UNITED INTERNATIONAL UNIVERSITY

Internship Report on

"ERP Implementation (SAP iRPA) of Finance and Supply Chain at Berger Paints Bangladesh"

Submitted to:

Ms. Mimnun Sultana

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Submitted by:

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Major: Management Information System (MIS)

Department of Bachelor of Business Administration

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Letter of Transmittal

19th March, 2024

Ms. Mimnun Sultana

Assistant Professor

School of Business and Economics

United International University

Subject: Submission of the internship report on **"ERP Implementation (SAP iRPA) of Finance and Supply Chain at Berger Paints Bangladesh".**

Dear Ma'am,

The following paper, **"ERP Implementation (SAP iRPA) of Finance and Supply Chain,"** is my proud submission of the finalized version of my academic internship at **Berger Paints Bangladesh**. This report, which fulfills the criteria of my academic internship, summarizes the knowledge, abilities, and insights I acquired while working as an intern for the company.

I have had the chance to actively participate in collecting data from SAP library and implement SAP iRPA into the finance and supply chain department during the duration of the internship. These encounters have expanded my knowledge of ERP software usage and given me priceless practical experience.

I hope that my report will offer insightful information about the contributions I made during my internship and act as a proof of the worthwhile educational opportunities that were made possible. If you need any further information or clarification on the contents of this report, when it would be convenient for you, I would be available.

Sincerely yours,

Snigdha Parvin Tithi

ID: 111 183 007

United International University

Declaration of the Student

During my internship period at Berger Paints Bangladesh, I, Snigdha Parvin Tithi, thus certify that the academic internship report with the title **"ERP Implementation (SAP iRPA) of Finance and Supply Chain,"** is the outcome of my own independent effort. This report's content is entirely real and true, reflecting my observations, analysis, and internship experience. I've written the report following the conclusion of my internship.

I hereby confirm that I have not submitted this report elsewhere and it is solely prepared for the academic requirement in order to get the Bachelor of Business Administration (BBA) degree.

Snigdha Parvin Tithi

111 183 007

School of Business and Economics

United International University

Acknowledgement

I would like to thank Berger Paints Bangladesh for their kind welcome, assistance, and readiness to share their expertise. My special gratitude goes out to my internship supervisor, Md Razibur Rahman Sir from Berger Paints Bangladesh, for all of his help and advice during the internship period. Their knowledge and support have played a crucial role in molding my comprehension of IT procedures in business environments.

For allowing me to finish my internship in the IT department, I would like to sincerely thank Berger Paints Bangladesh Limited. The experience has been incredibly fulfilling and has given me priceless insights into the ever-changing IT landscape in the paint industry. It has additionally aided in improving my comprehension of the professional workplace.

I express my gratitude to my entire IT department staff for their cooperation, team spirit, and great work atmosphere. To work with a group of people that are so bright and committed has been an invaluable experience for me in my career.

I would like to thank School of Business and Economics of United International University, my academic school, for supporting and encouraging this internship opportunity.

My heartiest thanks to Mimnun Sultana ma'am (Assistant Professor, School of Business Administration, United International University), my academic internship supervisor who has joyfully inspired, guided, and advised me enthusiastically to complete my internship report successfully.

Lastly, I would like to thank each and every individual who has tremendously supported and aided me at various points during the times.

Executive Summary

The report on ***"ERP Implementation (SAP iRPA) in Finance and Supply Chain at Berger Paints Bangladesh"*** is a summary of the information during internship. This paper highlights on the facts how RPA implementation in finance and supply chain department made their work easy, less time consuming, reduced error in data entry, improved efficiency and also helped them to focus on more strategic and important tasks. This report primarily explains Enterprise Resource Planning, functions and usability. The primary and secondary sources included on hand experience from organization, websites, literatures and thesis papers.

This report explained about how automation helps people to work efficiently and also about the position of Berger Paints Bangladesh in our market. As it required less time to do all the tasks, so the employees gave better service. There was no chance for the documents to be lost or get damaged as it was easy to retrieve those data from the archive files.

This report has 6 chapters and discusses about the SAP RPA implementation process and all the information Berger Paints Bangladesh. First chapter included the processes and indispensable steps that have been followed. Second chapter discusses about methodology, roles and responsibilities. Chapter 3 discusses about Berger Paints Bangladesh. Chapter 4 discusses about Robotic Process Automation in finance and supply chain department. Chapter 5 discusses about the learning experience at Berger Paints Bangladesh and finally, findings, recommendations and conclusions are provided.

Letter of Consent

Letter of Consent

I am really grateful to Berger Paints Bangladesh Limited for enabling me to complete my internship in the IT department. The experience has been immensely rewarding and has provided me with invaluable knowledge about the constantly evolving IT scene in the paint business. It has also helped me better understand the workplace in a professional capacity.

I express my gratitude to the whole IT team of Berger Paints Bangladesh for their kind reception, support, and willingness to share their knowledge. I would especially want to thank Md. Razibur Rahman Sir, my internship supervisor, for all of his assistance and counsel during the program. Their expertise and assistance have been quite helpful in shaping my understanding of IT practices in corporate settings.

I would want to thank all of the employees in my IT department for their collaboration, companionship, and positive work environment. It has been a tremendous professional experience for me to work with a bunch of individuals that are so intelligent and dedicated.

I hereby assure that the information that has been added in my internship report does not contain any confidential information that is against the company's rules and regulations or which will breach it's confidentiality. All the information has been added based on personal experience and with the help of internet sources.

Sincerely,

Snigda Parvin Tithi

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Chapter One

Introduction

1. Background of the Report

Businesses involved in the manufacturing, distributing, and retailing of diverse paints, coatings, and other goods are included in the paint industry. These products have many uses, including surface protection, color addition, and aesthetic appeal enhancement in a variety of industries, including industrial production, construction, automotive, aerospace, and marine.

Key components of a paint industry include:

Manufacturing: Paint producers create paints, varnishes, coatings, and related goods. This entails blending multiple paint kinds together with different pigments, binders, solvents, and additives.

Research and Development (R&D): In the paint industry, research and development (R&D) is essential to creating novel products that meet regulatory requirements and have better performance, durability, and environmental friendliness. Additionally, research aims to improve application techniques, texture, and color possibilities.

Distribution and Supply Chain: Distribution channels for paint goods include stores, distributors, and direct sales to final consumers. Timely delivery of raw materials to manufacturing facilities and timely distribution of completed products to customers are guaranteed by an effective supply chain.

Marketing and Sales: Promoting paint products to target consumers, such as homeowners, contractors, architects, and business clients, requires effective marketing methods. Product features, robustness, environmental sustainability, and color options are frequently highlighted in marketing campaigns.

Regulatory Compliance: Regulations pertaining to product safety, environmental effect, and labeling specifications must be followed by the paint industry. This involves following regulations on the emissions of volatile organic compounds (VOCs), hazardous materials, and waste product disposal.

Technological Advancements: Advancements in technology, such as the development of low-VOC and eco-friendly paints, Nano-coatings, and self-healing coatings, drive innovation

within the industry. These technologies aim to improve performance, reduce environmental impact, and meet evolving customer demands.

Global Market Dynamics: The paint industry is a global industry that is impacted by a variety of factors, including consumer preferences, regional regulatory frameworks, construction activity, and economic situations. Competition has intensified and market expansion opportunities have arisen as a result of globalization.

Sustainability Initiatives: A growing number of paint manufacturers are emphasizing sustainability by lowering energy usage, waste production, and environmental effect over the course of the product lifecycle. This include funding for recycling initiatives, the creation of eco-friendly products, and renewable energy sources.

Generally, the paint business contributes significantly to the preservation, embellishment, and enhancement of surfaces in residential, commercial, and industrial contexts by offering products that support these sectors of the economy.

These days, almost every organization use a variety of software programs to improve productivity, strengthen security, and improve customer support. Software includes organized data and documentation that are essential for the best possible operation of computer programs in addition to actual computer programs. A skilled software developer should be well-versed in documentation since successful systems depend on accurate documentation; otherwise, they won't function as intended. It records all client information, guaranteeing the efficient and seamless operation of the system. This is why a lot of time is saved in keeping the records of the customers. This also reduces the hassle of the people working in the organization. Software lowers fraud in an affordable manner and offers smarter, simpler, and faster ways to improve the system over time. They employ these programs to increase the system's functionality and improve its overall performance. They improve operations and resource optimization in the following manner. Every company in the world is becoming more and more reliant on technology, and individuals are becoming less and less capable of functioning without it. Human life is becoming easier, and the younger generations are better at using technology to get employment. And the modern economy is enhanced in this way.

In the following report, I have attempted to portray the use of ERP software in the finance and supply chain department. This report's primary objective is to demonstrate how using the program reduced labor costs, increased efficiency, and ensured error-free data entry. Firstly, I tried to discuss about the software that is used here with a brief description of it. Secondly, I have put out all the possible ways of using it and be benefitted by it. Workers at Berger Paints Bangladesh were highly satisfied using this software because it reduced their time and effort and most importantly made it error free. With the use of this program, they could manage all of the data about their customers and other tasks with ease. The most important thing to remember is that automation is what keeps the employees here most productive.

1.1 Origin of the Study

A mandatory part of United International University's BBA curriculum is an internship report, which is meant to help students meet the requirement of gaining real-world experience in the business world and honing critical skills. Through the internship program, students can participate in practical experiences in businesses, giving them invaluable possibilities for experiential learning. The report is very important because it is worth 3 credits, which highlights how important it is for students to get real-world experience in addition to their academic education. It is believed that this hands-on experience is crucial to preparing students for the difficulties and responsibilities of executive roles in the workplace. Thus, I am very much grateful for being able to have the opportunity to do my internship in the IT department's SAP team of Berger Paints Bangladesh. The title of this report is "ERP Implementation (SAP iRPA) of Finance and Supply Chain at Berger Paints Bangladesh". This study is based on working on my internship report for the past three months under the direction and oversight of Ms. Mimnun Sultana, an Assistant Professor at United International University.

1.2 Objects of the Report

The primary objective of this report is to make the work of the finance and supply chain department easy to input data in less time, reduce error, make the work less tedious and save effort. This way the employees will be able to focus more on the tasks that are more important. Additionally, I used both my professional and academic knowledge to write my report.

The following are some of the goals:

1. Knowing the success of Berger Paints Bangladesh
2. Knowing Berger Paints Bangladesh's performance using the SAP software
3. Assessing competitive position of Berger Paints Bangladesh
4. Keeping an eye on their actions in all of their departments
5. Conducting their operations in the software systems
6. Using current technologies to expand and achieve its goals in the contemporary economy.
7. Acquiring hands-on experience with the use cases of software systems.

1.3 Significance of the Study

The tasks assigned to the student during their internship term should be reflected in the internship report that is created at the end of the internship. Students can benefit from this report in the following ways:

- Offers a chance for internship
- Promote written and advanced communication skills.
- Take into account the professional experience of an internship program.

In a competitive environment such as Bangladesh where competition is increasing day by day, internship experience is one of the most important things for students. In the ever-changing professional world, recent graduates should expect better career opportunities as they gain practical experience.

Chapter Two

Methodology

2. Sources of Data

The report was created with assistance from supervisors, colleagues, and more seasoned peers. The study's approach effectively hides the sources of the data that were gathered. The process of compiling data required the use of primary and secondary sources.

Primary Data:

Primary data refers to the conventional data and the fundamental method of data collection. Additionally, gathering this data is really simple and very valuable. Everybody initially gathers the data for all reports.

- Involvement with practical work environment
- Communication with seniors and colleagues in IT department
- Collection of data while working in the corporation.

Secondary Data:

Secondary data is obtained from already-published study sources and is compared to similar materials. This can include both qualitative and quantitative data and is very helpful for creating reports.

- Through internet
- Website of the organization
- Website of the software they use and the other similar software as well
- Information provided by my supervisor from the software company and their reports

2.1 Methods of Collecting Data

- ✓ Data was collected the data from the people working here for a longer period of time with immense knowledge.
- ✓ Data from the files and documents given to me by my manager to work on them has been observed.

- ✓ Whenever any difficulties occurred while doing the assigned task, help has been taken from manager and senior.
- ✓ Software operation has been monitored and found out how it helps in all the departments, mostly finance and supply chain department.

2.2 Limitations of the Study

There is limit to every work. While working on the report, I came across many difficulties and limitations. Some of the issues were quite hard to overcome from. I have also found some weaknesses while working on this report:

- ✓ There was limited access to information about the company's operations, strategies, and financial data. This limits the level of analysis in my report.
- ✓ Berger Paints Bangladesh may contain confidential information that interns cannot access. This limited the breadth of the report and caused exercise caution in what the report included.
- ✓ The internship focused on a specific department or project at Berger Paints Bangladesh. This narrow breadth did not provide a full understanding of the company's overall operations.
- ✓ Internships are often short-term; therefore, there was not enough time to collect all of the essential information or conduct in-depth analysis for my report.
- ✓ This internship experience and viewpoints vary according to the function, team, and supervisor of mine. This subjectivity influenced the objectivity and generalizability of the findings in the paper.
- ✓ External factors such as market dynamics, economic conditions, or industry trends may have an impact on the company's success, but there were lacking in the necessary understanding or experience to conduct a thorough analysis.

2.3 Internship Roles and Responsibilities

The internship begun at the corporate office of Berger Paints Bangladesh in their IT department on 15th October 2023, and completed the academic internship on 14th January, 2024. Currently, the internship program at Berger Paints Bangladesh has been extended for 3 more months till 14th of April, 2024.

- Got an understanding of the software that they use in Berger Paints Bangladesh.
- Gathered previously used process data from SAP iRPA library of the finance and supply chain sectors.
- Gathered the name of those processes and their functions.
- Worked on gathering knowledge and information about SAP IRPA to be implemented in Finance and Supply Chain Department.
- Presented all the collection of data in front of the CIO and finance department.
- Worked on Business Blueprint of Bashundhara Group's Material Management and Financial Institution modules.
- Track issues with files and attempt to assist others in resolving them.
- Track issues with files and attempt to assist others in resolving them.

Chapter Three
Company Overview

3. Introduction of the Company

One of the top names in Bangladesh's paint market is Berger Paints. It is also among the oldest brands in Bangladesh's paint business. They are the nation's leading expert in the paint industry. Both their products and components date back a great distance—roughly more than 250 years. A German national called Louis Berger founded a company that made dyes and pigments. Louis Berger & Sons Limited is primarily known for its inventiveness and business acumen, having achieved the pinnacle of Prussian-Blue perfection. As they performed this, they quickly grew. Many European militaries largely wear uniforms in this shade of deep blue. From making dyes and pigments, they progressed to making paints and coatings. And this is Berger's primary business at the moment. They expanded rapidly by opening many locations across the globe and by acquiring and merging with other top producers of paint and coatings.

Berger has been involved in the paint industry in this region of the world since 1950. Paints were originally imported at this point from Berger UK, and then for the very first time from Berger Pakistan. The paint plant of Berger Paints Bangladesh Limited (BPBL), formerly known as Jackson & Nicholson, was established in Chittagong in 1970. This paint plant was owned by several people. They were Dada Group, Duncan Macneil & Co. Limited, and Jenson & Nicholson (J & N). Afterwards, Duncan Macneil sold the majority of the stake to J & N. The Government of the People's Republic of Bangladesh received the investment portion from Dada Group following Bangladesh's independence in 1971. J & N (Bangladesh) Limited became Berger Paints Bangladesh Limited on January 1, 1980. In August of 2000, J & N Investment (Asia) Limited purchased the Government's ownership. Subsequently, in December 2005, the business released five percent of its shares to the general public and listed them on the Dhaka Stock Exchange (DSE) and the Chittagong Stock Exchange (CSE).

Table 1: Yearly Achievements

Year	Achievement
1970	Set up of first paint factory at Kalurghat, Chittagong. The shareholders were Jenson & Nicholson (J&N), Duncan Macneil & Co. Limited and Dada Group.
1980	The name of the company was changed from J&N (Bangladesh) Limited to Berger Paints Bangladesh Limited.
1990	Establishment of 100% owned subsidiary company Jenson & Nicholson (Bangladesh) Limited focused on trading and indenting.
1999	Establishment of a State-of-the-Art Paint Production Plant at Savar, Dhaka.
2006	Enlisted in Dhaka Stock Exchange (DSE) and Chittagong Stock Exchange (CSE).
2012	Established Berger Becker Bangladesh Ltd. through Joint Venture with Becker Industrial Holding Coating AB Sweden to launch Coating AB Sweden to launch Coil Coating. Launched Breathe Easy Series – first eco-friendly paint series in Bangladesh.
2020	Agreement with Chugoku Marine Paints Ltd (CMP) of Japan to produce marine and industrial paints.

In the above table, we can see that the entire history of what achievements did Berger Paints Bangladesh have in different years. It showed that Berger Paints Bangladesh set up its first paint factory in 1970 along with 3 shareholders. Then in 1980, they changed the company's name. In

1990, J&N focused on trading and indenting. A State-of-the-Art Production plant was established in 1999. They made themselves enlisted in the Dhaka Stock Exchange and Chittagong Stock Exchange in 2006. Later in 2012, they established Berger ecker Bangladesh limited. And in 2020, they made an agreement with Chugoku Marine Paints Ltd.

As soon as Berger Paints Bangladesh entered into the paint market of Bangladesh, with over 250 years of experience in the paint industry worldwide, it began to reap the benefits. Berger developed into becoming one of the leading paint solution providers in Bangladesh in all these years. It has also varied into every sphere of this paint industry- from Decorative Paints to Industrial, Marine and Powder Coatings.

Berger has invested more in technology and Research & Development (R & D) in this market than any other manufacturer. The company sources raw materials from globally recognized names such as ExxonMobil, DuPont, BASF, BYK, Cristal, and Shell. Berger's advanced plants and stringent quality controls, which adhere to the highest international standards, have enabled them to produce top-tier products. The establishment of Powder Coating and Emulsion plants at the Dhaka Factory further highlights Berger's commitment to investing in technology and expanding plant capacity. Berger is basically the paint giant in Bangladesh. What made it possible was the state-of-the-art Dhaka Factory. It was one of the additions in Berger’s capacity.

In addition, Berger Paints has strategically entered a number of industries, including textiles and construction chemicals, demonstrating its dedication to ongoing diversification and market-driven adaptability. Its commitment to remaining at the forefront of technical breakthroughs is demonstrated by the launch of cutting-edge products like the Breathe Easy Eco Series, Fireguard Fire intumescent coatings, and WeatherCoat AntiDirt Supreme.

Berger has outstretched almost every part of Bangladesh with its strong distribution network. They have strategically catered to all parts of the country with the help of nationwide dealer

network which was supported by sales depots located in Dhaka, Chattogram, Rajshahi, Khulna, Bogura, Sylhet, Comilla, Mymensingh, Barisal, Rangpur, Feni and Brahmanbaria.

By forming alliances for a range of endeavors, Berger has expanded its operations in an effort to provide better service and excellence. One significant partnership is with Becker Industrial Coatings Holding AB, Sweden, which led to the establishment of Berger Becker Bangladesh Limited, a company that specializes in the production of coil coatings. Berger Fosroc Limited is another noteworthy joint venture that was established in collaboration with the esteemed Fosroc International Limited with the objective of supplying premium construction chemicals in Bangladesh. In addition, In order to produce marine and associated commercial paints in Bangladesh, Berger Paints Bangladesh Ltd. and Chugoku Marine Paints Ltd. of Japan have teamed together, making Berger the nation's first producer of high-quality marine paint products.

Beger Paints also have 2 subsidiary companies. They are Jenson & Nicholson (Bangladesh) Limited and Berger Tech Consulting Limited (BTCL). Jenson & Nicholson (Bangladesh) Limited is wholly owned by Berger Paints Bangladesh Limited. Jenson & Nicholson (Bangladesh) Limited has been actively involved in Bangladesh's metal container sector since 1995. It first opened a factory in Chattogram and then later added a second location in Dhaka. With the addition of paint, lubricant oil, engine oil, hair oil, and food grade containers to its portfolio, JNBL has become the nation's leading maker of metal containers over the years. Notably, JNBL recently made the groundbreaking achievement of producing fancy containers—the first of its kind in Bangladesh.

Berger Tech Consulting Limited, a forward-thinking supplier of technology services and solutions, was founded in 2022. In order to help clients navigate today's dynamic and intensely competitive landscape, the organization, which has as its objective to accelerate the digital and technical transformation of enterprises, uses a tech-agnostic strategy. It is essential to embrace technology-driven transformation in order to survive in the rapidly changing

technological landscape of this century.

Together with their extensive domain knowledge, Berger Tech Consulting's technological solutions and services may be integrated to assist partners streamline corporate operations, cut costs, maximize income, and gain a competitive edge. In order to guarantee the ongoing transformation of organizations and the identification of new growth opportunities for their clients, Berger Tech Consulting is dedicated to continuously integrating cutting-edge and creative technology solutions and services.

Operating as a subsidiary of Berger Paints Bangladesh Limited, a well-known producer and industry leader in Bangladesh known for its extensive array of paint and coating goods and services, is Berger Tech Consulting. Both Berger Paints and Berger Tech have a culture built around deep trust, which they value highly in all client relationships as they work to fulfill their goal of becoming a recognized provider of technology solutions.

Beyond its commercial pursuits, Berger Paints Bangladesh Limited actively participates in corporate social responsibility by supporting and nurturing the young people of the country's creative ability. The company's dedication to fostering and acknowledging talent in a variety of fields is demonstrated by programs like the Khulna University Architecture Department-Berger (KUAD-BERGER) Award, the Berger Young Painters' Art Competition (BYPAC), the Berger Award for Excellence in Architecture (BAEA), and the Berger Awards Programme for Students of Architecture of BUET (BASAB).

As part of its social duty, Berger Paints has improved the lives of Bangladeshi autistic children, demonstrating a wider commitment to contributing positively to society.

3.1 Shareholders Proportion

J&N Investments (Asia) Limited owns 95% of the 46,377,880 outstanding shares of the firm. Individual and institutional investors receive the remaining shares. Institutional investors from Bangladesh own 3.73% of the shares, and those from other countries own 0.13%. 526,417 shares, or 1.14% of the shares, are owned by individual investors from Bangladesh, while 0.01% are held by individuals from other countries. An overview of the shareholding status can be seen below.

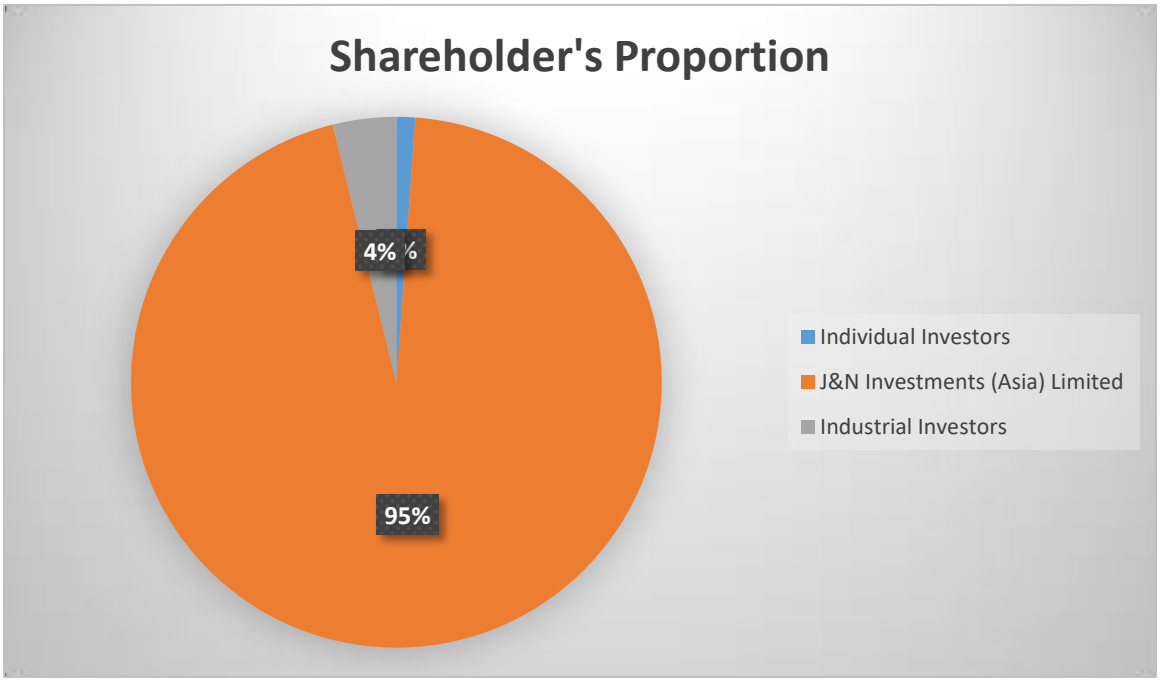

Figure 1: Shareholder's Proportion

ove figure shows the shareholder's proportion of Berger Paints Bangladesh. In this pie chart, we can see that 1.14% of share is for individual investors. Industrial investors has 3.86% share. And J&N Investments (Asia) Limited has the largest percentage of share with 95% share.

3.2 Product Range:

There is an extensive selection of products available, including roofing compounds, epoxies, powder coatings, premium marine paints, premium outdoor paints designed to withstand inclement weather, Color Bank, and various decorative paint versions. Berger is unique in that it sets trends in each of these product areas. Free technical advice on surface preparation, color consulting, custom color schemes, and other topics is also offered by the company. It also connects consumers with technology through Experience Zones that are specifically designed for that purpose. To further serve its clients' varied demands, Berger has also launched cutting-edge goods like TexBond textile chemicals, PowerBond adhesive, Innova Wood Coating, and Vehicle Refinish.

Berger has released several new products recently, including the Breathe Easy Eco Series, Fireguard Fire intumescent coatings, and WeatherCoat AntiDirt Supreme. The latter uses green biocides in addition to being Green Label Certified, guaranteeing a bacterium-free atmosphere devoid of volatile organic compounds (VOCs).

In recent years, Berger Paints has placed a high priority on continued innovation and growth into a variety of industries. These days, the Texbond brand offers products including finishing agents and binders for textile printing. Additionally, Berger has dabbled in the field of construction chemicals. One of the company's most recent projects is the launch of Express Painting Tools, which are intended to improve painting work quality, speed, and cleanliness. In addition, Berger has introduced Express Painting Services, which offer all-inclusive solutions for painting requirements. Not only that, but Berger has added printing ink to its list of products.

Berger Paints had launched the Mr. Expert Advanced Hand Sanitizer in response to the global pandemic in 2020, with the goal of reducing hand-to-hand transfer of

illnesses and fighting germs. The business also planned to launch Berger Expert Sanitization, a sanitization and disinfection service. The goal was to prevent the spread of COVID-19 by promoting protection and hygiene through the establishment of a sterile, germ-free environment.

Berger Paints Bangladesh Limited is still a major player in the development of the paint and coatings sector in Bangladesh because of its forward-thinking outlook, wide range of products, and steadfast dedication to social and environmental responsibility.

3.3 Market Position

As of 2019, there were about 45 competitors in Bangladesh's paint business, which had a Tk 3,700 crore valuation. This industry benefits the 167.8 million people living in the country by contributing significantly to its growing urbanization. Paint coatings protect fixed assets from rust and increase their lifetime, which benefits the economy by lowering maintenance costs and lengthening the life of structures.

A Japanese business called Kansai Nerolac entered the Bangladeshi market in the middle of 2018. Concurrently, as noted in the section on the company overview, Berger Paints started three new alliances with well-known foreign companies. For Tk 572.6 million, Kansai Nerolac made its debut in the Bangladeshi market by purchasing a 55% share in RAK Paints. The acquiring company's CEO stated that RAK was chosen because of its good reputation and adherence to Bangladeshi laws.

With international brands such as Asian, Roxy, Pailac, Elite, Asian, and Berger controlling over 80% of the nation's paint market, Berger Paints is clearly the dominant force in the paint industry. Berger Paints has a 48% market share, followed by Asian Paints (18%), Roxy and Elite (2007), Pailac (5), and Aqua Paint 2%, according to the Bangladesh Paint Manufacturers Association. The total market share of about thirty other local businesses is 13%; smaller businesses make up the remaining 7%.

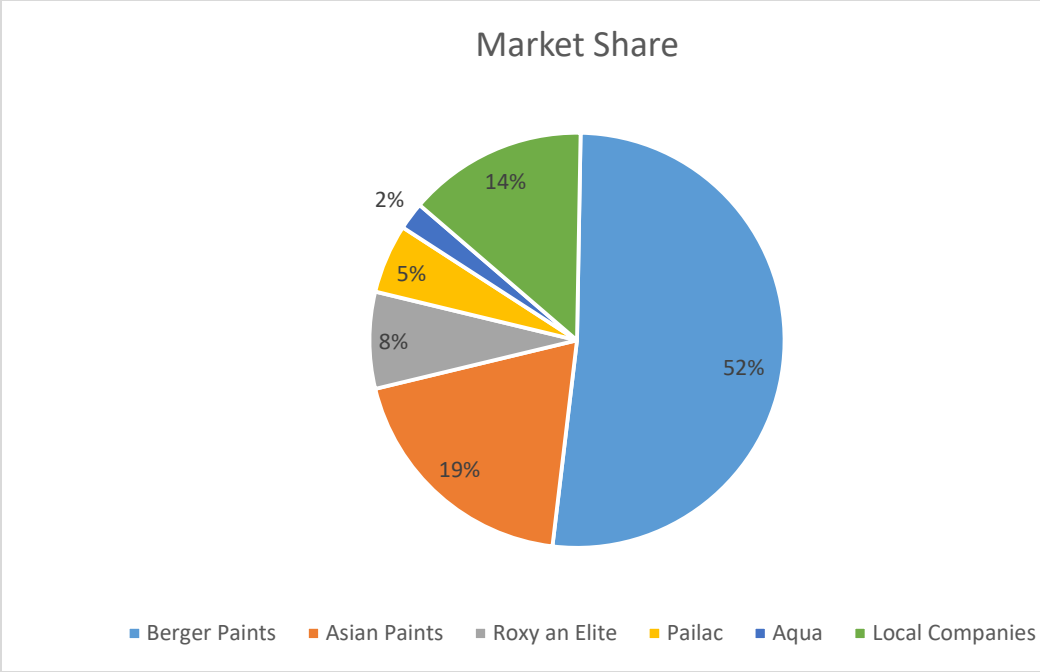

Figure 2: Market Share of Paint Companies

The figure shows the market share of some of the most known paint companies. Among them Berger Paints hold the maximum market share with 52%. Asian Paints has a 19% market share which is very low compares to Berger Paints. Local companies hold 14% market share but Roxy an Elite, Pailac and Aqua has very low percentage of market share.

According to statistics, the paint business has grown by almost double in size over the last ten years, giving many people in the nation job chances. Current data shows growth exceeding 6%, and industry observers predict 7-8% yearly growth in the near future. On the other hand, other estimates point to a growth range of 8 to 10% annually, motivated by the possibility of higher consumption sparked by economic expansion.

The country's recent concentration on the real estate industry is a most important factor propelling the expansion. Contributing elements include the continuous urbanization trend and rising consumer awareness of the value of home defense. Further important

causes of the notable rise in the paint industry are the availability of home financing, the thriving shipbuilding sector, and continuous economic expansion.

The paint industry in Bangladesh is moving towards enhanced value creation, as demonstrated by the collaboration between Berger Paints and Chugoku Marine Paints Ltd (CMP) of Japan, announced on January 1, 2020, to produce industrial and marine paints. Berger Paints is now the primary business in Bangladesh to manufacture maritime paints. Additionally, on December 4, 2021, Elite Paint and Chemical Industries Ltd, the oldest and most prominent brand in the Bangladesh paint industry, partnered with Transocean Coatings to produce internationally certified high-performance industrial and marine coatings within Bangladesh.

As a result, numerous industry participants are forming alliances with other businesses to launch novel product lines, cutting-edge technologies, and optimized operational procedures. Bangladesh's real estate market is booming, which is creating a strong basis for the paint industry to grow and realize its full potential.

3.4 Certifications:

Berger makes sure that all of its goods are free of lead and safe for the environment. Berger Paints Bangladesh Limited has obtained ISO 9001:2015 (Quality Management System), ISO 14001:2018 (Environmental Management System), and ISO 45001:2018 (Occupational Health & Safety Management System) certifications, demonstrating its commitment to standard operating procedures in all departments. In addition, the business has received certification for adhering to the Information Security Management System, or IEC-27001:2013.

3.5 Mission, Vision, Slogan & Core Values

Mission:

At Berger Paints Bangladesh, every five years, we want to double our turnover while continuing to uphold our values of moral behavior and social responsibility.

Vision:

At Berger Paints Bangladesh, our objective is to become the industry's most favored brand, ensuring customer pleasure.

Slogan:

The tagline "Trusted Worldwide," used by Berger Paints, is often used to express the company's dedication to offering its clients excellent service and superior paint products.

Core Values:

The core values of the company are the guiding principles that direct its behavior, decisions, and atmosphere. They also help to maintain the company's reputation and integrity while creating a great work environment, luring and keeping talent, and inspiring commitment, drive, and dedication. They facilitate a group effort among team members to achieve the common goals of the organization. The following are the main values of Berger Paints Bangladesh:

- Positive attitude
- Embracing new ideas
- Make creative solution
- Celebrate success
- Commitment to people
- Teamwork
- Technical competence
- Result oriented
- Accountability

- Effective communication
- Customer focus
- Quality

3.6 Major Services of Berger Paints Bangladesh

Berger Paints Bangladesh offers a range of services. These include:

- **Decorative Paints:** Offers a range of paints for use on residential, commercial, and industrial buildings' exterior and interior surfaces.
- **Industrial Coatings:** Provides coatings to protect industrial buildings, machinery, and equipment against environmental elements and corrosion.
- **Marine Coatings:** Manufactures paints and coatings especially made to be used in maritime conditions to safeguard offshore structures, boats, and ships.
- **Automotive Coatings:** Supplies primers, basecoats, and clear coats for cars in order to improve their appearance and offer corrosion protection.
- **Construction Chemicals:** Provides a variety of chemicals and additives that can be used in building projects to increase the performance, strength, and longevity of concrete and other building materials.
- **Express Painting Service:** Offers a contemporary painting method for residential and commercial spaces that uses professional painters and automated equipment to minimize dust and speed up the painting process.

Within the paint industry, Berger Paints works in three main segments.

Decorative Paints

- The goal is to improve the aesthetic appeal of surfaces while protecting them from corrosion and erosion.
- The household segment is the primary focus of this business category.
- A network of dealers distributes products to customers.
- The consumer's aesthetic tastes are satisfied by the goods.
- The principal area of Berger Paints Bangladesh Limited (BPBL) revenue generation

Industrial Paints

- Items that are specifically customized according to each customer's needs.
- Under harsh circumstances, including dangerous settings, high temperatures, and the transportation of large gear and supplies, products offer surface protection.
- The business markets its industrial coatings through direct marketing.
- The principal customer groups comprise, among others, manufacturing facilities for consumer durables, chemicals, apparel, and fertilizer.

Marine Paints

- The main method of offering products is direct marketing.
- The main user groups are passenger ships, dockyards, and the Bangladesh Navy.
- The markets of Dhaka and Chittagong are the most concentrated.

3.7 Management Structure

- ✓ The board of directors' fourteen members are in charge of strategic planning.
- ✓ The board's Audit and Risk Management Committee is in charge of the projects.
- ✓ The manager and CEO assign goals, and it is the deputy directors' responsibility to meet them.
- ✓ The management committee has found several serious issues.
- ✓ All in all, there are multiple departments with multiple management teams, each with their own unique tasks.
- ✓ If there are problems or difficulties, all department managers get together to decide on the best course of action.
- ✓ They talk to one other and stay in close communication whenever important matters come up.

- ✓ Senior management is often informed by department managers.
- ✓ Management regularly offers assistance to partners, both inside and outside the company.

3.8 Organogram

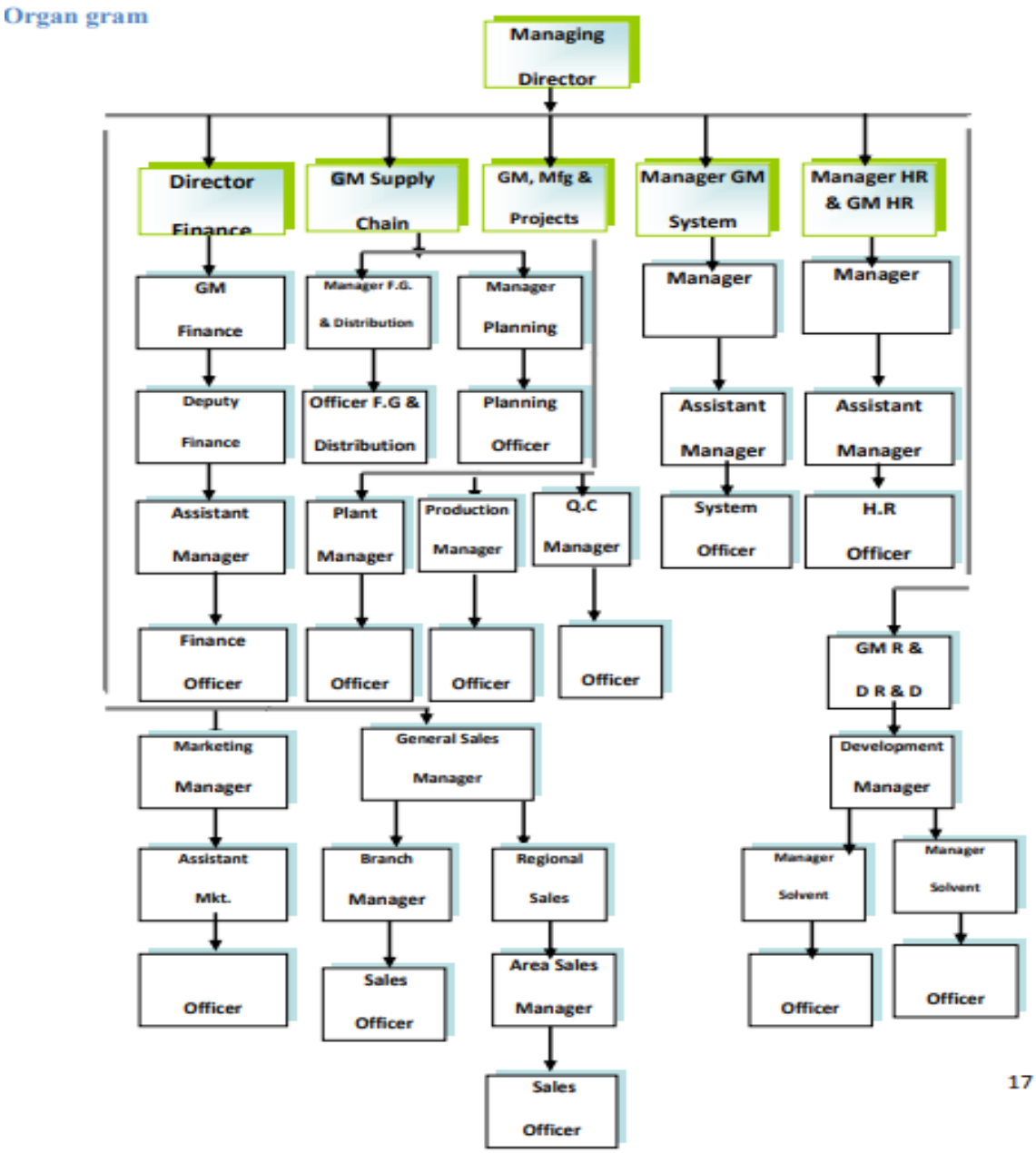

Figure 3: Organogram

Source: Internship Report of Mirza Md. Maruf (https://rb.gy/j75x4f)

3.9 Performance of Berger Paints Bangladesh

1. **Manufacturing and Distribution:** Manufactures a broad variety of building chemicals, industrial coatings, marine coatings, and ornamental paints, and distributes them via a vast network of dealers and merchants throughout Bangladesh.
2. **Research and Development:** Carries out research and development to create novel goods, enhance current formulas, and adjust to shifting consumer demands and market trends.
3. **Sales and Marketing:** Puts sales and marketing plans into practice to advertise Berger Paints' goods, draw in new clients, hold onto current ones, and grow market share.
4. **Customer Service:** Delivers top-notch customer care to answer questions, settle grievances, and guarantee client pleasure.
5. **Corporate Social Responsibility (CSR):** Takes part in CSR projects to improve society, such as community development, environmental preservation, and educational activities.
6. **Financial Management:** Effective financial resource management is essential for long-term success, profitability, and sustainable expansion.
7. **Human Resource Management:** Identifies, develops, and keeps talented workers; creating a healthy work environment; and encouraging growth and involvement of employees.

3.10 Risk Management Process of Berger Paints Bangladesh

For businesses, risk management is essential since it enables management to reach profitability goals and stop resource abuse. The risk management procedure at Berger Paints Bangladesh places a strong emphasis on taking a holistic approach to managing different risks and carrying out methodical investigation, evaluation, and monitoring. The board of directors accepts risks by using set procedures and management techniques. The board risk management committee oversees the board and senior management, establishes organizational structure, implements management information systems, supervises executive risk management, monitors comprehensive capital assessments, supervisory review risk assessment, and tracks and reports on risks.

Figure 4: Risk Management Process of Berger Paints Bangladesh

3.11 Business Ethics of Berger Paints Bangladesh

Berger Paints Bangladesh is steadfast in its adherence to business ethics, which dictate its behavior and how decisions are made. Important facets of the corporate ethics of the corporation include:

- Integrity and honesty
- Compliance with laws and regulations
- Fair treatment and respect
- Environmental responsibility
- Ethical business practice
- Protection of the organization
- Productive and logical management control
- Screening clients

In general, Berger Paints Bangladesh aims to maintain the highest ethical standards in all facets of its business operations by incorporating business ethics into its corporate culture, values, and daily operations.

Chapter Four

Discussion of ERP Implementation in Finance and Supply Chain

4. Departmental Activities of Berger Paints Bangladesh (IT Department)

At Berger Paints Bangladesh, several departments work together to complete their assigned responsibilities. I worked in the SAP team in the IT department throughout my internship, where I was responsible for the following tasks:

SAP team is a mainly a team in their IT department which is also a subsidiary of Berger Paints Bangladesh named as Berger Tech Consulting Limited (BTCL). Technical consulting services are offered by Berger Tech Consulting Limited. They provide knowledge and solutions in fields like project management, technical assistance, software development, system integration, and information technology. In addition to building unique software applications and putting in place IT infrastructure, they can also counsel clients on technology strategy and offer continuing technical support and training. In general, Berger Tech Consulting Limited wants to support companies in using technology to increase productivity, competitiveness, and efficiency.

I have worked in this team which deals with ERP software. Comprehensive business management software, known as enterprise resource planning (ERP) software, integrates and automates key corporate operations, including supply chain management, manufacturing, and finance, human resources, sales, and customer relationship management. ERP software gives businesses a centralized platform to manage all facets of their operations, which helps them to operate more efficiently. It makes it possible for departments to share data, fosters better teamwork, boosts productivity, and offers real-time insights into how well businesses are doing. ERP systems are made to support businesses in maximizing their resources, cutting expenses, and making wise decisions that will spur expansion and success.

This software made the work of the employees very easy to handle. The department of finance and supply chain, got to use this software which helped those input data very efficiently. SAP Intelligent Robotic Process Automation (IRPA) helps business

streamline their operations, reduce costs, and improve their overall productivity. It incorporates AI to provide a no-code, end-to-end solution. SAP IRPA implementation was possible because of SAP S4/HANA.

SAP IRPA is a suite of automation tools that uses software robots to mimic human behavior. The robots replicate tedious actions that have no added value, which can help reduce human error and save time and effort.

The finance and supply chain departments can both gain a great deal from SAP Intelligent Robotic Process Automation (SAP IRPA), which automates tedious manual work and streamlines procedures. The following is how SAP IRPA benefits each department:

1. **Finance Department:**
    - **Invoice Processing:** Tasks related to processing invoices, such as data extraction, validation, and input into financial systems, can be automated with SAP IRPA. This shortens the cycle of invoice processing and lowers errors.
    - **Accounts Payable and Receivable:** SAP IRPA can increase accuracy and efficiency by automating accounts payable and receivable operations like payment processing, reconciliation, and collections.
    - **Financial Reporting:** Financial reporting can be completed more quickly and accurately by automating the processes of data collection, consolidation, and reporting with SAP IRPA.
    - **Compliance and Audit:** By automating procedures related to documentation, audit preparation, and compliance checks, SAP IRPA can assist in ensuring adherence to financial requirements.

2. **Supply Chain Department:**
    - **Order Processing:** Order entry, validation, and confirmation can all be automated with SAP IRPA to expedite order processing and increase accuracy.
    - **Inventory Management:** Stock counting, replenishment, and allocation are just a few of the inventory management chores that SAP IRPA can automate to optimize inventory levels and lower stock outs.
    - **Procurement:** In order to streamline the procurement cycle and strengthen supplier relationships, SAP IRPA may automate procurement operations such as vendor selection, purchase order creation, and invoice reconciliation.
    - **Logistics and Distribution:** Delivery scheduling, shipment tracking, and route optimization are just a few of the logistics and distribution processes that SAP IRPA can automate to increase productivity and satisfy customers.

    All things considered, SAP IRPA benefits finance and supply chain departments by automating repetitive procedures, cutting down on errors, increasing productivity, and freeing up staff to work on more strategic projects.

4.1 ERP (SAP IRPA) Implementation in Finance and Supply Chain

Automation is the process of carrying out operations with little to no human involvement by using machines, software, or other forms of technology. It entails optimizing operations and procedures to run more smoothly and productively. Automation has applications in many different fields and businesses, such as finance, manufacturing, healthcare, and transportation. Its objectives are to cut down on manual labor, enhance accuracy, boost output, and eventually save money and time. Automated chatbots for customer care, automated bill payment, robotic assembly lines in industry, and self-

driving cars are a few instances of automation. Automation can be beneficial for all the departments. It can also benefit in finance and supply chain department in the following ways:

- **Finance:**
    1. **Efficiency:** Finance and supply chain professionals are free to concentrate on more strategic endeavors when repetitive and time-consuming processes like data input, invoice processing, and report generation are automated.
    2. **Accuracy:** By lowering the possibility of human error during manual data entry or computations, automated systems produce financial records and reports that are more accurate.
    3. **Cost savings:** Automation can save the finance department a lot of money by improving productivity and decreasing the need for manual labor.
    4. **Faster processing:** Financial procedures including invoice approvals, reimbursement for expenses, and financial close can be accelerated by automated workflows, which can reduce processing times and enhance cash flow management.
    5. **Compliance:** Automation enforces standard operating procedures and keeps reliable audit trails, which serve to assure compliance with internal controls and regulatory requirements.
    6. **Data analysis:** Large amounts of financial data may be accurately and swiftly analyzed by automation technologies, yielding insightful information that is useful for strategic planning and decision-making.
    7. **Enhanced visibility:** Finance teams may make well-informed decisions and react quickly to changing company conditions thanks to real-time visibility into financial performance provided by automated reporting and dash boarding capabilities.
    8. **Improved customer service:** By expediting payment processing, decreasing billing errors, and promptly answering questions, automation can improve the customer experience.

Automation can enhance the customer experience by accelerating payment processing, reducing billing errors, and providing quick answers to inquiries.

- ✓ **Supply Chain:**
  1. **Efficiency:** Order processing, inventory management, and logistics planning are just a few of the jobs that automated procedures expedite and cut down on time and effort. Increased productivity and quicker cycle times are the results of this efficiency.
  2. **Cost reduction:** Automation lowers labor costs and operating expenses by eliminating manual labor and maximizing resource usage. Additionally, it lessens the possibility of mistakes, which can lead to expensive delays and inefficiencies.
  3. **Accuracy and reliability:** By doing away with manual labor and making the most use of available resources, automation reduces labor costs and operating expenses. It also reduces the likelihood of errors, which can result in costly delays and inefficiencies.
  4. **Inventory optimization:** Organizations may manage their inventory levels and save carrying costs by using automation systems to assess demand patterns and inventory levels in real-time. This guarantees that the appropriate items are offered in the appropriate quantities and at the appropriate times.
  5. **Improved visibility:** Real-time insight into multiple parts of the supply chain, such as inventory levels, order status, and shipping tracking, is made possible by automation. Organizations may make better decisions and proactively address possible problems because to this visibility.
  6. **Enhance customer service:** Improved customer satisfaction results from automated systems' ability to process orders more quickly, fulfill them accurately, and deliver them on time. Additionally, automation enables businesses to improve the entire experience of their clients by giving them real-time updates on their orders.

7. **Scalability:** As firms expand, automated systems can manage growing order volumes and complexity because they are scalable. Organizations are better equipped to adjust to shifting consumer demands and market conditions thanks to this scalability.
8. **Risk mitigation:** Because automated systems are scalable, they can handle increasing order quantities and complexity as businesses grow. This scalability helps organizations better adapt to changing market conditions and consumer expectations.
9. **Compliance management:** By enforcing uniform practices and keeping correct records, automated systems can aid in ensuring compliance with industry standards and regulatory requirements. As a result, there is less chance of noncompliance and associated fines or penalties.
10. **Data-driven insights:** Automation produces useful data that may be utilized to make data-driven decisions, discover areas for development, and provide insights into the operation of the supply chain. This promotes corporate expansion and allows for ongoing optimization.

All things considered, there are many advantages to automation in the supply chain division, including higher productivity, lower costs, increased accuracy, increased visibility, better customer service, scalability, risk reduction, compliance management, and data-driven insights.

4.2 SAP Software Development Life Cycle

For software development initiatives, SAP has established the Secure Software Development Lifecycle (Secure SDL). To guarantee the security of SAP goods and services, this framework consists of procedures, instruments, and training. Secure software development is a basic necessity for safe operations since security is crucial for users managing sensitive data and depending on SAP solutions for important business processes.

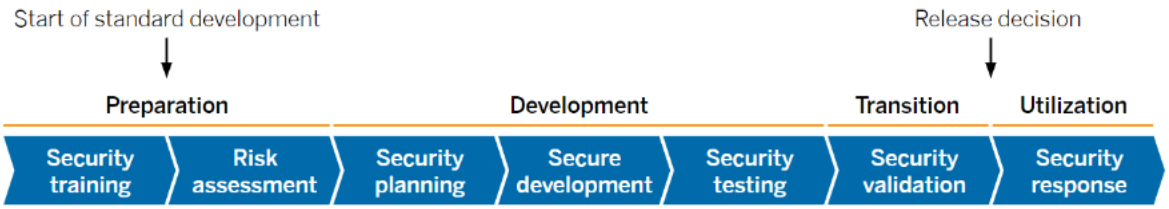

Figure 5: Security Development Phases in the Secure Software Development Lifecycle

The aforementioned figure illustrates how crucial steps in the software development process are security response, testing, validation, risk assessment, secure development, training, and testing. This cycle's components are all maintained by the software analyst.

4.2.1 Functions of Software Development Life Cycle Terms

1. **Security Training:**

   It is essential for people working in development support and product management roles to be aware of common vulnerabilities, attack methods, and possible threats. All team members are able to evaluate the security requirements of applications and create suitable security solutions when they are proficient in threat modeling and risk assessment methodologies. Security training helps developers and architects by giving them new perspectives on secure coding techniques and software design. Furthermore, developers and quality assurance engineers learn about efficient security testing techniques and resources.

   Additionally, SAP provides several learning opportunities and specialized training programs to help security experts become more proficient. These consist of regional security summits and security information sessions. Participant knowledge in pertinent subjects is increased or acquired through these training

programs, enabling them to support security initiatives and support their teams at every stage of the product lifecycle, from planning and development to operation.

2. Risk Assessment:

SAP uses a risk-centric method to efficiently maintain security while adhering to financial limitations. This method takes into account the time and expense associated with operating and providing items. Teams may efficiently resolve vulnerabilities by prioritizing security investments based on recognized risks

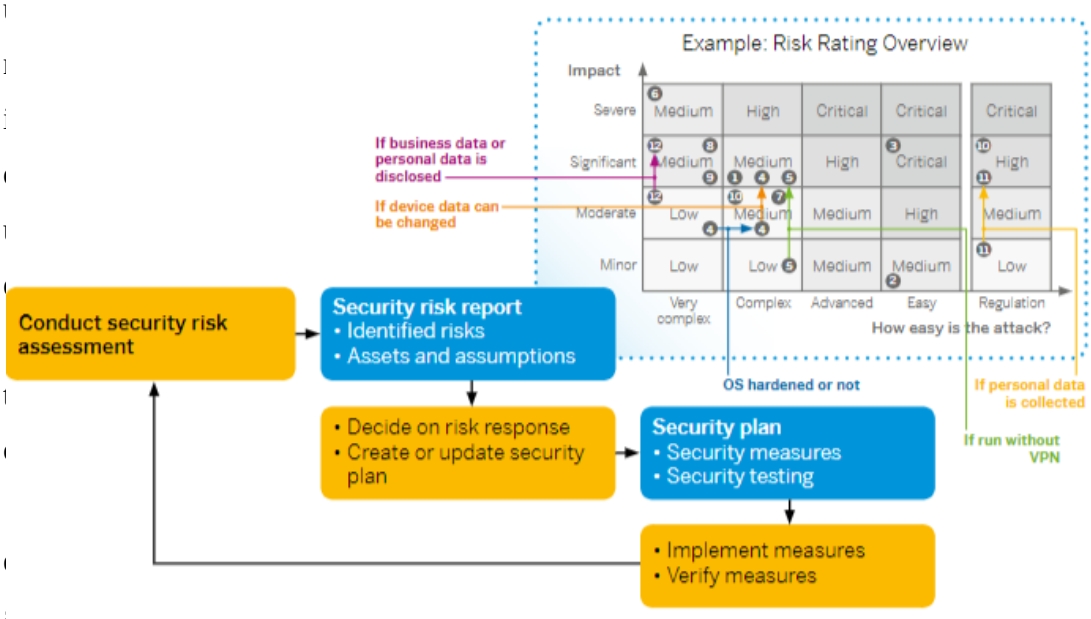

Figure 6: Risk Rating Overview

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SAP system.

Product teams perform a comprehensive security risk assessment at the beginning of a software development cycle in order to discover, evaluate, and rank threats.

Following that, security actions are coordinated with the conclusions and choices made during this risk assessment procedure.

Prior to initiating the security risk assessment, the product teams must first identify and categorize the assets under their management. These resources include a range of data types and the availability of business processes outlined in application specifications.

3. **Security Planning:**

As a consequence of the findings of the risk assessment and the Data Protection Compliance Evaluation (DPCE), the product team is tasked with creating the security and privacy requirements relevant to the product to mitigate risk. For every relevant need, the team should identify an appropriate security control, along with a security action, a verification metric, and the implementation timeline. All relevant security controls selected by the product team and to be implemented should be included in the product's security plan.

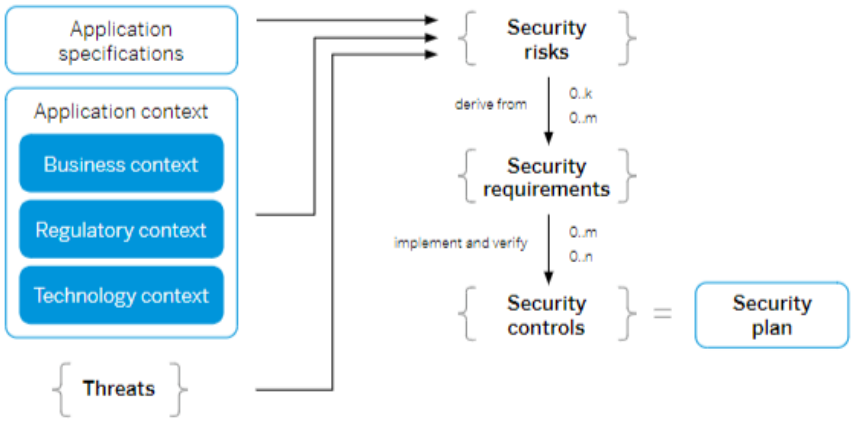

Figure 7: Security Planning Example

am above, shows an example of security planning. It shows where the security risks stars. Then it shows what the major requirements for the security are. Lastly,

it points to the security controls. Adding all these steps together gives us the security planning.

4. **Secure Development:**

Product teams are in charge of planning and carrying out a product's designated functionality as well as its non-functional components during the development stage. Principles of secure design, including "secure by default," "check authorization close to the resource," "never assume trust," and "fail securely" in the event of problems, are outlined in our Product Standard Security. To avoid security vulnerabilities during implementation, teams are urged to make use of pertinent libraries, tools, and secure programming techniques. The goal is to guarantee that the product as a whole—application and security included—is implemented safely and fulfills its intended functions without any weaknesses that could be exploited.

As outlined in the product's security plan, the product team applies security measures, including software-implemented ones, during this phase. Furthermore, developers do code reviews, design reviews, static code analysis, and further threat modeling. The security strategy, which covers policies for open-source components, outsourcing, and procurement, must be adhered to by the development team.

5. **Security Testing:**

Product development teams do many types of security examinations as part of a safe Software Development Lifecycle (SDL), which are termed in the following sections.

(a) Static-Code Scans:

A strategy for safekeeping assessment that deliberately merges both static and dynamic testing tools and procedures is outlined in the secure SDL framework.

At SAP, static application security testing (SAST) solutions are currently available and customized for the most common programming languages. Development should ideally use these technologies on a daily basis and smoothly incorporate them into the environment. If direct integration isn't an option, the project team should plan to run static-code analyzers on a daily or weekly basis and send the results right away to developers so they can be reviewed and analyzed right away while the project is still in progress. These runs make it easier for certified results to be automatically transferred to upcoming source-code scans. Because static analysis is mostly automated, engineers may scan vast quantities of code quickly and possibly find a lot of faults within specific categories.

In the secure Software Development Lifecycle (SDL), the utilization of static-code scan tools on SAP-developed code and the audit of tool findings are obligatory measures, irrespective of the identified risks.

(b) Open-Source Known Vulnerability Scans:

Product development teams must routinely check the open-source components they use for known vulnerabilities as part of the safe Software Development Lifecycle (SDL). If a vulnerability is found, the team must take appropriate action, such as patching the open-source component or updating to a secure version.

(c) Dynamic Static-Code Scans:

Project teams may want to consider using dynamic application security testing (DAST) to further improve their risk-based security plan. Utilizing relevant tools enables developers and quality engineers to perform dynamic

analysis on specific components and scenarios that the product supports, observe the actual behavior of the program, and potentially identify additional security vulnerabilities. These tools are especially helpful for integrating components that are only offered in binary form or for evaluating how well components created in various languages interact and integrate together.

6. **Security Validation:**

In order to make sure that every standard SAP software product is ready for deployment problems in the real world, product security validation is essential. SAP's safe Software Development Lifecycle (SDL) is governed by the security validation team, which functions self-sufficiently of development teams and product-provisioning divisions.

Security validation performs further security evaluations and confirms that development teams have successfully finished all required tasks specified in SAP's secure Software Development Lifecycle (SDL). Depending on the seriousness and possible consequences of security imperfections in the product for users, these evaluations' scope and depth change. Testing can take several forms, ranging from a straightforward process evaluation to numerous days of intensive penetration and confirmation testing.

7. **Security Response:**

At SAP, creating secure products with the prevention of security weaknesses as a top priority is crucial. However, even with strong security assurance mechanisms in place throughout development, it is impossible to ensure that there are no flaws or vulnerabilities at all, particularly when considering new threats or insights that

become apparent after the product has been released. In order to handle these issues, SAP continues to establish a crucial security response procedure.

The product team needs to be equipped to handle vulnerability reports that may surface during use of a product, service, or any upgrades that come after it is released. In such cases, SAP needs to be equipped with pre-existing relationships and the necessary technical know-how to evaluate and look into the reported vulnerabilities as soon as possible, either validating or disproving them. If a vulnerability is verified, SAP is supposed to provide security updates on time that address the problem according to its severity based on internal goals.

The product security response team at SAP plays a crucial role in ensuring effective mitigation of the risk posed by safety weakness in released SAP software. This includes:

1. Presiding over the ethical disclosure of SAP software flaws that outside parties, such as hackers and security researchers, report.
2. Coordination of the monthly "Security Patch Day" events.
3. Handing calamity situations for instance breaches associated with SAP software.

4.3 SAP IRPA Software Planning

When Berger Paints Bangladesh came to a need of a software which will make their work easier in terms of inputting data and every other valuable information, they thought of getting themselves a software. We know that every organization need a software, so does Berger Paints Bangladesh. They are using SAP. In order to make their work more efficient with reduced errors, they are working on SAP IRPA implementation. They talked about this particular automation tool with the software company. They collected all the requirements for the basis of this automation tool, such as, what sort of service they will provide, who are currently using it and how Berger wants to use it.

Following the completion of the requirement procedures, the business analysis phase includes risk assessment and cost planning. Upon assuming the project, business analysts or project managers scheduled the plan's timeline, determined the project's feasibility, and developed a plan for its cost-effective implementation. Following a thorough understanding of the requirements, the project manager documented each plan and produced a Software Requirement Specification (SRS) report that the developers had to carefully read through from start to finish. Next, this report was examined in comparison to user expectations. Throughout this procedure, a number of project management functions were involved.

- ✓ **Scoping:** Project developers define the project's parameters at the outset, including the scope of the product, quality standards, timelines, budget, and resource distribution.
- ✓ **Planning:** For developers, this is the most important factor. They use two techniques to determine the tasks required to complete the project: the Work Breakdown Structure and Milestones.
- ✓ **Estimating:** The resources required to complete the project are ascertained by project developers. Reaching maximum efficiency is uncommon since employees usually work at less than 100% capacity, with about 75% considered adequate to finish a project, and disruptions can cause output to drop by 10% to 40%. The project's duration is estimated using four different methods: optimistic, pessimistic, expected, and most likely durations.
- ✓ **Scheduling:** Forward and reverse scheduling are the two scheduling techniques that project developers use when creating a strategy for project execution.
- ✓ **Organizing:** The project manager makes certain that the developers of the project understand their roles and duties. Talented and highly motivated personnel must be hired, work must be assigned according to each person's strengths, future needs must be planned for, and small, focused teams must be established.
- ✓ **Directing:** Forming (orientation), Storming (internal problem-solving), Norming (growth and productivity), and Performing (evaluation and control) are the four main processes that make up project coordination. Guiding through these phases requires effective leadership, which is essential.

- ✓ **Controlling:** By controlling progress reporting, adapting to change, controlling expectations, and modifying the timeline, including critical path analysis (CPA), the project manager keeps an eye on everything.
- ✓ **Closing:** Project managers and analysts evaluate both achievements and setbacks.

4.4 Why do they need IRPA

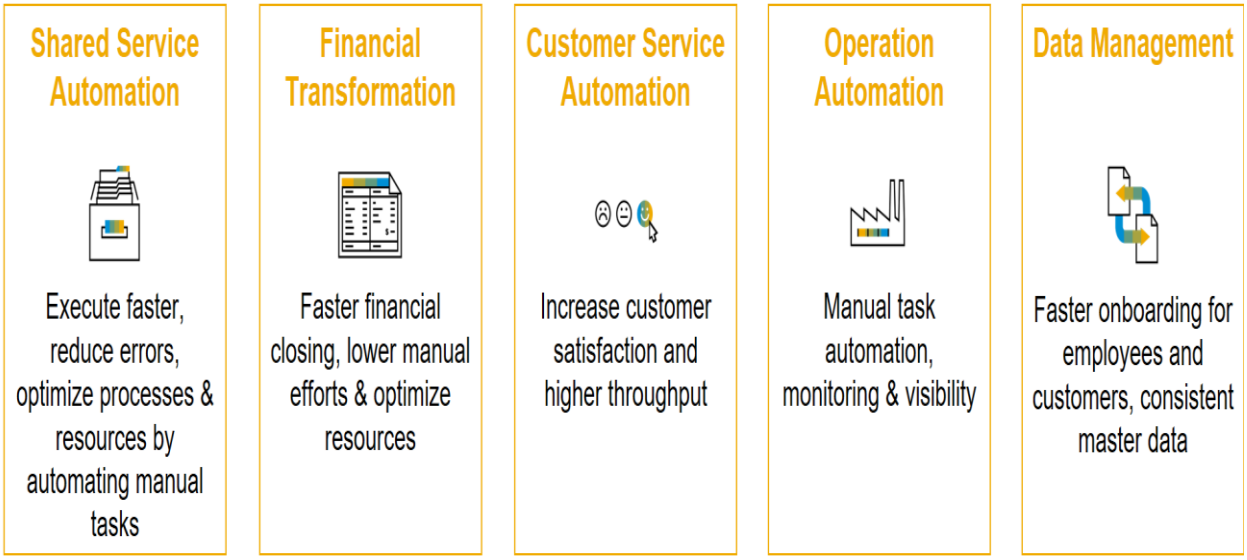

Figure 8 illustrates the reasons why these departments should use RPA. It can execute faster with reduced errors, optimize processes and resources by automating manual tasks. It can also make the financial closing faster and increase customer satisfaction. Their operations will be automated and their data management will be faster.

Figure 8: Reasons behind the usage of RPA

4.5 Impacts of RPA (Robotic Process Automation)

Table 2: Impacts of RPA

What RPA Does 	Operational Impacts 	Business Impacts 
Replicate the activities of a human operator or end to end user to automate processes and procedures.	It operates 24/7	Reduce labor related costs
Take advantage of the present user interfere (UI)) to gather, manage, and enter information. Use commands such as clicking on a file to open it in a graphical user interface (GUI) or using a terminal emulator.	Perform precisely in accordance with the guidelines and procedures given.	Reduce time (processing/throughput)
Carry out simple operations in accordance with pre-established business rules that users have selected beforehand.	Doesn't need physical workspace.	Make use of the current user interface (UI) to lessen the effect on the current systems.
Automate repetitive processes that need to be done	Highly scalability allows for the effective handling of peak	Improve operational quality by strengthening governance

repeatedly in big quantifies so that people can focus on more intricate or valuable jobs.	periods or large volumes without sacrificing error-free operations or the possibility of inadvertent or deliberate error.	and control
	Provide through operating records in order to meet auditing and traceability requirements.	Boost your capacity to react fast to changes in the marketplace and other demands on your firm.
	Utilize the current user interface (UI) to lessen the impact on the systems that are in place.	

4.6 One Unified Cloud Solution Including On-premise Automation Tools

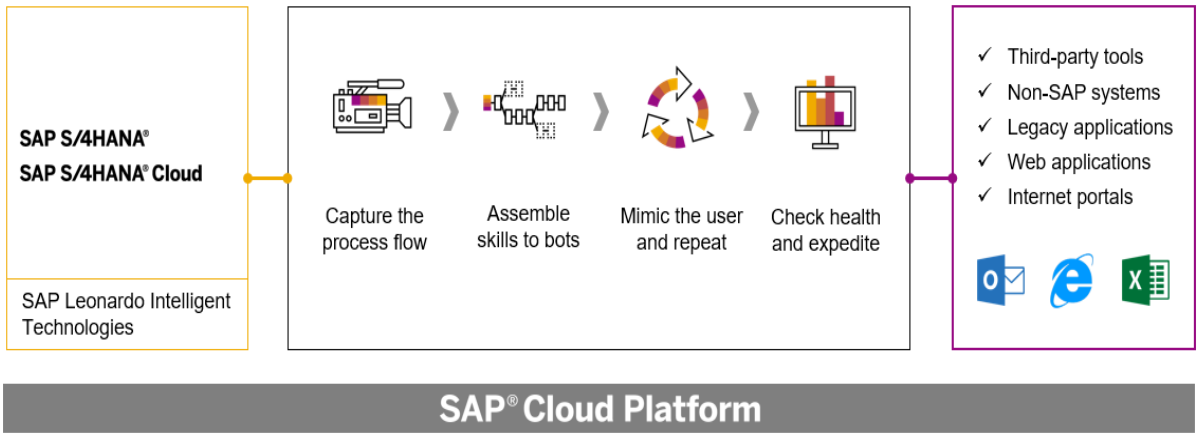

Figure 9: Example of One Unified Cloud Solution

The figure above is an example of cloud solution which includes on premise automation tools. First, it captures the flow of the process. Then it assembles those skills to bots. The automation then mimics the user and repeat it. Lastly, it checks health and expedite. They use third party tools, non-SAP systems, legacy applications, web applications and internet portals.

4.7 SAP's vision of transformation in finance: supporting growth and forward-looking insight

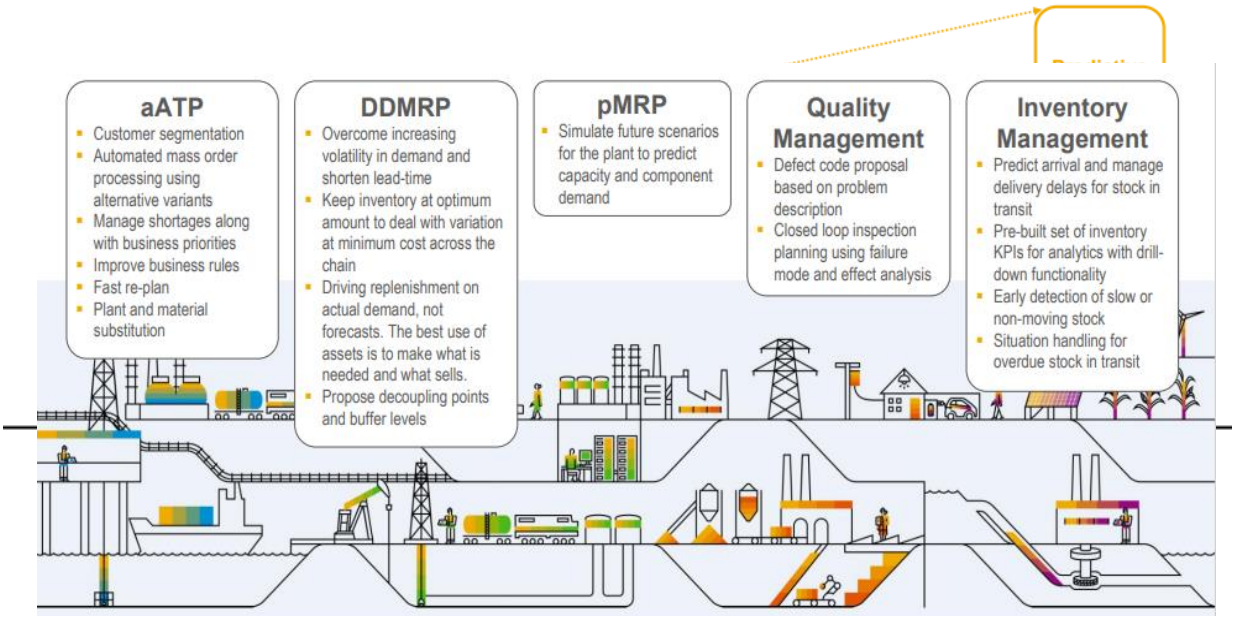

Figure 10: SAP's Vision of transformation in Finance

Figure 11: Manufacturing & Supply Chain Innovations in SAP S/4HANA

4.8 Innovations in SAP S/4HANA Manufacturing and Supply Chain

4.9 SAP Best Practices for Intelligent RPA integration with SAP S/4HANA outlook 2020

Manufacturing and Supply Chain Scope

- ✓ Post-Goods Issue (PGI) Automation for Outbound Delivery
- ✓ Producing Inbound Shipments Using Delivery Notes
- ✓ Intelligent Picking for Outbound Deliveries Using Warehouse Management

- ✓ Finishing the Movement of Goods
- ✓ Making Process Orders Out of Planned Orders
- ✓ Quality Control: Producing Inspection Reports for Received Items

Professional Services Scope

- ✓ Adapt the Activities List according to the Employee Status
- ✓ Directly use the Project Management Solution's Bot(s) to Complete Routine Tasks
- ✓ Automatically Reschedule Tasks for Services Based on Projects
- ✓ Create project manager work lists automatically depending on project exceptions, like changes to the budget or schedule.

4.10 Hierarchical / Functional View of IRPA

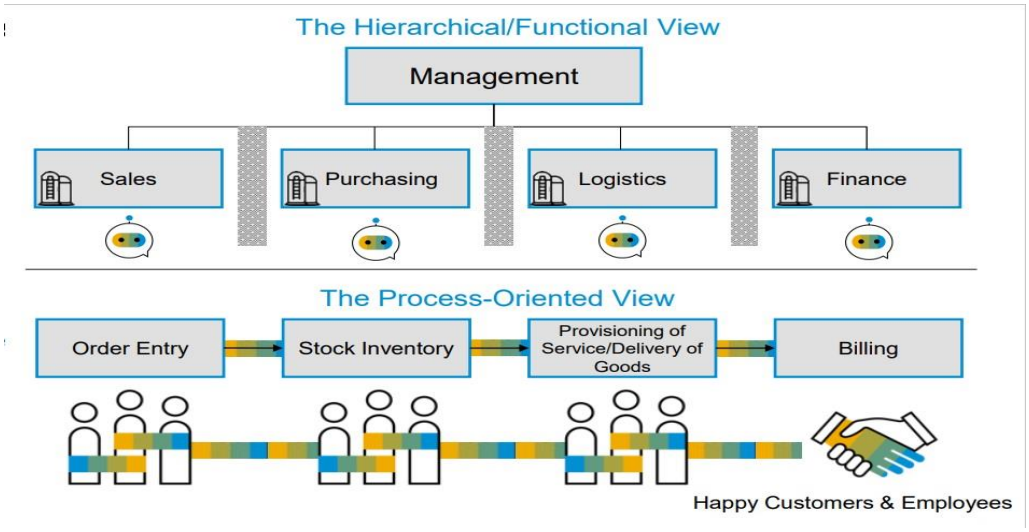

Figure 12: Hierarchical View of RPA

4.11 Some Core Functions of RPA

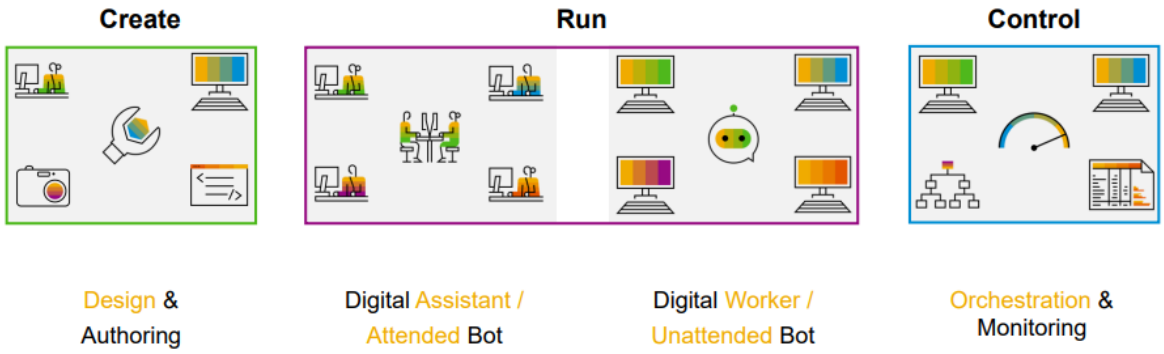

Figure 13: Core Functions

These are the core functions of RPA. At first it creates design and authoring. Next, it runs through digital assistant. It can be done with both attended and unattended bots. At last, it controls the orchestration and monitors the entire process.

4.12 Quality Assurance

It is an assessment of the system's software and ensures that all criteria and standards are met. A level of confidence in providing clients with high-quality items is known as quality assurance. The process that includes additional steps and instruments used by the software analyst to verify that the program fulfills user expectations is known as system or software quality assurance 33 | P a g e. Certain objects have a software management system and analysts that continuously monitor the software implementation process and complete it till the software is developed. Furthermore, the senior management was not able to resolve those issues; instead, the quality assurance department did.

4.13 Maintenance Process of SAP IRPA

To guarantee that the automation solutions continue to operate successfully and efficiently, the SAP RPA (Robotic Process Automation) maintenance procedure usually consists of the following essential steps:

1. **Regular Monitoring:** Pay particular attention to how well RPA bots execute and the tasks they automate. This entails keeping an eye on processing times, error rates, and bot execution records.
2. **Proactive Issue Identification:** Put in place systems to find problems before they affect operations. This may entail configuring warnings for particular error circumstances or performance benchmarks.
3. **Error Handling and Resolution:** Create protocols to deal with issues that arise when executing a bot. This can entail having RPA administrators manually intervene or putting in place automated error recovery systems.
4. **Patch Management:** Keep abreast of any fixes and upgrades that the SAP RPA supplier releases. Apply these patches on a regular basis to guarantee that security flaws are fixed and the newest features are accessible.
5. **Backup and Recovery:** Establish backup protocols to guard against corrupted or lost data. Create recovery plans so that, in the case of an outage, RPA processes and bots may be promptly restored.
6. **Performance Optimization:** RPA procedures should be continuously optimized to increase productivity and decrease resource consumption. This could entail rewriting automation scripts, optimizing workflows, and locating and removing bottlenecks.
7. **Compliance Monitoring:** Make sure that RPA procedures continue to adhere to all applicable laws and corporate guidelines. Review and update automation scripts on a regular basis to account for modifications to compliance specifications.
8. **User Training and Support:** Give RPA administrators and users continual training and assistance. Inform them on new features, troubleshooting methods, and recommended practices for SAP RPA.

9. **Documentation Maintenance:** Keep all RPA process documentation current, including user manuals, automation scripts, and process flow diagrams. RPA administrators can use this documentation as a guide, and it facilitates the onboarding of new team members.
10. **Performance Reporting:** Provide ROI (Return on Investment) and RPA performance reports on a regular basis. Examine these reports to find areas that could use more optimization and convince stakeholders that RPA is worth the effort.

4.14 System Security

To preserve the integrity of automated processes and safeguard sensitive data, SAP RPA (Robotic Process Automation) systems must be kept secure. The following are some crucial elements of SAP RPA system security:

1. **Access Control:** Strict access restrictions should be put in place to restrict who can communicate with the RPA system. To provide permissions according to a user's duties and responsibilities, utilize role-based access controls, or RBAC. Make sure user access rights are updated and reviewed on a regular basis to make sure they meet organizational needs.
2. **Authentication and Authorization:** impose strict authentication requirements on users gaining access to the RPA system, such as multi-factor authentication (MFA). Furthermore, implement policies with granular authorization to regulate the actions that users can carry out within the system.
3. **Data Encryption:** Protect data from unwanted access by encrypting it while it's in transit and at rest. Employ encryption techniques to store sensitive data in files or databases, and use encryption protocols like SSL/TLS for data transport.
4. **Audit Logging:** In the RPA environment, enable thorough audit logging to capture all human actions and system events. This covers recording bot executions, configuration modifications, login attempts, and access

requests. Examine audit records on a regular basis for any security events and unusual activity.

5. **Secure Configuration:** When configuring the RPA platform and its related components, abide by security best practices. This entails setting up firewalls and network security controls to limit access to the system, turning off superfluous services, and promptly installing security patches and upgrades.
6. **Secure Development Practices:** Follow safe coding procedures when creating RPA workflows and scripts. When storing sensitive data in automation scripts, use encryption rather than hardcoding sensitive information like credentials. To find and fix vulnerabilities, do code reviews and security testing.
7. **Vendor Security:** Examine the SAP RPA vendor's hosting infrastructure and security measures. Verify that the supplier performs frequent security audits, adheres to industry standards for security, and promptly releases software patches and upgrades.
8. **Incident Response Plan:** In order to successfully address security incidents or breaches involving the RPA system, create and maintain an incident response plan. Establish lines of communication, specify roles and duties, and provide a plan for containing, looking into, and mitigating security events.
9. **Training and Awareness:** To teach RPA administrators and users about security best practices, typical dangers, and how to spot and report suspicious activity, regularly offer training and awareness programs. Promote a culture of security awareness throughout the company.
10. **Continuous Monitoring and Risk Assessment:** Put in place continuous monitoring systems to quickly identify security flaws and threats. To find RPA system flaws and take proactive steps to fix them, do routine risk assessments and security audits.

4.15 Features of SAP IRPA

- ✓ User-friendly
- ✓ Non-disruptive
- ✓ Code-free
- ✓ Security-ensured
- ✓ Interface for making bots
- ✓ Quality assured
- ✓ Cloud or desktop based automation design
- ✓ Cloud based orchestration and monitoring-IT
- ✓ On-premise execution with Desktop Agents-Functions

4.16 SAP S4/HANA'S Unique Formula for Intelligent Finance

- ❖ Assisted User Interface
- ❖ Intelligent Finance Applications
- ❖ Intelligent Technologies
- ❖ Universal Journal
- ❖ Integrated Data Platform

4.17 Functionality

- Attended and unattended mode
- Drag and drop Workflow Designer
- Powerful script editor
- High robotic component reusability
- Complete step-by-step debugger
- On-premise and cloud component
- Design, configure, orchestrate, run, monitor, debug in one solution

4.18 Business Value of SAP Intelligent RPA

- Improves operations
- Reduces cycle times
- Increases service quality
- Increase compliance
- Gateway to artificial intelligence

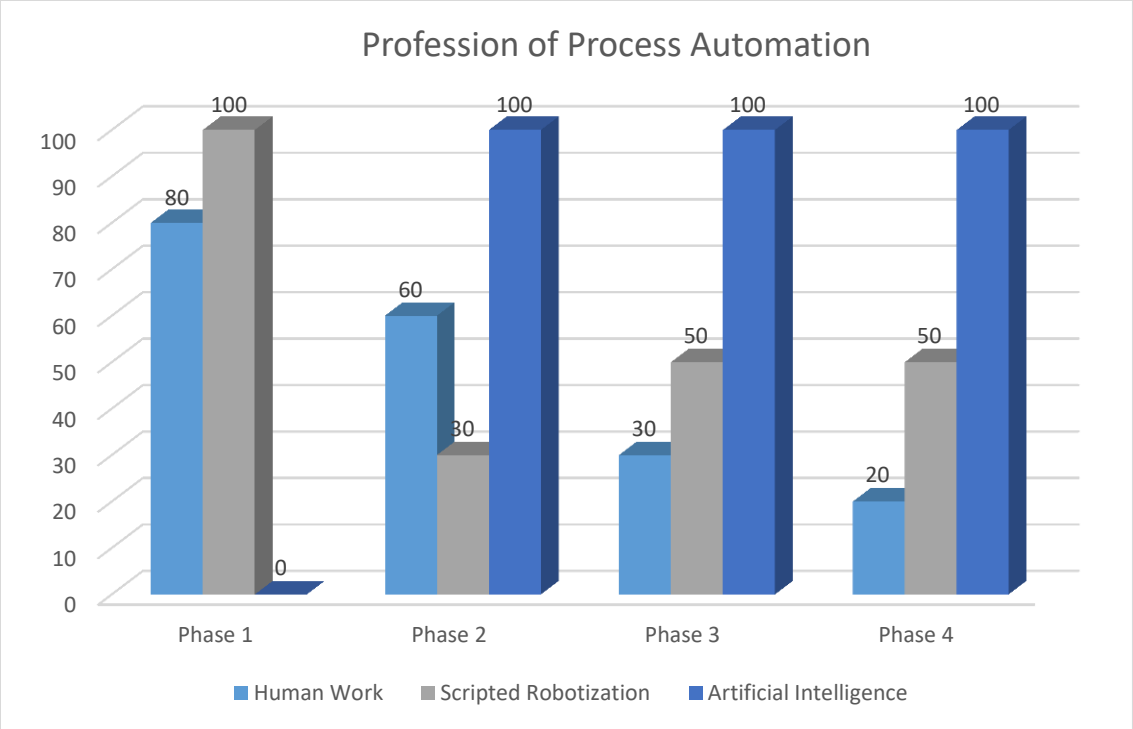

Figure 14: Profession of Process Automation

The chart above illustrates the profession of process automation in different phases. We can see that it involves human work, scripted robotization and artificial intelligence. It is observed that with every phase the amount of artificial intelligence kept on increasing with decrease in human work and scripted robotization.

Chapter Five

Learning Experience

5.1 Learning

During my internship, I have gained enough knowledge about the ERP software. This was a whole new experience for me and I have enjoyed every bit of it wholeheartedly. My knowledge from the courses I have done during my academic years, have helped me to cope up and understand many terms in the IT department. I came to know how using this software can make the work of various departments easy, less time consuming, less errors and how the efficiency can be increased.

I worked with the SAP team in IT department. My team members were extremely helpful and tried their level best to give me knowledge about any help I required. I have presented in front of the CIO and the finance team about this RPA implementation. This helped me to gather courage and be confident about my ability.

Working on this project helped me to improve my skills in documentation. I learned how to write important information about certain topics. I also learned about writing meeting minutes.

5.2 Interactions with Supervisors and Co- workers

I created a culture of open communication and cooperation by cultivating strong bonds with my coworkers and supervisors over my tenure in the position.

I made sure that there was constant communication between myself and my supervisors by keeping them informed about my progress on a regular basis and asking for help when I needed it. My willingness to adapt and learn was evident in my constant search for fresh information from a variety of sources.

I placed a high value on cooperation when I worked with my coworkers, actively participating in conversations and offering my ideas while also respecting and valuing their viewpoints and efforts.

5.3 Challenges Faced and How They Were Dealt

Working on an ERP software was absolutely very new for me. Thus, I faced multiple difficulties in understanding many terms. Hence, I sook help from my supervisor and co-workers whenever I had any such difficulties. They explained me everything in detail and helped me to go forward with the tasks I was assigned. I did not hesitate in asking for assistance multiple times to my supervisor and co-workers. I gained knowledge about this software from various online resources. I got many deadlines to finish the tasks. This helped me to prioritize work and meet the deadlines. I leaned work life balance and time management through this.

5.4 Expectations vs. Experience

My internship experience exceeded my expectations and gave me insightful and worthwhile possibilities. The atmosphere and work environment at Berger exceeded my expectations because everyone was very open and available, which made the transition easier for me.

Furthermore, the practical experience I acquired turned out to be quite beneficial for my advancement in my career. Taking part in actual project was unanticipated experiences that shaped my development a lot.

5.5 Observed Attitudes and Gained Values

Throughout my training, I learned attitudes and ideas that are essential for using one's knowledge and skills to leverage one's professional advancement in any organization. I discovered at Berger Paints Bangladesh that keeping a composed and friendly manner with coworkers promotes pleasant interactions and helps to create a healthy work atmosphere. Furthermore, I discovered that hard work and integrity can lead to a successful job in addition to a positive reputation.

Chapter Six

Findings, Recommendations and Conclusion

6.1 Findings

The main goal of the internship project was to use SAP systems to build robotic process automation, or RPA. By simulating human interactions with digital systems, RPA automates repetitive processes. When used with SAP, this technology can increase productivity and decrease manual error.

It is possible to integrate RPA with SAP systems, and doing so has a lot of potential to streamline processes and minimize manual labor. It identified a number of SAP operations that may be automated, including data entry, invoice processing, and report preparation. These procedures were excellent candidates for robotic process automation (RPA) due to their high degree of repetition and manual intervention. The highlighted procedures were efficiently automated by the installed bots, cutting down on processing time and error rates. Nevertheless, irregular problems were also observed, such as bot performance being negatively impacted by system changes, highlighting the significance of routine maintenance and updates. After implementing RPA, end users reported less workload and more productivity. They valued that bot-driven procedures were accurate and reliable, freeing up time for more strategic work. Even though there were upfront implementation expenses, the long-term advantages of RPA integration with SAP systems—such as reduced errors, more productivity, and time savings—should yield a positive return on investment.

6.2 Recommendations

In this report, the best efforts has been put so that this report finishes properly with correct information. The knowledge gathered from academic courses have also been put here to make the report perfectly done. Almost every organization uses software to run. They input customer data and every other important information through software which makes their work easier. For SAP some recommendations are stated below:

- Review SAP system operations on a regular basis to find new areas that could be automated. RPA adoption may become advantageous for new jobs or workflows as business needs change.

- While implementing RPA, keep lines of communication open with all relevant parties, such as management, IT teams, and end users. Their opinions and thoughts are very helpful in improving automation techniques and making sure they are in line with company goals.
- Scalability should be considered while designing RPA solutions to allow for future expansion and modifications in company needs. Make sure the RPA platform you choose can grow with your needs in order to accommodate more automation projects and heavier workloads.
- To effectively manage RPA installations, establish and put into place strong governance policies and procedures. Roles and duties must be clearly defined, access controls must be put in place, and regulatory obligations and data security standards must be strictly followed.
- To ensure a seamless adoption process, offer thorough training and support to end users affected by RPA installation. In order to overcome any resistance to automation and promote an innovative and collaborative culture, it is also recommended to use change management strategies.
- Put in place reliable monitoring systems to keep tabs on RPA bot performance and pinpoint areas in need of improvement. Review key performance indicators (KPIs) frequently to measure the success of RPA deployment and promote ongoing development. Examples of KPIs include processing time, error rates, and cost savings.
- Examine possibilities for creating end-to-end automation processes with RPA by integrating it with enterprise platforms other than SAP. This could involve integrating with third-party apps, ERP platforms, or CRM systems to improve overall productivity and optimize cross-functional procedures.
- To guarantee seamless integration with current infrastructure and adherence to IT norms and standards, encourage cooperation between RPA developers and IT teams. Utilize IT know-how to solve technical issues and enhance the dependability and performance of RPA deployments.

Sustain thorough records of RPA configurations, procedures, and best practices to promote continuity and information exchange. Keep track of accomplishments and

lessons learned to gain insightful information and encourage a culture of knowledge sharing inside the company.

6.3 Conclusion

The goal of the internship project was to eliminate manual labor, improve productivity, and streamline processes by adopting Robotic Process Automation (RPA) in the finance and supply chain departments. By using a thorough process of assessment, development, and deployment, the project effectively illustrated how RPA can change important internal procedures in these departments.

RPA automation was used in the Finance department to handle repetitive processes like financial reporting, invoice processing, and reconciliation. The organization experienced significant time savings, increased accuracy, and improved regulatory compliance by automating certain procedures. Finance professionals were able to refocus their attention from manual data input to more strategic tasks with the help of RPA bots, which increased overall productivity and improved financial decision-making.

RPA automation also helped the Supply Chain division by addressing issues with supplier communication, inventory control, and order processing. RPA bot deployment shortened lead times, expedited order fulfillment procedures, and enabled real-time data interchange across systems. Improved inventory accuracy, higher order fulfillment rates, and higher customer happiness were the outcomes for the company.

The internship project also demonstrated how crucial it is for business stakeholders, IT teams, and RPA developers to work together throughout the implementation process. The project effectively solved technical obstacles, guaranteed compliance with IT policies, and supported the seamless implementation of RPA technologies by promoting open communication and alignment of objectives.

To fully realize the promise of RPA in financial and supply chain processes, more investment in RPA technology, continuous process optimization, and investigation of advanced automation capabilities are required. Organizations may position themselves for sustained development,

operational excellence, and competitive advantage in an increasingly dynamic business environment by embracing RPA as a strategic enabler of digital transformation.

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Appendix: 1(Joining Letter)

BERGER Trusted Worldwide
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PRIVATE & CONFIDENTIAL

October 10, 2023.

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House-3, Mirpur, Dhaka-1216.

Email : tithisnigdha4@gmail.com
Contact No : +8801621297707

Subject: Internship

Dear Snigdha Parvin Tithi,
We are pleased to offer you an Internship at Berger Paints Bangladesh under the following terms and conditions:

1	**Duration**	This program will be for a period of 3 months i.e. from October 15, 2023 – January 14, 2024.
2	**Department & Location**	You will be assigned to the IT Department, Corporate Office, Berger Paints Bangladesh Limited; House-08, Road-02, Sector-03, Uttara, Dhaka
3	**Supervisor**	Md Razibur Rahman- Head ERP Administration
4	**Allowance**	During this period, you will receive an allowance of BDT 7,000/- per month.

We expect your sincere effort for the successful completion of this assignment.

With regards

Mushfequr Rahman
Chief HR Admin & HSE Officer