff members and other researchers in order to gain an advantage if I am assigned to another research project similar to this one.</p>   |

|  |  |
|--|--|
| <p>How can I make sure that I can act differently next time?</p> | <p>During my position, I will be working with several different researchers, and I plan to talk to each of them about my anxieties. I've already had a beneficial talk with one experienced researcher and a project manager, and together we've established a team-teaching program for some university students over the next three weeks to relieve some of my stress.</p> <p>And as solutions to the arising problems of the company's security risks, the following are a summary of the action plans that need to be taken for this company.</p> <ul style="list-style-type: none"> <li>• Staff need to be educated about cyber security and its terms.</li> <li>• We need to follow the staff members' behavior of security concern for a small period of time and need to fix their mistakes.</li> <li>• A group of IT members must take prior action on the given solutions to every problem in the research analysis.</li> </ul> |
|--|--|

## Evaluate the value of the project management process and use of quality research to meet stated objectives and support own learning and performance.

### Introduction

No matter the size or scope of the project, project management is not simple. There's a lot that can go wrong, from planning the details to dealing with business' ever-changing requests to delivering deliverables on schedule. It is simpler to control the project and the quality of the product when it is broken up into manageable stages, each with its own goals and deliverables.

As already stated, Initiation, planning, execution, monitoring, and closure are the five distinct phases that make up a project management life cycle, according to the PMBOK Guide (Project Management Body of Knowledge) by the Project Management Institute (PMI), which together transform a project idea into a usable product.



Figure 4. 2 Basic 5 phases of Project Management Process

### **Evaluate the effectiveness of Project Initiation phase with its value**

The first stage of project management is also one of the most important. At this stage, the project manager and key stakeholders must assess the proposed project's value, feasibility, and profit to the company. This is the stage at which we pitch our project's business case and explain why we're doing it in the first place.

The project initiation phase is the initial step in transforming an abstract idea into a clear goal. At this point, I was able to define the project broadly. To accomplish so, I had to determine the project's need and create a project charter. The project charter assisted me in documenting details such as project limitations, goals, project manager appointments, budget, anticipated timeline, and so on.

This stage of the project management process also provides our team with extremely valuable background information. They will understand the project's goals and why they are working on it from the start, which leads to increased team engagement and a sense of ownership over the project.

I identified important project stakeholders who are the people who will be involved in the project once I had the project goals and scope. I've built a stakeholder registration that includes responsibilities, designations, communication requirements, and so on. This was, in my opinion, the most important phase of the project management process.

To enhance the quality of the research project I've used Convenience Sampling since it based on the availability.



### **Evaluate the effectiveness of Project Planning phase with its value**

The second stage of the project management process is where the rubber meets the road in terms of developing our project plan, allocating resources, committing to a timeline, and assembling our team. As project managers, we must carefully lay out every detail of the project plan, from start to finish, in collaboration with their team and key stakeholders. This plan will guide the entire project's execution.

One of the most important parts of the project management process is the project planning phase, where we outline everything that can and will be completed during the project, as well as what success looks like. Projects that get sidetracked or experience significant scope creep are frequently the result of a lack of solid planning in Stage 2.

As it lays out the project's roadmap, this phase demanded complete attention. The second phase of project management consumed over half of the project's total time. The key activities during this phase were identifying technical requirements, preparing a thorough project schedule, establishing a communication plan, and establishing goals/deliverables.

There were various approaches for establishing project goals, but the most popular was the S.M.A.R.T. method, which I followed. The SMART criteria assisted me in ensuring that the project goals were critically examined. Actually, this was an established strategy that helped to decrease risks and allowed me to set clearly defined and attainable targets.

During the planning stage, I established the project's scope. For time management, I also create a work breakdown structure (WBS) that clearly visualizes the entire project in distinct sections. Not only that, but I created a Gantt Chart to help with the project's timeframe. Another crucial aspect of the planning step is a thorough project timeline with each milestone. Using this Gantt Chart timeline, I was able to create a project communication plan as well as a communication schedule with the key stakeholders.

So, this project planning phase assisted me in outlining every detail of the plan from start to finish. The plan I developed directed this research through the project management process's execution, performance, and closure phases.

To enhance the quality of the project I've avoided biased researchers and used appropriate methodologies.

### **Evaluate the effectiveness of Project Execution phase with its value**

The actual work is completed during this stage of the project management process. This is when we put our project charter-outlined plan into action - tasks are assigned to each team member, and the fun begins. Because project managers are relying on the expertise of their team members to execute the plan at this stage, their role is typically to guide the group through each milestone. Consider the project manager to be the ship's rudder, with team members acting as sails, propelling the project forward.

Apart from the fact that this is the most exciting stage of the project management process, the project manager gets to see their well-thought-out plan come to life. If the Project Manager completed their work in Stages 1 and 2, then Stage 3 should be a piece of cake.

The actual work was done during the project execution stage. My goal as a researcher for the project was to design efficient workflows and carefully monitor the project's progress. Another job I had during this phase was to maintain continual effective collaboration among project stakeholders. This guaranteed that everyone was on the same page and that the project went off without a hitch.

I had to keep up with the staff and conduct interviews with them in order to collect data using the online technique. But, since some of the staff members were superior to me, it was difficult to get right answers from them without having a face-to-face interaction. I had to keep track of the budget and everything else while obtaining data. This is the phase of the project management process that required the most expense.

I was in responsibility of Budgetary control, Schedule management, Resource planning, Risk management, Quality management, Communication and Meeting management during this project management phase. I used the finest project collaboration tools on the market to assist me. They will not only make my life easier, but also it boosted efficiency and research output.

To enhance the quality of the project I've took steps to avoid no return of questionnaires and I ensured the standardized procedures for gathering data.

### **Evaluate the effectiveness of Project Monitoring and Controlling phase with its value**

The third and fourth phases of this project management procedure were not linear. The project monitoring and controlling phase occurred simultaneously with project execution, ensuring that objectives and project deliverables were met. As a project manager, I established Critical Success Factors and Key Performance Indicators to ensure that no one detracts from the original plan.

To accurately monitor project variables, project managers can use a variety of tools. The Gantt Chart is also an excellent tool for visualizing our overall project timeline as well as the critical path to success.

During the project management monitoring phase, I was also responsible for quantitatively tracking the effort and cost of the process. This tracking not only guarantees that the project stays within budget, but it is also useful for future projects.

During this phase, I made certain that I thoroughly understood and embraced the project objectives. I used those objectives to determine design, functionality, and new request decisions. I used to stray a little. However, I made certain to retain open lines of communication with stakeholders and to bring up new ideas with enough time to modify them as needed.

As a project researcher, I was not normally in charge of staff management. My job was to keep an eye out for the project. However, the success of a project was dependent on the people who worked on it. My role was not to confront someone who didn't care about the company's data security. My role was to report on staff behaviors and responses, then analyze the data to improve the company's security.

### **Evaluate the effectiveness of Project Closing phase with its value**

This was the project management process's final phase. The project closing phase indicates the completion of the project following the final delivery. There were times when contract external talent was hired specifically for the project. But during the project, I was also in charge of terminating these contracts and submitting the relevant paperwork.

The project debrief is frequently overlooked, despite being one of the most valuable exercises in the entire project management process. A casual and honest discussion with the team about what worked, what didn't work, and what could be done better is valuable information that will help guide our Project Management process in the future.

After the project was completed, I arranged a reflection meeting to discuss their project's successes and failures. This was an efficient approach for ensuring ongoing improvement within the organization in order to increase overall productivity in the future.

### **Value of entire Project Management Process**

One value is we could be more predictable. One of the first benefits of good project management processes we had was predictability. Since we did a better job of planning, we discovered that we had a better understanding of the work that needs to be done and that we had a better understanding of the work that needs to be estimated. Then, as the project progresses, we did a better job of managing the work to meet our estimated schedule and budget. This ability to be predictable is critical when our company makes business decisions about which projects to execute. We should aim for 80% predictability. In other words, 80% of our projects will be completed on time and within budget.

Another value was, by having proactive scope management it helped us to save time and money. Many projects struggle with scope management, which adds time and money to the project. But with better project management processes allowed us to manage scope more effectively.

Another advantage was that we were able to solve problems more instantly. Some teams waste too much time and energy dealing with issues because they are unsure how to solve them. A proactive issues management process assisted us in ensuring that problems were resolved as soon as possible. And we were able to resolve future risks before they became problems. Processes for identifying and managing risks are part of project management. We were able to prevent future problems by using the risk assessment process in Project Management.

## **Critically evaluate how the project supports sustainable organizational performance**

The ability of an organization to meet the needs and expectations of customers and other stakeholders over long period of time is referred to as its sustainable performance in our company. And it should be balanced by an effective management organization by raising organizational staff awareness through learning and implementing appropriate improvements, as well as through innovation.

I was able to get exceptional outcomes since this project followed the suitable Project Management Process as described in the previous chapter. I had to follow in both qualitative and quantitative research to extract information about the company's security concerns and I've thoroughly analyzed the extracted data and have given solutions to them as follows. We can provide sustainable organizational performance by identifying present cyber security problems and by resolving them. Following are the solutions for identified present cyber security problems.

1) Do you use secure password for home wi-fi which used in Remote Working ?

Advice staff to use secure password for home wi-fi which used in Remote Working.

2) Do you use virus guard for the workstation which used in Remote Working ?

Provide staff with proper virus guard software with license keys.

3) Do you use a password for the device you use to sign into Remote Working?

Advice staff to you use a password for the device you use to sign into Remote Working.

4) Do you change password of your workstation Windows account that you use to sign into Remote Working monthly basis?

Remind staff to change password of their workstation Windows account that they use to sign in to Remote Working monthly basis.

5) Do you set your remote working device to automatically lock after a period of inactivity?

Advice staff to set their remote working device to automatically lock after a period of inactivity.

6) Do you check and configure your remote working workstation app privacy settings ?

Advice staff to check and configure their remote working workstation app privacy settings by running an audit on these apps.

7) Do you use multi-factor authentication to log into accounts ?

Advice staff to use multi-factor authentication to log into accounts and check whether they use multi-factor authentication to log into accounts.

8) Do you use someone else's wi-fi by your remote working workstation ?

Educate staff about cyber security risks and reset the network configuration their remote working devices while running a virus scan.

9) Do you frequently update your remote working device virus guard ?

Advice staff to frequently update and patch their remote working device virus guard and remind them to do that weekly basis.

10) Do you frequently backup your data ?

Provide employees with suitable backup methods and add a schedule plan for backing up their work data on a daily basis.

11) Do you click on website links when you receive from friend or unknown ?

Educate staff about phishing attacks and advise them to click on only the links coming through official emails from the company.

12) Do you install and play games by your remote working device ?

Staff should be thoroughly advised to not to play games on their remote working device and disable authority to install any software without company admin rights.

13) Do you use the same password for more than one account or service ?

Educate staff about how to use strong passwords for more than one account or service.

14) Do you use Social Security numbers, phone numbers, addresses, or other personally identifiable information as passwords ?

Educate staff about how to use strong passwords without using personal identifiable information.

15) Do you delete old data that no longer need on your remote working device ?

Educate staff about how to safely archive or destroy older data from the remote working device.

16) Do your family/friends/close people have access to your remote working device?

Advice staff to change passwords and other credentials as soon as possible. Advice HR to add a company policy relate to that issue while educating staff about that.

17) Do you use download or using crack files ?

Install antivirus software to employees' remote working device and setup firewall to that.

18) Do you use public Wi-Fi to do sensitive transactions ?

Educate staff about cyber security risks and reset the network configuration their remote working devices while running a virus scan.

And advise them to change their credential details as soon as possible.



19) Do you sign out of online services or portals after doing work

Send a daily reminder at the end of the day to the staff group to sign out of online services or portals that they have used for the day.

20) Do you save passwords in your web browser ?

Advise employees not to save passwords in their web browsers and schedule to clear their web browser cache and cookies daily.

Since I've recommended solutions to mitigate the security risks in the company as given above, we were able to provide sustainable organizational performance to the Lions Restoration Company.

When it comes to the technology we use, cybersecurity and organizational performance sustainability can occasionally overlap. New threats emerge every hour of every day in today's technological environment. Connecting to the Internet increases the chances of a hacker targeting the organization. Cybercrime is becoming massive business, with corporations and governments around the world focusing on cyber risk. If firms do not have a proper cybersecurity plan, they face significant financial and reputational concerns.

The company's major advantage is that the best in IT security cyber security solutions can provide comprehensive digital protection to the business. This will allow our employees to access the internet as needed while protecting them from potential risks. And also, personal information is one of the most precious commodities in the digital age. If a virus obtains personal information about our employees or customers, it is perfectly capable of selling that information or even stealing their money. With the result of the project, it's just a dream for hacker. With this project I was able to digitally protect this company and its valuable data and prevent further attacks that could come. I believe I was also able to completely mitigate the present vulnerabilities of the company with result sustainable organizational performance.

Without the best cyber security solutions for our company, I and our staff are continuously vulnerable to a cyber-attack. If our system, or even individual computers, become contaminated, productivity suffers, and we may be forced to replace devices. And also, even financially, we would be in great danger that could result in closing the company.

We used to have to temporarily shut down our websites due to cyber security concerns. We host our own website as a company. If our system becomes compromised, there is a very real possibility that our website will be forced to close. This means that we will not only lose money due to missed transactions, but we will also lose client trust, and particular infections can often cause long-term damage to a system. I was able to see this and determine that it was caused by each individual employee's behavior.

Hence, according to these results, our Lions Restoration Company has been able to get back on its feet and we are right now at optimum operational without having any technological or security issues in the company. Since we have a trusted and consistent system with a robust network, we were able to gain both employee and customer trust which result sustainable organizational performance.

Hence, the company was able to gain not only sustainable security performance but also sustainable financial performance because of this project.

## Conclusion

This entire assignment is based small-scale research in order to explore the cyber security risks of working remotely due to the pandemic, from the standpoint of a computing professional. Based on Lions Restoration organization that I had access to gather sufficient information to investigate the cyber security risks of remote working.

This report includes comprehensive project management plan, Evaluation of data collection methods and data analysis tools and/or techniques should be provided, Appropriate recommendations, Reflect on the value gained from conducting the project and its usefulness to support sustainable organizational performance.

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