

Report On
Software Quality Assurance & Testing at ReliSource Technologies
Limited

By

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ID: 19364070

An internship report submitted to the Graduate School of Management (GSM) in partial
fulfillment of the requirements for the degree of MBA

MBA Program

Graduate School of Management (GSM)

BRAC University

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Declaration

It is hereby declared that

1. The internship report submitted is my/our own original work while completing degree at BRAC University.
2. The report does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The report does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I/We have acknowledged all main sources of help.

Saima Ahmed Rahin

19364070

Supervisor:

Dr. Shilpi Das

Academic Supervisor, BBS, BRACU

Letter of Transmittal

Dr. Shilpi Das

Academic Supervisor,

MBA Program

BRAC University

66 Mohakhali, Dhaka-1212

Subject: Submission for report on internship

Dear Madam,

This is my pleasure to display my internship report on “Software Quality Assurance & Testing at ReliSource Technologies Ltd.”. I have attempted my best to finish the report with the essential data and recommended proposition in as significant a compact and comprehensive manner as possible. I trust that the report will meet the desires.

Sincerely yours,

Saima Ahmed Rahin

19364070

BRAC Business School

BRAC University

Date: October 6, 2021

Non-Disclosure Agreement

This agreement is made and entered into by and between ReliSource Technologies Limited and the undersigned student at BRAC University Student Saima Ahmed Rahin.

Letter of Authorization

October 6, 2021

Dr. Shilpi Das

Adjunct Faculty

MBA Program

BRAC Business School,

BRAC University

Dear Dr. Shilpi,

The final internship report of Saima Ahmed Rahin has been submitted to me for clarification.

I have gone through the report and all the project details and her involvement is exact and found nothing that interrupts the company's privacy and principles. Furthermore, the information provided is legal.

Best wishes.

Uttam Kumer

Principal QA Manager

ReliSource Technologies Limited

Acknowledgement

I would like to express the deepest appreciation to Dr. Shilpi Das, Adjunct Faculty from BRAC Business School for guiding me on my internship procedure at ReliSource Technologies Ltd. I will always be grateful to her for helping me throughout the process.

I would like to thank my supervisor Mr. Uttam Kumar, Principal QA Manager for being tolerant and supporting me throughout my internship period. Thanks to all the seniors for directly or indirectly providing me opportunities to complete my project throughout my time at ReliSource Technologies Ltd (RTL).

I am very grateful to my office colleagues and peers for being so helpful. They have made my internship more enjoyable and without them it would be impossible to done the tasks effectively. I am thankful to all the stuffs of ReliSource Technologies Ltd (RTL) to make this journey easy.

Executive Summary

In my last semester of Master in Business Administration at BRAC University, I had to do an internship program of 3 months in a reputed software company. My internship company was ReliSource Technologies Ltd., or RTL.

ReliSource is a leading “One Stop Service Provider” in software and game technology. It is headquartered in the USA. ReliSource works as an extension to their client’s technology team.

During my internship period, I have worked on a project. The name of the project was “Importance of Software Quality Assurance and Testing. ” Since my joining, I have learned how quality assurance manages a project according to software development life cycle and how to deliver better quality products and ensure better services. Besides, I have learned how to behave properly in the office and picked up many soft skills such as responsibility, timeliness, respecting others, taking on new challenges etc.

I have thoroughly enjoyed my experiences at RTL and the internship program has been extremely useful for both my academic studies and future career.

Keywords: QA, Testing, Bug, Project Management, SDLC, STLC

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List of Acronyms

RTL – ReliSource Technologies Limited

SQA – Software Quality Assurance

SDLC – Software Development Life Cycle

STLC – Software testing Cycle

Internship	Internship is a program that enhances the capability of the graduates and a scope to do practical work in an organization related to the student's major to gain work experience. According to Oxford Dictionary, A student or trainee who works, sometimes without pay, in order to gain work experience or satisfy requirements for a qualification. As the outside world is very competitive for anyone after graduation, internship gives the student a great opportunity to have a head start.
Glossary	An alphabetical list of key terms
Correctness	How well the software performs its customers' needs
Reliability	How well the software can be expected to
Integrity	How well attacks the software can tolerate
Bug	A type of software error

Chapter 1

Introduction

1.1 Overview

BBS, is a specialized school in BRAC University which offers professional programs in "Masters in Business Administration". For a professional postgraduate program, it is required to complete an internship report with a well-known company where I will showcase my practical knowledge and the environment I am working in. I showed my work practices and got familiar with the industry. I am working in a software firm ReliSource Technologies Ltd. (RTL) where I have been working for the last 3 months.

This report contains my daily part of work at RTL, company's overview and activities, my work experience so far, my learning through work, how I developed myself and learned. It also depicts the increasing performance of the company through products and services.

1.2 Background of the study

The internship report is after a 3 months long working experience at ReliSource Technologies Ltd (RTL). It focuses on overview of RTL, the importance of software testing in software development life cycle.

1.3 OBJECTIVES

The main objective of the report is to analyze the importance of software quality assurance & testing in implementation of software development life cycle.

1.4 METHODOLOGY

Both internal and external sources of data have been used to collect all information in the report. The primary data source and secondary source of data for this report are:

PRIMARY DATA

- Personal experience and observation
- Conversation

SECONDARY DATA

- RTL website
- Official documents
- Browser

1.5 SCOPE

In the report, I have explained the company nature, the products, technology, culture and its rules, Software Testing & how it benefits project tasks in Software Development Life Cycle.

1.6. LIMITATIONS

I am under contract and there is a confidential agreement I had to sign when joining RTL. So, I am not allowed to discuss much information that could be important to the company. Also, there were time and resource constraints in these 3 months. Still I have presented all the information I got in a convincing way.

Chapter 2

INTRODUCTION: ORGANIZATION OVERVIEW

ReliSource is a “Provider of Niche Products & Services” and works as your Extended Engineering Partner to deliver a combination of unique and Quality driven Technology Solutions & Services in diversified industries and bespoke Software Developments for enterprises mainly in USA & Europe.

2.1 BACKGROUND OF THE COMPANY

Headquartered in Boston, USA with the R&D center at Dhaka, Bangladesh, ReliSource’s primary focus is Technology Implementation & Innovation Partnership. With its Global Engineering Services, it provides development services for the complete Information Ecosystem, from Device Level Engineering to Mobility, Cloud, etc.

2.2 MISSION AND VISION

Mission of RTL is:

1. To create top technology solutions globally
2. Be the best in understandings its clients
3. A dream for IT professionals to work

The vision is:

- Make the clients run their business very efficiently and effectively.
- To provide creative technology-based solutions.

2.3 DEPARTMENTS

RTL is a large offshore IT company in Bangladesh. There are various activities, divisions and departments in the company. Each department has different teams. These are:

Embedded Engineering

Data, Application & Infrastructure Security

BI Reporting & Machine Learning

IoT

Data Warehousing Integration & Migration

SQA, Testing & Validation

Application Development, Mobile, UI & UX Design

Regulatory Compliance

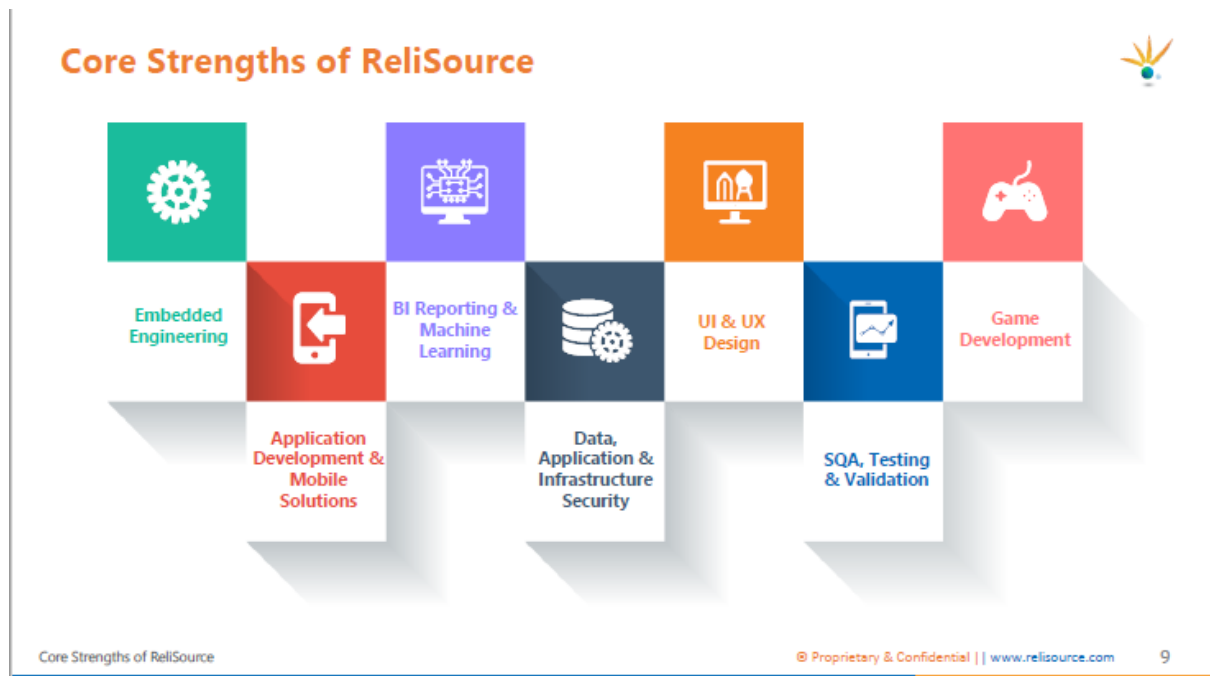


Fig 1: Services of ReliSource

2.4 CLIENTS

RTL provides IT solutions to many companies. Some major companies' RTL services are foreign clients whose name cannot be disclosed as per NDA.

ReliSource – Specialized Service Provider

ReliSource US, Inc. is a “Provider of Specialized Services”, works as an Extended Engineering Partner of your Technology Solutions to deliver Improved ROI.

FORTUNE 500
Working Experience with top US Companies

15+ YEARS
Experience in Engineering Partnership

Services: Embedded Engineering, Data, Application & Infrastructure Security, BI Reporting & Machine Learning, IoT, Data Warehousing Integration & Migration, SQA, Testing & Validation, Application Development, Mobile, UI & UX Design, Regulatory Compliance

200+
Global Team of Highly Skilled Resources

Industry: Healthcare, Cold Chain & Logistics, Unattended Payment Systems, Insurance, Transportation, Financial Services

Locations: Headquarter Boston, MA, Global Presence Outside US, R&D Center Dhaka, Bangladesh

ReliSource – Specialized Service Provider | Proprietary & Confidential | www.reliresource.com | 2

Fig 2: ReliSource Overview

2.5 PARTNERS

RTL works with many partners both locally and globally.



2.6 PRODUCTS

RTL works with more than hundred products for their clients. They are also specialized in providing maintenance support. They provide system solutions and IT services. The products are mainly categorized into many categories, which cannot be specifically disclosed due to the NDA. But there are some generic solutions by RTL.

Embedded Engineering

Data, Application & Infrastructure Security

BI Reporting & Machine Learning

IoT

Data Warehousing Integration & Migration

SQA, Testing & Validation

Application Development, Mobile, UI & UX Design

Regulatory Compliance

RTL has a large number of industry experience:

Healthcare

Cold Chain & Logistics

Unattended Payment Systems

Insurance

Transportation

Financial Services

2.7 TECHNOLOGY

RTL has a large number of products. They have a large number of clients. To all these different clients, RTL has worked on new technologies in a vision to develop their products. A large number of their projects are in the Java framework and in .NET technology. About 60-80% of their products are in Java, 10% in .NET, 5% in Python and 5% are mobile apps.

The frameworks they use:

- .NET- (MVC)
- Java Web Application- Play, Flex, Hibernate, Groovy on Grails

Language:

- Java
- PHP

Mobile Application:

- Android, windows, iOS

Database:

- Oracle, Postgre, SQL

2.8 RULES AND REGULATIONS

Workers do not violate the rules that are set for the company. When an employee breaks a rule, it hampers the company. The team here works for the same goal and it becomes easier to meet the goals of the company.

RTL developed rules and regulations to be followed in the office. Some rules and regulations at RTL are:

FLEXIBILITY

RTL follows a rigid culture and regulations. Violating the rules sometimes does not affect the workplace a lot. The rules and regulations should be more flexible for employees to be expressive and relaxed in an environment.

SEMI-FORMAL ATTITUDE

RTL is not strict and formal. Employees are very friendly here.

DRESS CODE

In RTL, workers wear smart casual dress, not very eye-catching. But in front of the clients, they were in formal dress.

OFFICE TIME

It is quite flexible for the employees. The total time has to be 9 hours in the office with 1 hour lunch break. There are prayer breaks.

2.9 SWOT Analysis of RTL

Strength

- Good image
- Client relation
- Customer reviews
- Versatile market, large sales and profit
- Quality products
- Skilled employees

Weakness

- Limited resource
- Scarcity of skill
- No festive bonus
- Home office
- Marketing cost is less
- Manual
- Trainings aren't worthy
- Competition with Therap, Augmedix
- Heavy deadlines

Opportunity

- Growth
- Foreign market
- Add value
- New hiring
- Employee reward
- Foreign investment
- Resources are growing

Threat

- More competitions
- Foreign company tax
- COVID 19
- US market job recession
- Skilled people moving abroad
- Other software firms like Cefalo
- Delay in decision
- Cyber security

Chapter 3

Software Quality and Testing

Software QA plays a vital role in SDLC.

3.1 Introduction

Software is an important part of the third world. The influence has on every business in every sector. It contributes to the development, and support of products and services. This software evolves the smart world. It plays a vital role in people's lives. To fine tune a software, testing and assuring quality is necessary.

Without testing, there can be disasters. So, for any software business, the quality assurance and testing department is very important.

Software's failure is also expensive. There are irrecoverable damages. For example, New York Mercantile Exchange and telephone service in 1998. In 2017 global enterprise faced a loss of 1.7 trillion. There are other damages as well -

- Not meeting to specifications or standards,
- Integrity to existing software
- Not meeting performance level

Reducing the cost of software development and improving software testing are important objectives of the RTL software industry. More testing can reduce the costs of software quality and improve performance. The lack of proper testing hampers the efforts to develop software well.

The software glitches caused terrible losses in the world. Facebook, Snapchat faced many after-effects of software failure in their earlier days. There are many software testing tools available. So, standard testing tools for software testing can solve the testing problems that hamper the software industry. Improved tools for software testing can be helpful: -

- To reduce the cost of SDLC and STLC;
- To reduce the time
- improve performance

Software testing benefits the software industry very much. The objective of this study is to present the importance of software testing and quality assurance in RTL.

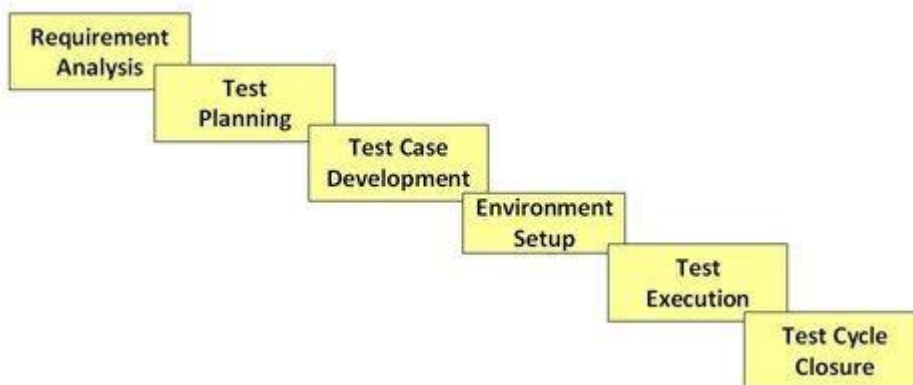


Fig 3: Software testing Life cycle

3.2 SOFTWARE QUALITY DEFINITION

- The process of analysis and identifying whether an application matches the requirements in the business specification is called Software Testing.
- STLC works simultaneously with Software Development Lifecycle (SDLC). In each of its steps, it checks how the application performs and verifies the performance in regard with the requirement.
- Software testing helps to deliver software without bugs. It improves the features and usage of the application. There are many types and tools to test software, many phases are there to finish the verify and validate.



Fig 4: Quality Assurance

3.3 THE IMPORTANCE OF SOFTWARE TESTING

Currently, there is a lack of readily available performance metrics, procedures, and tools to support software testing. If these infra technologies were available, the costs of performance certification programs would decline and the quality of software would increase. This would lead to not only better testing for existing products, but also to the testing of products that are not currently tested. The impact on the software industry due to lack of robust, standardized test technology can be grouped into four general categories:

- increased failures due to poor quality,
- increased software development costs,
- increased time to market due to inefficient testing, and
- increased market transaction costs.

The importance can be traced from the user experience. It tells us the quality of an application and how it satisfies the users and its subscribers. It functions to optimize the business, it reduces maintenance cost, it supports usability of a product to give a supreme experience to the user. To build a successful and solid software, the efforts for software testing is a must.

Software testing plays a crucial role in the development life cycle and designers to design well and developers to develop product well. During the SDLC, the testing phase is very useful to verify and validate the product.

So, the verification and validation process continuously makes a product very sophisticated. To ensure best performance and efficiency of a product, every step in STLC is necessary. Therefore, software testing measures the business requirements and technical specifications.

The quality assurance team generates a test report which is very crucial for measuring the development process. The final product can be refurbished well enough if developers follow the test reports thoroughly. During every step, the QA engineers find errors. This is how every error makes the final product the best version.

3.4 THE BENEFITS OF SOFTWARE TESTING

There is no significant difference between software testing and quality assurance. When an app is tested with regards to the technical specifications, it is done through software testing. Whereas the quality assurance looks after the software requirement. It is a very systematic approach to assure the quality of the products that have been delivered. Moreover, QA testifies the SDLC and STLC life cycles. It does it through different materials, processes, steps, tools and techniques.

Quality assurance process validates the standardization of a product. It reviews the product very thoroughly. The works of this department include data collection and the procedure of documentation as well. It follows a process chain mainly to verify the quality of a product. It focuses on how to improve the final product more and more.

Hence, the software quality assurance and testing are important during the full SDLC life cycle. So, a user-friendly strategy is followed to test the whole app from coding at scratch level to the final product level. To make a bug free product, software testing is very essential in any software company.

3.5 Types, Methods, and Levels

Types

There are two types of tests in software testing Manual testing and Automation testing. In manual testing, software is tested manually. No automated tools are used here in the process. The tester performs the test flow fully from a user point of view. The tester finds different errors by manually testing through different approaches. Also, testers create a plan, follow a test case and make a scenario-based execution to complete a software test procedure during a manual testing.

The tester writes scripts during Automation testing. They use external software to perform the software testing. Not only that, they check the quality twice to test it perfectly. They manually test products even during the automation testing. Automation testing ensures 100% accuracy, cost-effective solutions and this process saves time and money greatly. The gradual growth of the contribution of test automation is confirmed.

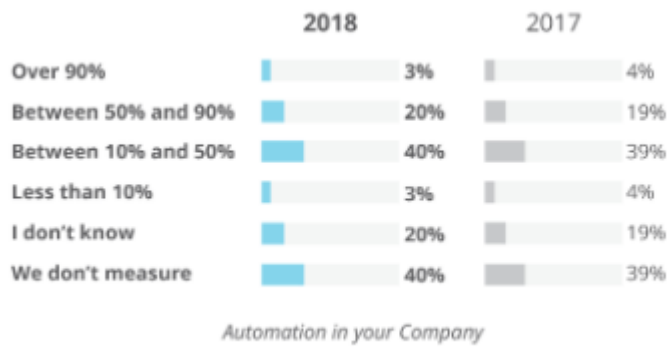


Table 1

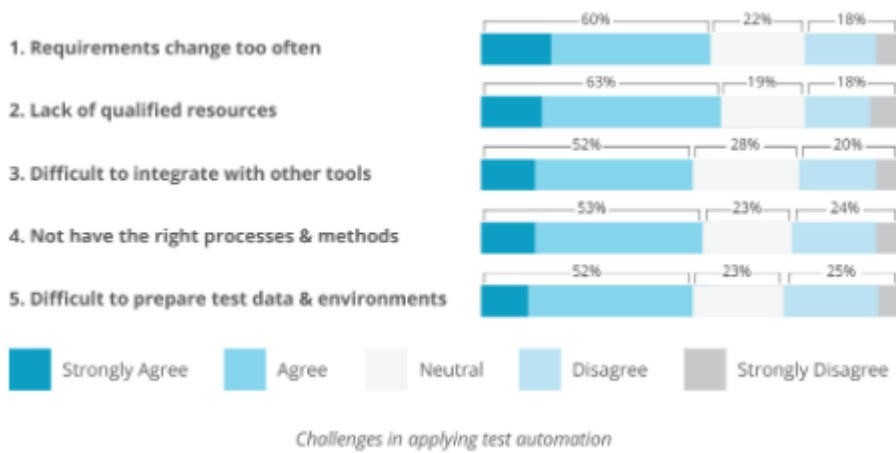


Table 2: the most striking problems faced in applying test automation

Methods

The three available methods of software testing are –

White Box, Black Box, and Grey Box.

White Box follows a structured form of testing. It is related to internal testing as it deals with code checking. It checks the software to the unit level. It assures the core performance of the software is matching the business requirement. During white box testing, the internal structure can be tested in detail.

To test the functionality of the application, **Black Box** testing is useful. Here the internal source code does not matter. Here the interface of the application is checked. It follows a trial-and-error method. This method is also called input-output test with regards to data validation.

Grey Box testing is a method which is a combination of both White Box and Black Box testing. The tester needs to apply both fields of knowledge. With a mixture of Black and white box testing, the tester successfully performs grey box testing. The tester checks the requirement documents like database and design. It is a hybrid way. It usually performs better than white box and black box testing.

Techniques

The unit features are validated through **Unit Test**. Every source code is tested and matched to an expected result.

To test the connection between different units, the **Integration Test** is executed. To find out the errors to make a smooth relation between each of the units, this testing is helpful. Multiple approaches are carried out to test. There are different approaches like Top-down, Bottom-Up, Sandwich.

To test end-to-end components, **System Test** is done. It validates the full software. It shows a descriptive result on the performance and compatibility of the software with the business requirement and specification. The full system is verified with unit performances at this level.

Acceptance Test is the test which is performed in collaboration with the users and the testers. The application is tested on all sorts of performance and usability tests from the user perspective. Finally, it is delivered to the user

3.6 Software Testing Models in RTL

Waterfall Model: In the software testing life cycle, a well-formulated software testing model is the waterfall model. It is applied a lot. It is a sequential model. Waterfall is a well-structured method for the testing. There are multiple phases of it. Every stage starts from Requirements, Design, Implementation, Verification and Maintenance. No process can overlap or overtake another process. It is a very simple method. The testing is done with ease and efficiency.

Iterative Development: Each module will be repeated for test purposes. There are three cycles –formulate, test, evaluate. After the iteration of each cycle, a new model will work and be routed for testing. So, there is quick feedback after the testing, the changes are added with the new model.

Agile Methodology: It is a very good software model. It is an incremental testing method. The requirement differs every time. So, it offers a flexible cycle like no other one. The **agile model** deals with these issues. It is very resilient. It incorporates changes. It is a static one. It also follows a tool-based method. Agile gives more importance to customer happiness and developers flexibility.

In **agile**, each part is tested right after a new build. This approach reduces the risks associated in the process. It deals a great time with continuous customer interaction. It is not fast, instead very time consuming. It creates pressure on the testers. Also, developers find it pressurizing too.

Extreme Programming: It is similar to the Agile method. It supports short cycles. The project is divided into multiple projects. Each project is given to the user to test during release. So, the immediate response from customers it gets for the project, it immediately does frequent changes on it.

It is also called a test-driven method. It is more appropriate for the customers having no idea about the project at all.

The importance of software testing and quality assurance is a lot in a SDLC. Both SDLC and STLC are efficient processes. They ensure supreme quality to the product. It causes reduction in maintenance expenses. Also, it provides better performance and better features. Software testing tests the individual unit and quality assurance makes the product market fit.

3.7 Failures due to Lack of Testing

The most crucial effect of a lack of testing is the increased defects of a product. When it emerges after the release, this becomes more problematic. As illustrated, the effort of software testing allocation has been shown. In the aerospace industry a big loss has been incurred due to the problematic software. There has been failure due to lack of software testing. Large failures cause a very huge amount of economic losses. It causes loss of reputation and future business prospects for the company.

There have been recent developments where software companies face legal action when a program fails due to insufficient testing.

Also, there has been a practice of developers to test the software well before every release. The necessity of software testing has increased in importance. 40% of the effort is spent in requirement analysis. Where the time spent in the design phase is 30%, which clearly means the importance of software testing and quality assurance.

3.8 THE MARKET FOR SOFTWARE PRODUCTS

Software products are profit-maximizing in the market. They are very high in demand.

Impact on the Cost of Quality

Improved software is sophisticated in quality. Improved software is good for sale. The well-built software is very lucrative. The overall impact on the industry is high. The low cost of maintenance is a good option. The final product is then released after testing bugs.

Impact on the Cost of After-Sales Service

Fewer bugs lead to fewer resources required for after-sales service. It creates problems while sales. Promoting testing tools goes a long way.

There is an increase in cost if there is a bug found. The earlier the test, the sooner it is fixed. This saves the company from loss. This is very helpful. Frequent testing makes the best product. So, to save after sales proper testing should be done.

Impact on End-Users' review

It affects end users. A good product satisfies the customers well. Well testing makes a good review. It needs R&D.

Aggregate Impact

Software testing reduces the extra cost. Customers like the quality. The impact is high. It also justifies a product's high price. If not tested well, the product will be extinct from the market.

Chapter 4

TESTING OBJECTIVES

Any code will have some bugs. Some bugs are detected and some are removed during programming. Some are found and removed in formal testing. A product is released even after having bugs in the software. Some of them are remedied later. software testing focuses on Determining the proper testing. Testing needs resources, it improves product quality. So, identifying bugs is very important. Products should be released after thorough testing.

4.1 Role of QA

In the QA team of ReliSource Tech. Ltd., I am working on different software, Solutions. I analyze the client requirements, create the scopes of determining the product meets the requirement, and draft test cases and test scripts. It is used to define that our client is getting what they want according to the business specification.

I am also supervised throughout the execution of the test cases and scripts. I perform manual testing to ensure that the performance meets the requirement, having no errors. Then there is also a final testing to test the final product before it is launched or handed over to the client.

4.2 Purpose

The developers might leave a fault which the testers fix. I, in my team, perform unit testing and automation, integration and code-based tests by myself. It usually takes a particular amount of time. By this time developers build new features.

Sometimes developers think there are no bugs in their work, so I have to do proper testing.

When a developer is working on the application, it is hard to know how the full app works.

There are some developers who test their code well, if it is done properly, then there is no problem at all.

4.3 Observation

We QA engineers have a completely different set of skills.

QA helps define project, finds out weaknesses, provide data on quality and test the product during the stages of SDLC.

QA does not accept an error. They know everything about the app and try to help the team. Only code-based tests aren't enough. QAs perform detailed testing.

Recently, QA has become popular. Developers test their code and QA engineers check it in the fullest form.

4.4 Activities of Testing

Testing needs planning, and evaluation.

- Test planning needs selecting the particular test which is to be performed and keeping the test data.
- Test execution is where the selected tests are executed. It has the setup, execution, and analysis.
- Test evaluation is assessing the test.
- the test coverage is the review for correctness of the test cases,
- the product bug is tested, there is need for further tests or debugging.

- Users report bugs to the developer. If the developer confirms there is a bug, he works on that again.

4.5 PEST Analysis

The COVID 19 lockdown started in March 2020. It has affected the IT industry.

The IT industry is a potential field which brings billions of dollars of business. It was shattered due to a lockdown. The IT personnel faced a bad time.

However, they tried to stand up against challenges. Eventually, they overcame that situation.

Political Forces

Political issues sometimes hamper work. There are many rules and regulations to support IT business. It is patronized by the ICT ministry. RTL pays regular tax. It is registered as an offshore company. They make sure their employees also pay tax. Their projects bring lots of foreign currencies from the outside clients for the country.

Economic Forces

This influences the customer's purchasing power. Our existing software industry is growing. It provides an abundant opportunity. RTL is doing good in the economy. They have their own office. They provide a good salary to the employees. Economic changes brought a lot of revolutions in IT. Last year it gained 80% more profit than usual.

Social Forces

Social forces bring change in the behavior of the society. Society has manipulated people's behavior. These impacts on the survival of the IT industry. IT has so much potential for our country. People are opting for technical studies nowadays. Now students are enrolling in engineering degrees more and more. The IT industry got more popular in the last decade. Now the female is adopting this career. The education cost for engineering degrees is high. It differs from university to university. The female is earning just sitting at home. They are also contributing to the economy. They can take care of their family and support. There is high demand for IT.

Technological Forces

Technology is ruling the world. Tech products are sophisticated. There are many fields related to it. The products are high in cost but very valuable. So, the ICT ministry is encouraging the startups. The IT industry can make a remarkable change. Companies try to make a good profit. Hence, they hire good resources. Good resources cut costs and make profit.

4.6 Detecting Bugs Soon

“Test early, test often” is the main goal. When bugs are found, it is less costly to correct them. At the production level, it gets more expensive to fix it. Extra care is needed then. It becomes vulnerable to attack.

Locating the Source of error

There are millions of codes in an application. So, detecting the area of the bugs is very time consuming. Through efficient testing, bugs or errors can be found faster. More bugs can be fixed then. So, effective testing methods are a must.

Chapter 5

RECOMMENDATION & CONCLUSION

5.1 Findings

I tried to show the overall scenario of software testing at RTL. There are both positive and negative sides of the software team in RTL. It has a versatile range of works. RTL is doing good even in the pandemic.

Overall, ReliSource is a good company to work on. Primary and secondary data shows that working from is successful so far. Yet, some facilities are missed by employees whenever needed.

The work hour has flexibility. So, the employees of RTL like to have the work from home benefit as they can give time to their family. Though, some complain about overwork. The SQA team is highly appraised here as they deal the most challenging job.

The findings were utilized to ensure a successful internship report.

5.2 Recommendation

I have been doing a full-time job at ReliSource Technologies Limited (RTL) for 3 months. I have got amazing team cooperation. RTL has a good work environment for their employees. I am already working on a few projects of foreign clients. However, I have some findings so far and there are some recommendations below:

Training: The newcomers join here, soon after a few days they're assigned with large report works. Problem is, they cannot even get enough training by this time. So, they face a negative image in front of the client. Because the clients think they are already known and are given team training. But actually, no employee is that free to give another person training.

Time: To match with foreign clients, sometimes we have to work till 2 or 3am at night. I believe this could be mitigated. We should work according to our time. There is no overtime policy if we work extra for clients.

Communication: Due to home office, communication is a problem at times. Whenever there is urgency, we could not find the reliable person active all time. So, it would be good to have a roaster duty system. Ever since the lockdown due to COVID-19, the office has been closed. Physical office could bring much activeness in work.

Team knowledge sharing: Due to home office, there is little interaction among the colleagues. Interaction makes friendly bonds. But here due to little interaction, the friendly relation is not seen that much. So, the juniors cannot learn much from the seniors.

Resource materials: The materials are not kept centrally. All are dispersed scattered while needed. So, it is a problem when working.

5.3 Conclusion

A full-time job is great at RTL. I know about the industry. I am also learning about the knowledge needed to Survive in the industry. It offers a lifelong lesson.

I am enjoying my work at RTL. I am learning to build my career. I am also enhancing my skills. I learned practical applications that I learned earlier in theory classes. I made friendly colleagues. I am increasing my network in the industry.

I am performing different tasks and processes of STLC. I learned new technologies and skills which are necessary for building a career and provide competitive advantage to me.

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Appendix A.

Usability Testing. Usability testing is performed before beta testing.

Field or Beta Testing. Beta testing usually occurs after system testing.

Lab or Alpha Testing. Customers test these products in this stage.

Unit Testing. Programmers test it.

New Function Testing. Developers test the functions.

Regression Testing. It is tested to verify that a change in code isn't affecting the whole.

Integration Testing. It tests the application as a whole module.

System Testing. It tests the system as a whole.

Load Testing. It tests how much load or stress an app can take.

Error-Handling. How much error a software generates.

Recovery Testing. This assesses the ability to restart after a failure.

Security Testing. It is done to check the security vulnerability.

Performance Testing. It measures the performance.

Platform Testing. How compatible is the software?

Viral Protection Testing. It tests for viruses.

Acceptance Testing. Whether a software satisfies the predefined conditions.

Playback Tools. This is for capturing evidence.

Drivers Tools. For performance testing

Memory Testing. Checks memory problems

Instrumentation Tools. Measures functioning.

Snapshot Monitoring Tools. This takes snapshots.

System Log Reporting Tools. Audit trail of monitoring tools.

Analysis Tools. Tests the covered area.

Mapping Tools. It detects system flaws

Disaster Testing. These tools emulate system failures.

Modeling Tools. It simulates the functioning of software.

Symbolic Execution Tools. These identify processing paths.

System Exercisers. They stress or load subsystems.

Code Comprehension Tools. They help us with unfamiliar code.

Flowchart Tools. It graphically represents the system.

Semantic Analysis Tools. Performs error checking.

Problem Management Tools. Tracks defect.