Faculty of Science and Engineering

DEPARTMENT OF COMPUTING

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FINAL INTERNSHIP REPORT

Student Name	Gino Sunny	Company Name	IBS Software
Student Id	47814403	**Supervisor Name**	Mithun Mohan
Course	Master of Information Systems Management	**Submitted on**	01/11/2024

Acknowledgement

I would like to express my deepest gratitude to all those who contributed to the successful completion of my 13-week internship and this report.

First and foremost, I would like to thank IBS Software for providing me with the opportunity to intern at their esteemed organization. My heartfelt thanks go to my supervisor, Mithun Mohan, whose guidance, support, and valuable insights were instrumental in shaping my experience. His encouragement and mentorship allowed me to gain practical knowledge and skills that will be invaluable in my future career.

I am also grateful to my project manager, Rinu Raj, and the entire GET team, who welcomed me into the department and helped whenever needed. Their collaboration and willingness to share their knowledge greatly enhanced my learning experience.

Special thanks to my academic supervisor, Professor Amin Beheshti, for his continuous support and assistance throughout the internship period.

Finally, I would like to thank my family and friends for their constant encouragement and understanding during this time. Their continuous support kept me motivated throughout this journey.

Thank you all for making this experience enriching and rewarding.

Executive Summary

This report provides a comprehensive overview of a 13-week internship at IBS Software, as a Business Analyst Intern, within the Growth Enablement Team, specifically related to the Loyalty division. The report is structured to cover the organizational background, internship tasks, reflective experiences, critical analysis of both the internship and IBS Software, and recommendations for organizational improvement.

- **Organization Overview:** IBS Software, established in 1997 and headquartered in Kerala, India, is a global leader in SaaS solutions for the aviation, hospitality, and logistics industries. The company has a strong market presence, with offices worldwide and a diverse client base, including major airlines, hotels, and energy companies.

- **Internship Plan:** The internship spanned from July to November 2024, with a focus on gathering business requirements, analyzing processes, and providing solution documentation for a partner invoicing module within the loyalty management system.

- **Training Program and Tasks:** The report outlines the structured training provided by IBS Software, which included hands-on tasks like gathering requirements, documenting functional processes, and collaborating with product consultants and technical teams.

- **Reflective Journal Entries:** A detailed reflective journal captures week-by-week progress, challenges, and learnings. These entries provide insights into onboarding, team collaborations, stakeholder engagements, and task execution, emphasizing the importance of adaptability, communication, and stakeholder management.

- **Critical Analysis of Internship:** The internship offered valuable insights into business analysis, system functionality, and project management. It allowed me to apply academic

knowledge to real-world challenges, particularly in process improvement, requirements documentation, and collaborative teamwork in a dynamic Agile environment.

- **Critical Analysis of IBS Software:** The company's strengths, such as its innovative solutions, global presence, and strong client base, were acknowledged. However, weaknesses like niche market dependence and documentation gaps were noted. Opportunities for market expansion, along with threats from competition and cybersecurity risks, were discussed.

- **SWOT Analysis:** The SWOT analysis identified IBS Software's strengths in domain expertise and global reach, but also highlighted the need for improved scalability, stronger brand recognition, and greater resilience to economic fluctuations.

- **Conclusion and Recommendations:** The report concludes by recognizing IBS Software as a market leader but suggests improvements in documentation practices, enhanced cybersecurity measures, and adopting scalable Agile methodologies to ensure sustained growth and efficiency.

Table of Contents

1. Overview of the Organization

1.1. Brief History of IBS Software

IBS Software Private Limited, headquartered in Technopark, Kerala, is a leading Indian company specializing in the development of software products for the travel and logistics sector, with a strong focus on the aviation and oil and gas. The company was founded in 1997 and quickly expanded its operations, starting in Europe that same year (Wikipedia-Autoren, 2023). By 2000, IBS had achieved EN ISO 9001 certification and began its business activities in the USA. Two years later, the company was recognized by KPMG as a CMMI Level 5 company, a testament to its commitment to quality and process improvement. The expansion continued with the opening of an office in Tokyo in 2006. Celebrating its 25th anniversary in 2022, IBS had grown into a multinational corporation with nearly 4000 employees from 30 nationalities, operating across 10 global locations.

The company's software products power mission-critical operations for some of the world's leading airlines, busiest airports, major cruise lines, top travel distributors, hotels, and oil & gas companies. IBS's client base includes 10 of the 20 largest airlines, 4 of the 5 major oil companies, over 80 of the biggest hotel chains, and 30 leading travel suppliers (IBS Software, 2022). Over the past two decades, IBS has acquired six overseas companies, enhancing its product offerings, managerial capabilities, and industry expertise (Travel Technology Transformed, 2024). The company has invested over 7,000 person-years in developing intellectual property, securing rights to 17 large software products that cater to key business domains such as airline passenger services, cargo operations, flight and crew management, loyalty and customer relationship management, airport operations, and aircraft maintenance engineering (Travel Technology Transformed, 2024).

1.2. Introduction of the organization

IBS Software is a leading SaaS solutions provider to the travel industry globally, managing mission-critical operations for customers in the aviation, tour & cruise, hospitality, and energy resources industries (Airline, IT & Aviation Software Solutions, 2024). IBS Software's solutions for the aviation industry cover fleet & crew operations, aircraft maintenance, passenger services, loyalty programs, staff travel and air cargo management (Airline, IT & Aviation Software Solutions, 2024). Across the hospitality sector, IBS Software offers a cloud-native, unified platform for hotels and travel sellers, including central reservation, property management, revenue management, call center, booking engine, loyalty and distribution (Airline, IT & Aviation Software Solutions, 2024).

1.3. Policy of the organization

As a Business Analyst intern, during my internship, I'm involved in gathering and analyzing business requirements, which includes accessing sensitive data related to the company's operations, customer information, and proprietary processes. The Data Privacy Policy of OBS Software ensures that this information is handled responsibly, protecting it from unauthorized access or breaches. Below are the details of the policy.

- **Scope of the Policy:**

1. All individuals provide Personal Data to IBS, including employees, contractors, interns, customers, and business partners.

2. All locations where IBS operates and collects Personal Data.

3. All methods used by IBS for collecting, storing, and processing Personal Data.

- **Privacy Policy Objectives:**

IBS Software is committed to complying with all applicable data protection laws. This Data Privacy Policy applies to all IBS group companies, including IBS Software Private Limited and its subsidiaries. As an intern, I am required to handle Personal & Customer Data with care, ensuring its security and confidentiality in accordance with relevant laws and regulations.

1. Establish a framework aligned with Generally Accepted Privacy Principles (GAPP) and applicable laws, including GDPR, to ensure the privacy and protection of Personal Data.
2. Integrate with IBS's Information Security Policy to prevent and manage risks related to Personal Data breaches.
3. Monitor and adapt to changes in how IBS processes Personal Data.

1.4. Competitors

IBS Software faces significant competition from several key players in the travel and aviation technology sector (IBS Software Services - 147 Competitors and alternatives in Aug 2024 - Tracxn, no date). Leading competitors include Amadeus, a prominent SaaS provider specializing in travel management solutions, and Comply365, a cloud-based enterprise content management platform. Other notable competitors include SITA, which offers ERP solutions tailored for the aviation industry, and Portside, known for its aircraft management systems. Additionally, Sabre Corporation, headquartered in Southlake, Texas, is a major travel technology company that poses considerable competition.

In the airline loyalty management solutions space, IBS Software also contends with several specialized companies. Comarch Pvt Ltd and Loyalty Partner Solutions Ltd are two notable competitors that challenge IBS Software's position within this niche market. These companies,

along with other competitors in the various business lines IBS operates in, contribute to a highly competitive environment in the travel technology sector (IBS Software Services - 147 Competitors and alternatives in Aug 2024 - Tracxn, no date).

2. Organizational Structure

2.1. Organizational Hierarchy Chart

The company is led by key figures including the Founder and Executive Chairman, V.K. Mathews, and CEO Somit Goyal and a global leadership team as shown in Figure 1.
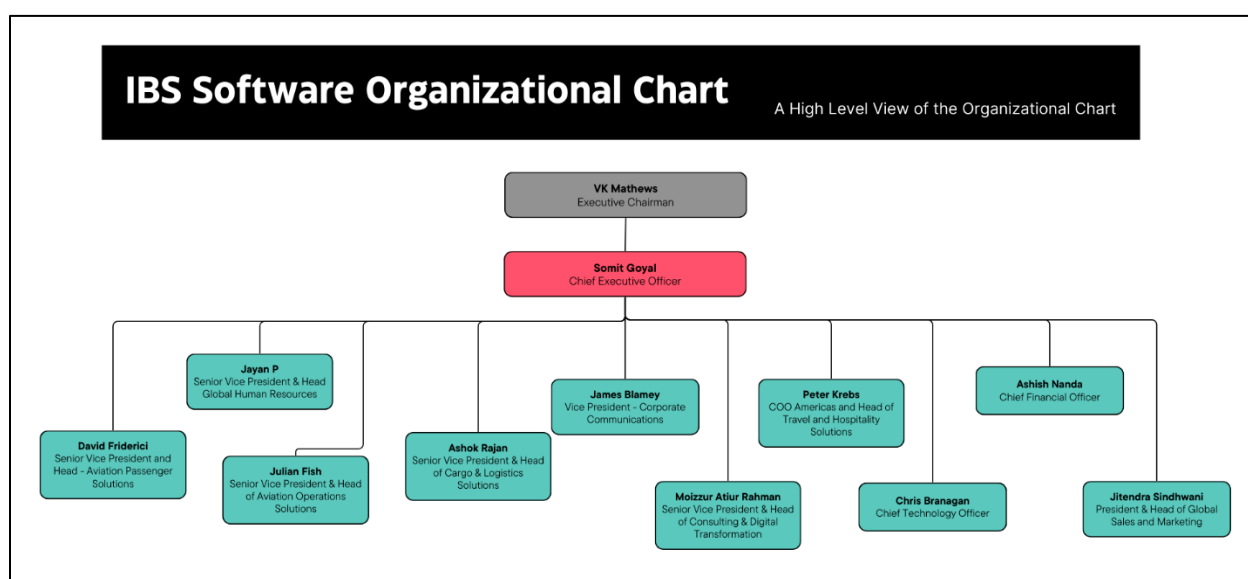

Figure 1: IBS Software High-Level Organizational Chart (Leadership Team, 2024).

2.2. Number of Employees

IBS Software employs around 4000 people globally. The workforce is diverse, with employees spread across multiple locations, contributing to the company's operations in various sectors including aviation, travel, hospitality, and logistics.

2.3. Main Offices

IBS Software operates from 16 offices worldwide. Their main headquarters is in Trivandrum, India, and they have a significant presence in key global markets, including the United States, Europe, the Middle East, and the Asia-Pacific region.

2.4. Introduction of All Departments

IBS Software operates across several departments, each catering to specific needs and they are:

1. **Global Sales & Marketing:** Drives revenue growth and expands IBS Software's market presence globally.

2. **Cargo & Logistics Solutions:** Optimizes cargo operations for airlines and logistics companies to enhance efficiency.

3. **Aviation Operations Solutions:** Manages flight and crew operations with a focus on cost-effectiveness and safety.

4. **Aviation Passenger Solutions:** Enhances passenger services, loyalty programs, and staff travel management for airlines.

5. **Travel & Hospitality Solutions:** Streamlines operations for travel agents, hotels, airlines, and cruise lines, improving customer experiences.

6. **Consulting & Digital Transformation:** Guides businesses through digital transformation and modernizes their operations.

7. **Cloud Services:** Provides scalable, reliable cloud-based solutions supporting all IBS platforms.

8. **Energy & Resource Logistics:** Delivers logistics management solutions tailored to the unique needs of the energy sector.

9. **Global Finance Management:** Oversees financial operations, ensuring the company's fiscal health and strategic decision-making.

10. **Corporate Communications:** Manages internal and external communications, shaping IBS Software's brand and reputation.

11. **Airport Management:** Enhances airport operations and retail management, optimizing efficiency and passenger flow.

2.5. Nature of the Organizational Structure

IBS Software's organizational structure appears to be designed for agility and specialization, with a focus on innovation and customer-centric solutions. Their global presence and diversified departmental focus allow them to cater to a wide range of industries, making them a leader in the sectors they serve. The company's structure supports both vertical and horizontal growth, allowing specialized departments to operate semi-independently while still contributing to the overall business strategy (Airline, IT & Aviation Software Solutions, 2024).

3. Internship Plan

The internship is being undertaken with IBS Software's Loyalty division's Growth Enablement Team (GET), based in Sydney. This team plays a pivotal role in advancing the company's strategic initiatives across the Asia-Pacific region, with a specific focus on the development and management of customer loyalty programs for airline clients, including Qantas, Virgin Australia, and others. The internship, which began on July 22, 2024, and is scheduled to conclude on November 1, 2024, is part-time, allowing for a balance between gaining practical industry experience and fulfilling academic obligations.

During the internship, the GET has provided significant insights into the practical aspects of designing, deploying, and optimizing loyalty management systems within the airline sector. The department's structured training has facilitated a deeper understanding of how loyalty programs are implemented and maintained. My prior work experience in the airline industry enabled a faster onboarding process, allowing me to quickly adapt to the team's operations and begin contributing to projects sooner than expected.

4. Training Program

4.1. Overview of the Department

The Growth Enablement Team (GET) at IBS Software plays a crucial role in supporting the company's customers by maintaining and enhancing its software systems, particularly the iLoyal platform, a SaaS solution designed for the airline industry. The GET is responsible for managing ongoing change requests, implementing product upgrades, and providing both production and business user support to authorized customer users. These efforts ensure that the software systems continue to run smoothly and are adapted to meet evolving business needs.

The scope of GET's services is collaboratively determined between the customer and IBS Software, as part of the roadmap initiatives. These initiatives outline key areas where system improvements are necessary, with defined timelines and priorities. By focusing on these strategic objectives, the GET is essential in ensuring that the software remains aligned with the customer's goals. Additionally, the team's ability to address system enhancements and provide real-time user support enables IBS Software to consistently meet its clients' operational and strategic

requirements. This real-time adaptability helps the software stay responsive to business changes, ensuring continued efficiency and performance.

4.2. Key Activities and Responsibilities of the Department

The GET operates with a multi-faceted approach, combining 24x7 helpdesk support with services that include core platform configuration, Level 1.5 loyalty support, and digital & professional services. The iLoyal platform is a key focus for the team, and operations are managed under the guidance of the Engagement Lead, who oversees collaboration between technical and business teams.

1. **Handling Change Requests**: The GET team manages software change requests, evaluating and prioritizing them based on their impact and alignment with the customer's strategic roadmap.

2. **Product Upgrades**: GET is responsible for coordinating, testing, and rolling out software upgrades to ensure system efficiency and scalability in line with the customer's operational demands.

3. **Production and Business User Support**: The team provides daily support to authorized customer users, troubleshooting issues, resolving system problems, and helping users maximize software functionality.

4. **Collaborating on Customer Roadmap Initiatives**: GET works closely with the customer to align software development with business goals by reviewing and prioritizing roadmap initiatives and ensuring timely delivery of necessary modifications.

5. **Monitoring and Reporting**: The team monitors system performance in production environments, identifies areas for optimization, and provides detailed reporting to the customer on system status and improvement opportunities.

4.3. Governance and Reporting Structure

The GET team follows a structured governance model that ensures effective management and continuous improvement of services:

1. **Governance**: Monthly reviews are conducted with broader support and growth leads to ensuring alignment with key objectives. Senior leadership conducts a bi-annual review of the engagement, focusing on the growth initiatives and monitoring key performance metrics of the team.

2. **Reporting**: Monthly reports are generated using dashboards that provide real-time insights into system performance, project status, and adherence to Service Level Agreements. This reporting framework also monitors the progress of continuous improvement initiatives to ensure system enhancements are regularly implemented.

3. **Operations**: A strong focus is placed on building and maintaining a knowledge repository, which includes resolution indexing and searchable FAQs to support customer users efficiently. The GET also delivers continuous training to the business operations teams, aimed at improving product adoption and optimizing usage of the iLoyal platform.

4.4. Detailed Description of the Tasks Assigned

1. **Identify and Analyze Business Requirements:** One of the key responsibilities for the internship is to work closely with key stakeholders from various departments to gather and

analyze detailed business requirements. This involved conducting interviews, workshops, and review sessions to capture the specific needs, challenges, and expectations of the business.

2. **Liaising Between Stakeholders Across Various Teams:** Participation in all project-related meetings with the IBS team is a key responsibility, with a focus on capturing detailed notes and asking relevant questions during discussions. Although there is no direct interaction with the customer, active engagement in internal discussions helps ensure that the team's understanding of project requirements is aligned. Contributions include clarifying project details and addressing any ambiguities that arise during these discussions.

3. **Assessing Options for Process Improvement:** A significant portion of the internship will be involved in evaluating the existing business processes and identifying areas for improvement. Various business process modeling techniques shall be used to map current workflows and assess pain points within the invoicing module.

4. **Maintaining Requirements Documentation:** Assigned with the task of maintaining and updating detailed requirements documentation for the partner invoicing module. This includes functional, processes, operational, and deployment documentation covering all aspects of the partner invoicing module.

5. **Documenting End-to-End Process Flows:** Another key task is creating detailed process documents to illustrate the end-to-end processes of the partner invoicing module capturing all the key steps, decision points, and interactions within the business flow.

6. **Collaborating with Lead Business Analysts, Delivery Managers, and Cross-Functional Teams:** Throughout the internship, it is required to closely work with product consultants, delivery managers, and cross-functional teams to support the design and implementation of the invoicing module.

7. **Solution Documentation and Rollout Support:** Another important task is in preparing documentation for the solution and providing support for the rollout phase. This included assisting in the deployment of the invoicing module of the system and ensuring that the necessary documentation was available to guide users through the new functionalities.

5. Reflective Journal Entries

5.1. Reflective Journal Entry - Week 1

D-Describe: In the first week of my internship at IBS Software, I focused on completing the necessary onboarding tasks. This included submitting AFP clearance forms, drafting and submitting my internship proposal, and initiating the onboarding process. By the end of the week, I had successfully finalized the internship, received AFP clearance, and gotten approval for my internship proposal from PACE.

I-Interpret: The events of this week marked the transition from planning to the beginning of my actual internship. The completion of these administrative tasks was crucial in setting the stage for the work ahead. While the activities were primarily logistical, they were essential for establishing a foundation for the internship. I felt a sense of accomplishment in getting the AFP clearance and approval for my internship proposal, as these were necessary steps to start my journey.

E-Evaluate: The efficiency of the onboarding process was satisfactory, though largely dependent on the timely completion of various formalities. The fact that these tasks were completed without significant delay reflects well on my ability to manage initial administrative responsibilities. However, the lack of challenging technical tasks during this week left me feeling eager for the work to come.

P-Plan: Going forward, I plan to use the momentum from this week to dive into the more detailed aspects of the internship. The upcoming project walkthrough and formal induction will provide an opportunity to align my goals with the expectations of the company. I will also seek to actively engage in any learning opportunities presented, particularly those that allow me to develop new skills and apply my academic knowledge. This week has prepared me for the challenges ahead, making sure that all the prerequisites are completed within the required time.

5.2. Reflective Journal Entry - Week 2

D-Describe: In the second week of my internship at IBS Software, the focus was on completing the onboarding process and gaining an initial understanding of the project. This week, I participated in document verification through a Google Meet session, where all my submitted documents were reviewed. Although the onboarding process is not yet fully completed due to pending HR responses, initial meetings with my supervisor and project manager took place. These discussions provided clarity on the project title and description, which were subsequently updated in my internship proposal.

I-Interpret: This week's activities were more engaging as I began to delve into the specifics of the project. The meetings provided valuable insights into the project's scope, which allowed me to refine my understanding of what is expected of me. Although no new technical skills were developed, the discussions highlighted the importance of clear communication and careful planning in the early stages of a project. I felt more connected to the work as I began to see how my role would contribute to the overall objectives of the GET team.

E-Evaluate: This week's progress, while still preliminary, was significant in setting the stage for the rest of the internship. The initial discussions were particularly rewarding as they provided

much-needed clarity and direction. My ability to ask questions and seek guidance helped me to better understand the project, which is a critical step in ensuring future success. Although the onboarding process is not yet complete, the initial activities were managed efficiently.

P-Plan: Moving forward, I plan to build on the clarity gained this week by actively participating in the upcoming introductory sessions on the loyalty domain, which is crucial to the project. I will continue to follow up on the onboarding process to ensure it is completed. Additionally, I intend to deepen my understanding of the project specifics by asking more detailed questions and seeking further clarification from my supervisor and project manager. This will help me integrate the theoretical concepts from my coursework with the practical demands of the project, ensuring that I can contribute meaningfully to the team.

5.3. Reflective Journal Entry - Week 3

D-Describe: During the third week of my internship at IBS Software, my primary goals were to complete the introductory sessions on the Loyalty domain, establish connections with the project team, and understand the project's current phase and the client's business requirements. I participated in two introductory sessions by the supervisor via Google Meet, where I gained a high-level understanding of the Loyalty domain. I also visited the office to meet the project manager and team members in person and engaged in discussions with Product Owners and Technical Architects. As a result, I gained a preliminary understanding of the project's various phases.

I-Interpret: The introductory sessions provided me with foundational knowledge of the Loyalty domain, focusing on its core pillars: members, the loyalty program, and external partners. Meeting the project manager and team members in person allowed me to establish connections that will be valuable as I continue my work. Engaging with Product Owners and Technical Architects gave

me insight into the project's current phase, although I recognize that further learning is necessary to fully comprehend the domain.

E-Evaluate: This week was effective in terms of building initial knowledge and establishing important relationships within the team. The in-person meetings were particularly rewarding as they facilitated direct communication and deeper engagement with the project. Although the learning was high-level, it set the stage for more detailed understanding in the coming weeks. The collaboration with team members helped me start developing the skills needed for this project, and the experiences were productive.

P-Plan: Next week, I plan to work closely with the Product Owners to deepen my understanding of the project's business objectives and the specifics of the software product. I also intend to conduct further research on the Loyalty domain to enhance my comprehension. Additionally, I will begin collaborating with the Project Manager and Supervisor on the documentation that is due by the end of the internship. This will help ensure that I am well-prepared to contribute effectively to the project.

5.4. Reflective Journal Entry - Week 4

D-Describe: In the fourth week of my internship at IBS Software, I focused on several key goals, including starting the mid-semester internship report, establishing a working relationship with the Product Owner, and initiating the functional documentation for the partner invoicing module. I attended the office on the 13th and 16th of August, where I met with the PO to understand the business needs related to partner invoicing. I reviewed existing process diagrams, project briefings, and requirement sheets, and began drafting the functional documentation. Additionally, I set up

my company email and MS Teams and created a dedicated MS Teams channel to facilitate better communication with the PO, Project Manager, and my supervisor.

I-Interpret: This week was crucial for laying the groundwork for my primary deliverables. The meeting with the PO provided me with a deep understanding of the partner invoicing process, which is essential for creating accurate and effective functional documentation. Establishing communication channels, such as the MS Teams channel, was a key step in ensuring ongoing collaboration and clear communication with the team. The challenges faced in understanding the complex partner invoicing process and drafting the functional documentation emphasized the importance of great attention to detail and effective communication in business analysis.

E-Evaluate: The progress made this week was significant. I successfully established a solid working relationship with the PO and began the critical task of drafting the functional documentation. Although understanding the complex partner invoicing process was challenging, the effort invested in reviewing existing documentation and engaging with stakeholders was rewarding. Setting up communication tools like MS Teams and creating a dedicated channel also enhanced team collaboration, which will be vital as the internship progresses.

P-Plan: Moving forward, I plan to further develop the functional documentation, ensuring it accurately reflects both the business needs and the system's capabilities. I will also assess the feasibility of beginning the next set of deliverables and discuss with my supervisor the possibility of participating in additional project activities, such as requirements discovery sessions. These steps will not only deepen my understanding of the project but also enhance my contributions to the team. Additionally, I will continue working on the mid-semester internship report to ensure it comprehensively captures my experiences and progress.

5.5. Reflective Journal Entry - Week 5

D-Describe: During the fifth week of my internship at IBS Software, my focus was on understanding the foundational business requirements from the first phase of the project, gathering existing system capabilities for the partner invoicing module, and collaborating with stakeholders to document these details accurately. I reviewed old JIRA tickets and Confluence pages to gather historical information, participated in discussions with technical architects and the Product Owner, and attended a knowledge transfer session. These activities aided in the development of the first draft of the functional document, which I submitted to the team for review. Additionally, I engaged in a catch-up meeting with my supervisor to discuss project progress and identify the need for further business sessions. I also held a discussion with an offshore Operations Analyst to explore the manual revalidation process and identify potential areas for automation.

I-Interpret: This week's activities were centered around documentation and understanding the historical context of the project. Despite the challenge of limited documentation from 2020, I managed to piece together crucial information that informed the first draft of the functional document. The knowledge transfer sessions were particularly valuable in deepening my understanding of the system's existing capabilities. Collaborating with various stakeholders, including the PO and technical architects, highlighted the importance of effective communication and the need to seek assistance when necessary. The discussions about potential automation in the revalidation process also provided insights into areas for process improvement.

E-Evaluate: This week was productive in terms of gathering and documenting essential information for the partner invoicing module. Successfully drafting the first version of the functional document was a significant achievement, given the challenges posed by limited

historical data. The collaborative efforts with stakeholders ensured that the documentation was as accurate and comprehensive as possible. However, the process of gathering information from fragmented sources required persistence and adaptability, underscoring the importance of thoroughness in business analysis. The initiation of the review process for the functional document was a critical step towards aligning with stakeholder expectations.

P-Plan: In the coming week, I plan to review the first-level draft of the functional document with feedback from the PO and make necessary revisions. I will also analyze the ongoing requirements discovery phase to identify and document any new requirements. Additionally, I will begin planning for the next set of deliverables, focusing on structuring the content and gathering the necessary information. Finalizing the revised functional document and documenting any new requirements will be key goals for the upcoming week, setting the stage for continued progress on the internship.

5.6. Reflective Journal Entry - Week 6

D-Describe: In the sixth week of my internship at IBS Software, my main goals were to enhance the functional documentation with new insights, gain a deeper understanding of the existing system's functionality, and be part of the discovery phase for the next project phase. I attended several knowledge transfer sessions with the Principal Architect, Product Owner, and Technical Architect to understand the existing system's functionality and behavior. I also participated in the first and second discovery sessions for the next project phase, gathering detailed requirements from stakeholders, including the Commercial Manager, Product Owner, Technical Architect, and SMEs. Additionally, I updated the functional documentation based on the information gathered

and attended a town hall session conducted by management to stay informed about the organization's broader projects and status.

I-Interpret: This week was significant in expanding my understanding of the system's existing functionality and the customer's current processes. The discovery sessions provided valuable insights into the customer's needs and the specific contracts within the loyalty program, which were crucial for refining the functional documentation. Collaborating with stakeholders during these sessions helped me improve my requirements gathering and documentation skills. The town hall session also offered a broader perspective on the organization's strategic direction.

E-Evaluate: The progress made this week was crucial for the ongoing development of the project's functional documentation. The knowledge transfer and discovery sessions were particularly rewarding as they allowed me to gather and integrate complex information into the documentation. These sessions also reinforced the importance of collaboration and clear communication with stakeholders. The insights gained from the town hall session further enriched my understanding of the GET's role within the organization. Overall, this week's activities were highly effective in advancing my understanding and contributing to the internship's progress.

P-Plan: Looking ahead, I plan to facilitate the review of the updated functional documentation with key stakeholders to gather feedback and make necessary revisions. I will also finalize and deliver the mid-semester presentation and accompanying report. Additionally, I will continue participating in ongoing discovery sessions to gather further requirements and insights and begin drafting the second document focused on process documentation. Scheduling a catch-up meeting with my supervisor will help ensure alignment on upcoming tasks and address any questions or concerns.

5.7. Reflective Journal Entry - Week 7

D-Describe: This week's primary goals included completing the mid-term internship report and presentation, gathering insights during the third discovery session, and facilitating communication with stakeholders while adhering to confidentiality requirements. Activities focused on refining the mid-term report, attending discovery session 3 to further understand project requirements, and collaborating with the supervisor to ensure the report met the company's confidentiality standards. Due to the product owner's absence, interactions with key stakeholders were minimal.

I-Interpret: This week deepened the understanding of handling sensitive information professionally, particularly when crafting reports meant for external review. The experience in discovery session 3 provided valuable insights into the project's ongoing requirements, clarifying specific areas of focus for future tasks. Additionally, the opportunity to work remotely while balancing project goals emphasizes the importance of self-discipline and effective communication in remote work environments.

E-Evaluate: Completing a draft of the mid-term report was particularly rewarding, as it balanced both confidentiality and clarity. The discovery session, although conducted in a hybrid format, was productive and insightful, adding to the depth of understanding around project requirements. The experience of working independently and maintaining productivity remotely was beneficial in developing self-management skills, even with limited direct interaction.

P-Plan: Next week, the focus will be on reviewing the functional documentation with stakeholders to ensure accuracy, followed by drafting detailed process documentation. This will involve mapping workflows, identifying efficiencies, and supporting project objectives by creating clear and comprehensive documentation to facilitate alignment and progress on project goals.

5.8. Reflective Journal Entry - Week 8

D-Describe: This week's objectives were centered on finalizing and submitting the functional documentation for review, continuing requirements discovery, and initiating detailed process documentation. Key activities included submitting the functional documentation draft to the Product Owner (PO) and Project Manager (PM), attending another discovery session, and creating the first-level process flow for partner invoicing using SAP Signavio. Additionally, discussions with the PO were conducted to align on solution design aspects.

I-Interpret: Finalizing the functional documentation was a significant step, marking a milestone in collaborative efforts with stakeholders. The creation of the process flow diagram provided clarity on the partner invoicing workflow, an essential component of the project architecture. The week's tasks highlighted the importance of precision in documentation and process mapping for effective solution design, with hands-on experience in SAP Signavio reinforcing these skills.

E-Evaluate: Submitting the functional documentation felt particularly rewarding, showcasing weeks of work and coordination. Additionally, creating a clear and accurate process flow diagram for the partner invoicing process demonstrated growth in process mapping skills, which was both a personal accomplishment and a critical contribution to the project. The discussions on solution design further enriched understanding and brought the project into clearer focus.

P-Plan: Next week will involve reviewing feedback on the functional documentation from the PO and PM, refining the process documentation, and expanding workflow documentation to additional key areas. Continued collaboration with the PO will ensure alignment on solution design, building on the foundational work completed this week.

5.9. Reflective Journal Entry - Week 9

D-Describe: This week's goals included developing a detailed flowchart illustrating the air redemption billing logic, progressing with partner invoicing process documentation, and following up on recorded material from a missed discovery session. Key activities focused on creating a flowchart to support billing specifications, analyzing partner contracts for key payment parameters, and finalizing documentation for Product Owner (PO) and Technical Architect (TA) review. After reviewing the missed discovery session recording, the flowchart and documentation were submitted for feedback and approved by both the PO and TA.

I-Interpret: Working on the air redemption billing flowchart clarified essential billing processes and highlighted the role of consistent logic across partner contracts. Analyzing partner contracts strengthened understanding of common parameters in payment calculation, which is crucial for effective billing. Additionally, using recorded materials from the missed discovery session demonstrated a reliable way to stay aligned with project developments, even when live attendance isn't possible.

E-Evaluate: The completion and approval of the air redemption billing flowchart were particularly rewarding, signifying that the work met accuracy and clarity standards necessary for the specifications document. Developing these flowchart and process mapping skills added valuable expertise in visualizing complex billing logic, enhancing contributions to the team. Efficient handling of time by using recorded material also improved productivity, reflecting adaptability in a fast-paced project environment.

P-Plan: Next week will involve reviewing feedback on the functional documentation, refining process documentation as needed, and continuing discussions with the PO on solution design and

upcoming discovery sessions. The aim is to enhance documentation accuracy and engage further in requirements drafting, contributing meaningfully to solution development.

5.10. Reflective Journal Entry - Week 10

D -Describe: This week's focus was on finalizing the process documentation, addressing feedback from the Product Owner (PO) and Technical Architect (TA), and creating a monthly status report power point presentation. Key activities included revising the process documentation to incorporate stakeholder feedback, adapting to a rescheduled discovery session by reviewing the recorded material, and preparing a presentation to summarize the team's deliverables and tasks for the month. Remote work was also carried out, following the PO's lead.

I-Interpret: Finalizing the process documentation provided a deeper understanding of the team's documentation expectations and the importance of accuracy. The feedback received from the PO and TA was invaluable for refining the document, ensuring it met project needs. Creating the monthly status report presentation strengthened presentation skills, while reviewing recorded sessions proved effective in maintaining project alignment despite scheduling conflicts.

E-Evaluate: The process documentation review process was particularly rewarding, as it highlighted growth in handling detailed documentation and responding effectively to feedback from senior stakeholders. Completing the monthly status report presentation was also satisfying, as it provided an opportunity to clearly communicate the team's achievements and progress over the month.

P-Plan: Next week's focus will be to finalize the process documentation after any last reviews and initiate work on deployment/operational documentation. This will involve outlining the

procedures, configurations, and operational processes essential for the system's deployment and ongoing management, marking a shift toward the next internship deliverable.

5.11. Reflective Journal Entry - Week 11

D-Describe: This week's objectives included continuing work on process documentation, initiating the deployment/operational documentation, and planning for an upcoming high-level presentation. Key activities involved completing approximately 50% of the process documentation, gathering insights from discovery session recordings, and collaborating with the Product Owner (PO) to outline a project overview presentation for the Week 13 regional connect meeting. The initial steps for deployment/operational documentation were also started.

I-Interpret: Progress on the process of documentation reinforced the importance of accuracy and clarity in documentation. Listening to discovery session recordings provided further insights into the financial processes critical for both process and operational documentation. Early planning for the presentation with the PO offered a better understanding of high-level project communication, a skill vital for presenting to stakeholders effectively.

E-Evaluate: Significant progress on the process documentation was especially rewarding, as it marked a key milestone toward completing a primary project deliverable. Developing multitasking skills by balancing work on both the process and deployment documentation was another valuable experience. Collaborating with the PO for the upcoming presentation also provided initial exposure to presenting project overviews to a broader audience.

P-Plan: Next week's goals will focus on completing the remaining 100% of the process documentation, progressing on deployment/operational documentation, and finalizing the

presentation outline with the PO. Additionally, preparation will begin to create the power point slides based on feedback from ongoing discussions with the PO.

5.12. Reflective Journal Entry - Week 12

D-Describe: This week's goals included completing the final drafts of both the process and deployment documentation, reviewing recordings of discussions between the Principal Architect, Technical Architect (TA), and Product Owner (PO) on billing process requirements, and structuring a high-level presentation with the PO. Key activities involved drafting and submitting the process and deployment documentation, analyzing recorded discussions to refine documentation, and collaborating with the PO to outline the presentation for the upcoming Week 13 regional connect meeting. Additionally, arrangements were made for a final catch-up meeting with the supervisor.

I-Interpret: Completing the final-level drafts of both process and deployment documentation marked a substantial milestone in documentation progress. The review of stakeholder discussions helped solidify an understanding of billing and airline logic requirements, which are critical components for both documentation and presentation. The experience of structuring a high-level presentation alongside the PO offered valuable insights into framing complex project elements for diverse audiences and highlighted essential presentation planning skills.

E-Evaluate: Finalizing drafts of the documentation felt particularly rewarding, representing significant strides in documentation accuracy and project contribution. Reviewing recorded stakeholder discussions proved useful for gathering detailed insights, while collaboration with the PO on the presentation plan provided a chance to focus on concise, impactful communication.

These experiences contributed to a sense of readiness for the project status meeting and final evaluations.

P-Plan: Next week's tasks will include finalizing the documentation based on TA and PO feedback, final submission and, completing the presentation deck for the Week 13 regional connect meeting, and attending a final catch-up meeting with the supervisor to review project progress and finalize deliverables before concluding the internship.

5.13. Reflective Journal Entry - Week 13

D-Describe: This week's primary objectives were to finalize and submit the process and deployment documentation, complete the presentation deck for the Week 13 regional connect meeting, and prepare the final internship report and presentation. Activities included incorporating inputs from stakeholders to complete documentation, refining the presentation with feedback from the Product Owner, and conducting a final meeting with the supervisor. Although the project presentation at the Regional Connect meeting was scheduled for Week 13, it was canceled by the host due to unforeseen reasons. The presentation has now been planned for next week, where, if everything proceeds as expected, I will present a high-level overview of the project to team working in Oceania region.

I-Interpret: Completing and finalizing the process and deployment documentation was a critical achievement, representing the culmination of weeks of work and attention to detail. Collaborating with the Product Owner to prepare the presentation deck for a broader audience was an opportunity to practice high-level summarization and align messaging for maximum impact. These experiences deepened my understanding of deployment requirements and enhanced my presentation skills.

E-Evaluate: The completion of all deliverables and positive feedback from the supervisor provided a fulfilling conclusion to the internship. Finalizing complex documentation and preparing an effective presentation highlighted growth in both technical skills and communication. The positive response from the team confirmed the quality of my contributions and provided a strong sense of accomplishment.

P-Plan: Next week, I plan to deliver the project presentation at the rescheduled regional connect meeting. If all goes as planned, I will be able to close the internship with a comprehensive presentation, and conveying wishes to all the team members, PO, PM and supervisor in person.

6. Work Samples

6.1. Internship Deliverables

The core responsibility of the internship involved developing and finalizing three key deliverables for the partner invoicing module: Functional Documentation, Process Documentation, and Deployment Documentation. These documents were created through detailed collaboration with stakeholders, including the Product Owner and Technical Architect, to ensure accurate representation of the business requirements, processes and solution design. The functional documentation captures the end-to-end requirements of the partner invoicing module, outlining both current business processes and their functional specifications. This document served as a foundational guide, translating stakeholder needs into actionable requirements to align the invoicing module with operational objectives. The process documentation further supports the project by providing comprehensive visual representations of the invoicing workflows. Detailed flow diagrams map each step of the invoicing process, clarifying dependencies, decision points,

and interactions within the system. These diagrams facilitate better understanding among team members and stakeholders, ensuring consistency in process execution. Lastly, the deployment documentation details the operational guidelines required for a successful rollout. This document offers step-by-step instructions on deploying the module, addressing potential troubleshooting scenarios, and ensuring that deployment aligns with the organization's standards. Due to data privacy, security, and commercial reasons, only the introductory sections of these documents are included as samples, with screenshots illustrating the structure and approach below from Figure 2 till Figure 10.

Contribution to My Work: Completing these deliverables was central to my role as a Business Analyst intern, focusing on requirements gathering, process mapping, and solution deployment. These documents represent essential contributions to the project's success by ensuring that business needs are thoroughly documented and accessible for future reference.

Learning Outcome: Working on the functional, process, and deployment documentation provided invaluable experience in business analysis, technical writing, and process modeling. This experience also enhanced my ability to communicate effectively across technical and business teams, ensuring clear alignment and understanding throughout the project lifecycle.

ibs**software**

History

Version	Date	Author	Remark
0.1	15-08-2024	Gino Sunny	Draft

References

ibs**software**

Table of Contents

Figure 2: Work sample 1 - Functional Documentation - snippet 1

1. Introduction

In the airline loyalty industry, partner invoicing is vital for accurately managing and reconciling financial transactions between the airline and its partners. This process involves consolidating loyalty program transactions, generating invoices and credit notes, and ensuring compliance with aviation industry standards. Effective partner invoicing ensures that all financial interactions are correctly recorded and communicated, facilitating timely payments and maintaining strong partnerships. This document details the system's capabilities tailored to streamline and optimise the invoicing process within airline loyalty programs.

1.1 Scope

This document details the system capabilities necessary to support the end-to-end process of partner invoicing within the loyalty management system. The scope includes partner-specific workflows for air and non-air partners, integration with external systems, and adherence to industry standards and compliance regulations.

1.2 Purpose

The purpose of this document is to outline the partner invoicing process and the system capabilities of the loyalty management system essential for managing the partner invoicing process.

1.3 Business Needs for Partner Invoicing

In the complex ecosystem of airline loyalty programs, an automated partner invoicing process is essential to ensure seamless financial operations. This section outlines the critical business needs driving the requirement for such system capabilities, highlighting the importance of accurate financial reconciliation, efficient document handling, compliance with partner-specific and regulatory standards, and timely communication. Addressing these needs is crucial for maintaining the financial integrity of the loyalty program and enabling strong, trust-based relationships with partners.

- Accurate Financial Reconciliation and Billing

Need: The loyalty program requires an automated and reliable system to summarise and consolidate transactions at the end of each month. This ensures that all financial dealings with partners (both air and non-air) are accurately captured, billed, and recorded.

Purpose: To maintain financial accuracy and integrity in accounts, reduce errors, and ensure that all revenue or credit due is properly accounted for.

- Efficient Document Generation and Validation

Need: The loyalty program requires a reliable process to generate accurate invoices and credit notes based on summarized transactions and ensure these documents are validated for correctness before approval.

Purpose: To guarantee that all financial documents are accurate and comply with internal controls before being sent out, thereby minimizing disputes or delays.

- Partner-Specific Compliance and Integration

Need: The loyalty program requires a flexible invoicing process that can accommodate different workflows depending on whether the partner is an air or non-air partner. This includes the ability to integrate with industry-specific systems for air partners and generate appropriate file formats for financial posting with non-air partners.

Purpose: To ensure that all partners are billed according to the correct procedures, complying with industry standards and partner agreements. This also includes maintaining compatibility with external systems and adhering to regulatory requirements.

- Timely Communication and Reporting

Need: The loyalty program requires that approved documents be sent to partners promptly, using appropriate methods such as email, specialized channels, or direct posting to financial ledgers, to ensure timely communication and avoid delays.

Purpose: To ensure partners receive accurate billing information on time, which helps in maintaining good partner relationships, ensuring timely payments, and avoiding any late fees or penalties.

- Regulatory Compliance and Financial Reporting

Need: The loyalty program must adhere to industry standards and regulatory requirements to ensure compliance and avoid legal or financial penalties.

Purpose: To comply with industry regulations and standards, thereby avoiding legal or financial penalties, and ensuring that all transactions are transparent and properly recorded for audit purposes.

Figure 3: Work sample 1 - Functional Documentation - snippet 2

Figure 4: Work sample 1 - Functional Documentation - snippet 3

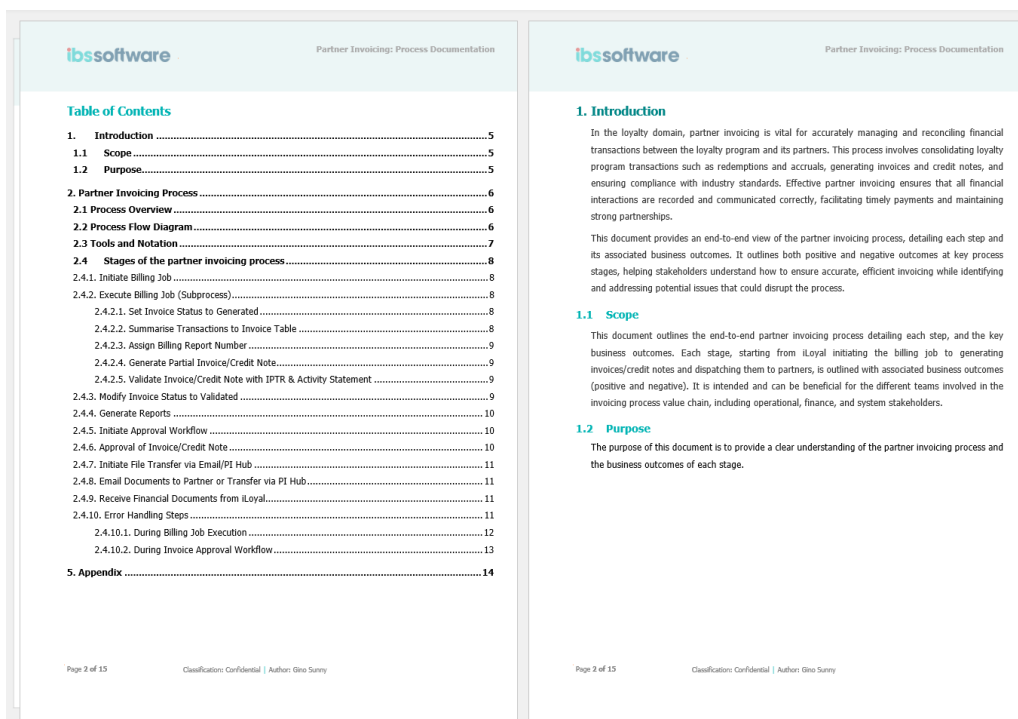Figure 5: Work sample 1 - Process Documentation - snippet 1

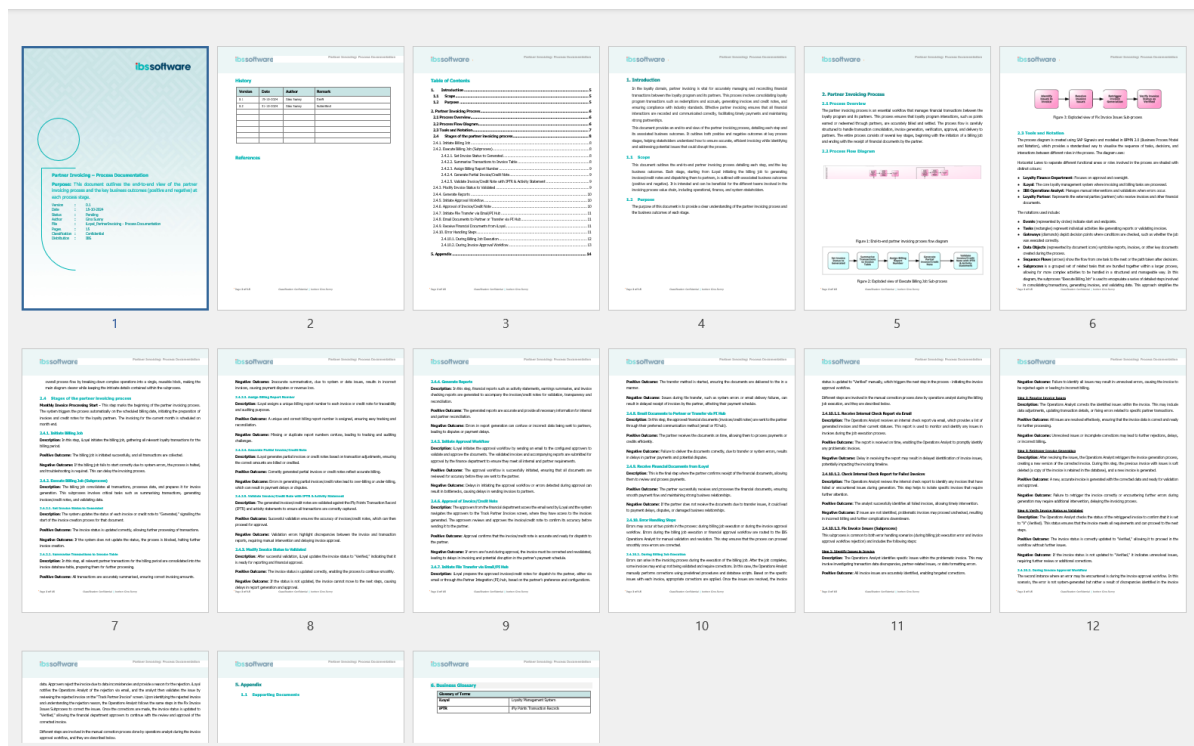Figure 6: Work sample 1 - Process Documentation – snippet - 2

Figure 7: Work sample 1 - Process Documentation -snippet - 3
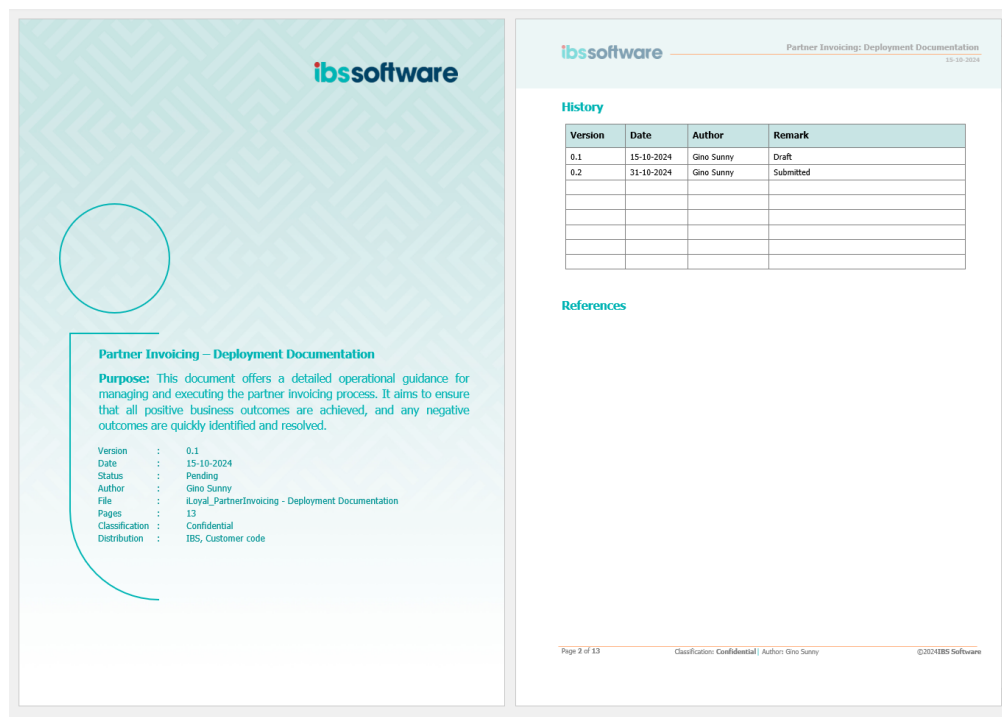
Figure 8: Work sample 1 - Deployment Documentation snippet - 1
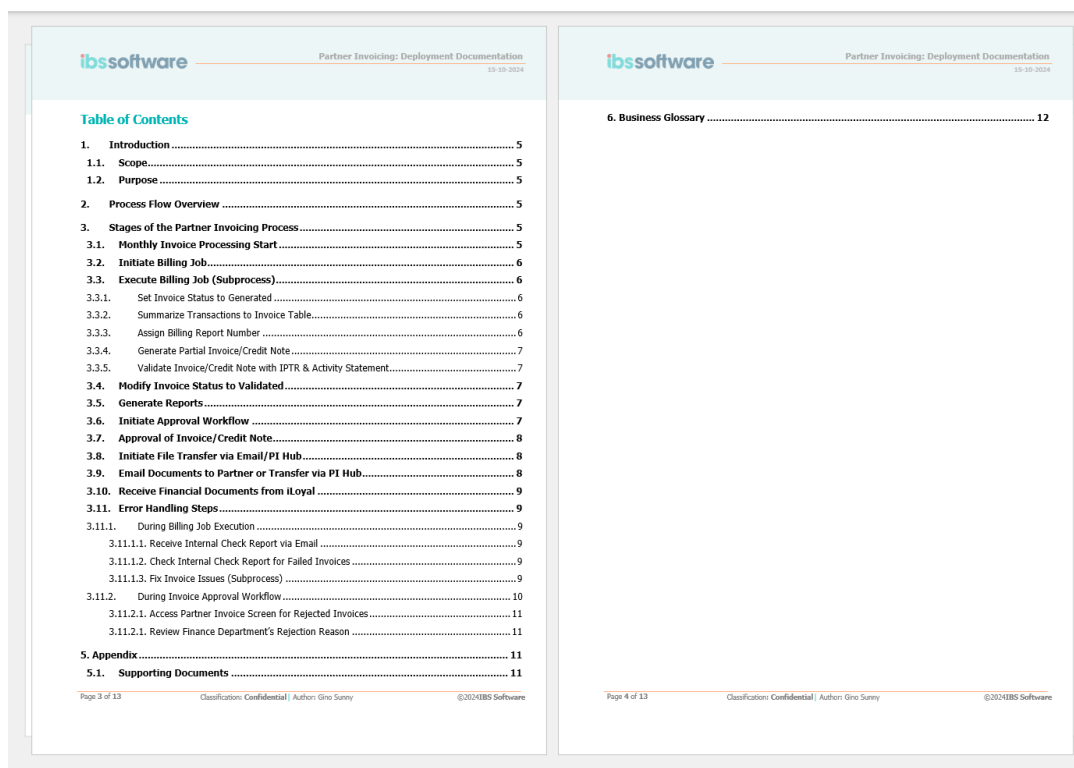
Figure 9: Work sample 1 - Deployment Documentation snippet - 2
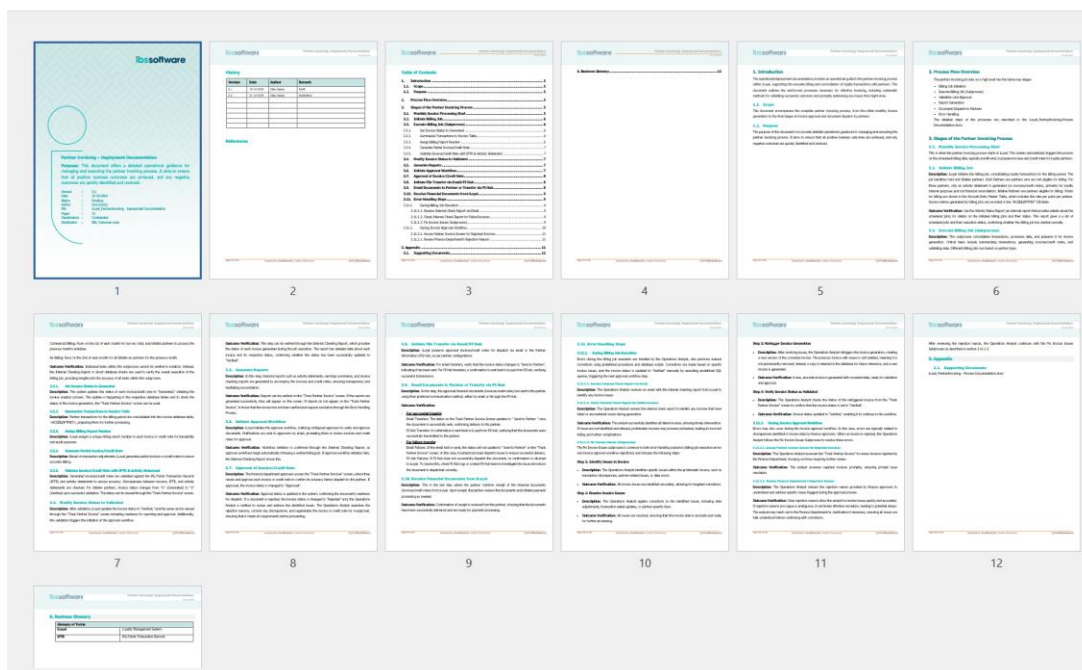
Figure 10: Work sample 1 - Deployment Documentation snippet - 3

6.2. Table Structure Discussion Meeting

Another key work sample from the internship is participation in the Redemption Table Structure Discussion Meeting. This meeting focused on reviewing the existing database structure for the redemption module, a core component of the iLoyal system. In collaboration with the Principal Architect, Technical Architect, and Product Owner, the objective was to explore how the invoicing process for redemption could be integrated into the current system functionality. The insights gained from these discussions directly informed the development of the functional documentation, specifically in understanding the system's current behavior and identifying potential changes needed for the integration.

Contribution to My Work: Participation in this meeting was crucial for gaining the technical understanding needed to accurately document the partner invoicing module. It also demonstrated

the ability to collaborate effectively with cross-functional teams and contribute meaningfully to technical discussions.

Learning Outcome: This meeting helped deepen understanding of database structures and the technical challenges involved in integrating new functionalities. It also provided practical experience in communicating complex technical details to various stakeholders. Due to data privacy, security and commercial reasons, a screenshot of a chat discussion from the meeting (Figure 4) is included instead of the full meeting notes. This sample highlights active engagement in the meeting and its contribution to the documentation process.
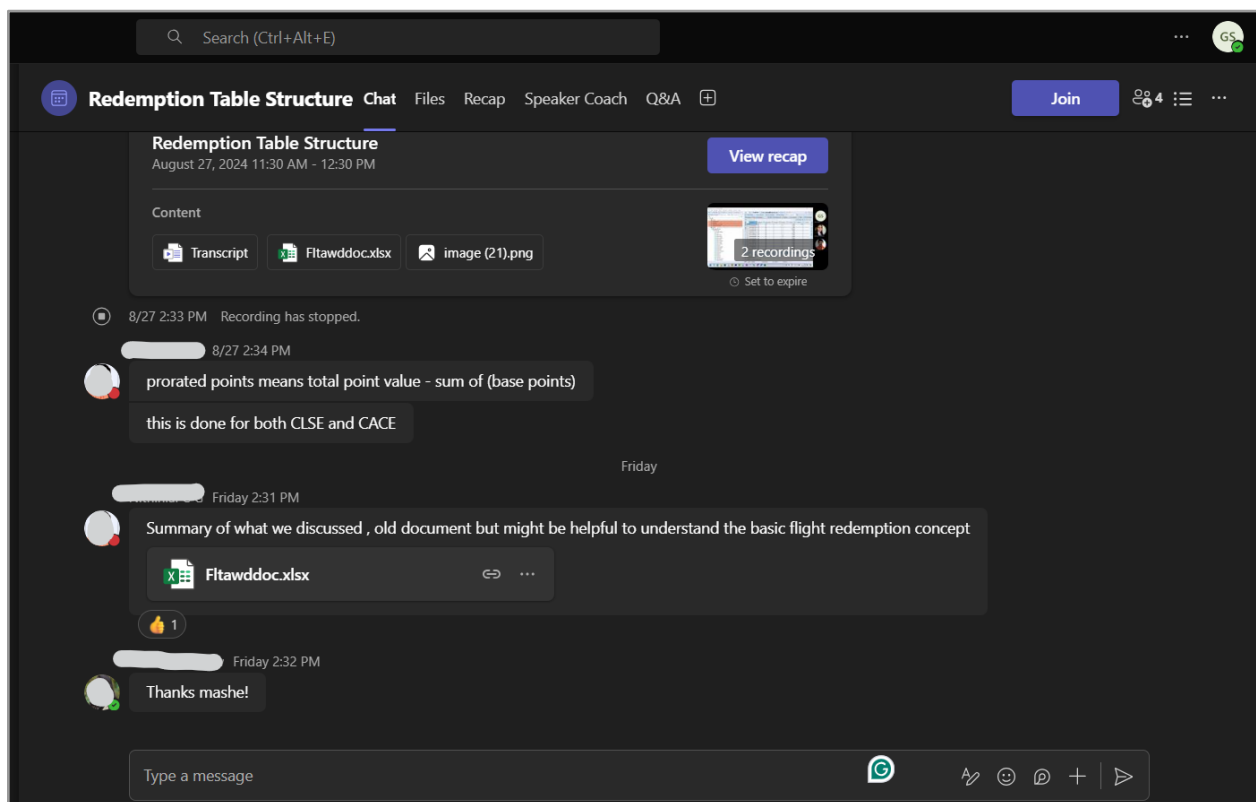

Figure 11: Work sample 2 - Table Structure discussion meeting

6.3. Air Redemption Billing Landscape Diagram

As part of the internship, an additional key deliverable was the creation of the Air Redemption Billing Landscape Diagram, developed at the request of the Technical Architect. This diagram was designed to consolidate and visualize the new requirements captured during the internship period, providing a high-level overview of the air redemption billing process. The Air Redemption Billing Landscape Diagram serves as a strategic tool, capturing the entire billing workflow within a single, accessible diagram. It presents a comprehensive view of the billing requirements, highlighting each component of the air redemption process. Specific details include partner billing parameters, flow of transactions, and the integration points necessary to support seamless billing operations. By mapping these elements visually, the diagram enables stakeholders to better understand the dependencies and interactions within the billing system, helping the team align on both current workflows and areas for enhancement. The development of this diagram involved synthesizing information gathered from multiple discovery sessions, analyzing partner contracts, and incorporating feedback from key stakeholders like the Product Owner and Technical Architect. The process required close attention to detail and a deep understanding of the business requirements to ensure that all relevant aspects of the air redemption billing requirements were accurately reflected.

Contribution to My Work: Creating the Air Redemption Billing Landscape Diagram was an important part of my role, offering a centralized, visual reference for the billing requirements captured during the internship. This diagram not only supported the project's progress but also enhanced team alignment by providing a clear, single-point reference for the billing process, helping stakeholders grasp complex requirements quickly.

Learning Outcome: Developing this landscape diagram honed my skills in requirements visualization and strengthened my understanding of the billing and redemption process. Additionally, it improved my ability to interpret and visually organize complex information, enabling better communication with both technical and business teams.
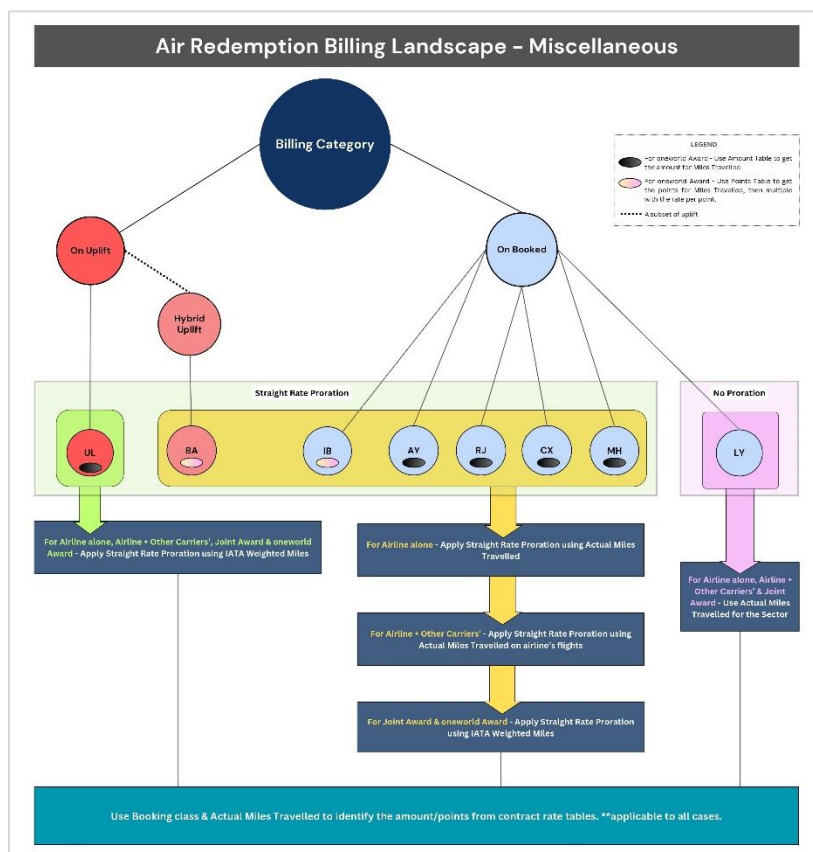
Figure 12: Work sample 3 – Air redemption billing landscape diagram

6.4. Partner Invoicing Process Flow Diagram

Another key component of the internship deliverables was the development of the Partner Invoicing Process Flow Diagram, which was integral to supporting the creation of the Process Documentation. This diagram was essential for capturing the invoicing workflow in a clear, visual format, making it easier for stakeholders to understand the sequence of actions and decision points

involved in the invoicing process. The Partner Invoicing Process Flow Diagram provides a structured view of the invoicing cycle, detailing each step, from initiating a billing request to final reconciliation and closure. It includes the major actions, dependencies, and data points required to complete invoicing tasks, mapping out interactions with internal systems, data flows, and any exceptions in the process. By visually organizing these steps, the diagram aids in quickly identifying bottlenecks, areas for optimization, and potential gaps in the workflow. Creating this process diagram required gathering insights from several discovery sessions, analyzing existing documentation, and collaborating with key stakeholders like the Product Owner and Technical Architect. As a foundational part of the Process Documentation, this diagram ensured that the documented processes were accessible and understandable for all team members and aligned with the overall project requirements. The visualization was particularly beneficial for cross-functional teams, who could use it as a quick reference during discussions and future training.

Contribution to My Work: Developing the Partner Invoicing Process Flow Diagram was a significant aspect of my role, providing a clear, visual summary of the invoicing process. This diagram contributed to the clarity and accessibility of the Process Documentation, allowing stakeholders to more easily interpret and apply the documented processes.

Learning Outcome: Working on this diagram enhanced my skills in process visualization and workflow analysis. It strengthened my ability to break down complex workflows into understandable components, improving communication with both technical and business stakeholders and facilitating the alignment of project goals across teams.
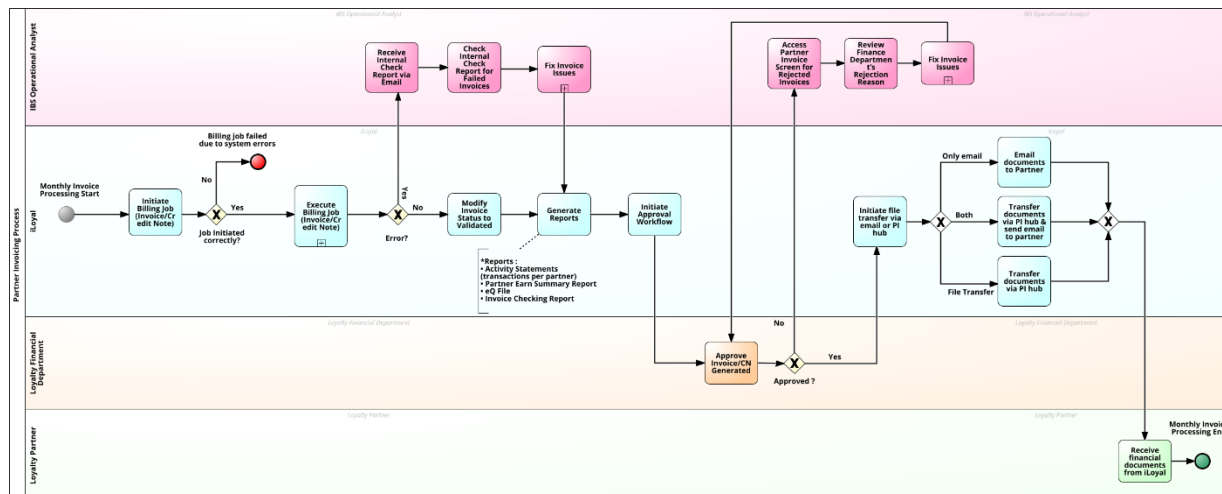
Figure 13: Work sample 4 - Partner invoicing process flow diagram

6.5. Solution Design Meeting

An essential part of the internship experience was participating in the Solution Design Meeting with the Principal Architect, alongside the Product Owner (PO), Technical Architect (TA), and myself. The primary purpose of this meeting was to present and discuss the requirements captured by customer stakeholders, assessing their feasibility and exploring pathways for implementation within the system. This collaborative environment was instrumental in aligning how the invoicing requirements would be integrated into the platform. During this meeting, the Principal Architect reviewed each requirement, asking targeted questions to gain clarity and depth on the intended functionality. This inquiry-driven approach allowed us to verify the feasibility of the requirements and address any potential technical constraints. When aspects of the requirements were unclear or required further information, the team identified specific areas that needed validation. In such cases, we planned follow-ups with customer stakeholders to clarify and refine the requirements, ensuring a smooth progression towards solution design. The Solution Design Meeting process is iterative, with multiple sessions scheduled to revisit and refine the requirements, eventually

breaking them down into actionable items for system design. Each meeting offers a progressively detailed approach, allowing the team to drill down into the specific components necessary for implementing an effective solution. This structured progression toward solution design is crucial for both immediate understanding and future development stages.

Contribution to My Work: Participating in the Solution Design Meeting provided an invaluable opportunity to engage in the initial phases of solution architecture. This involvement emphasized my role in bridging the gap between customer needs and technical implementation, while enhancing my skills in capturing and clarifying complex requirements through collaboration with senior stakeholders.

Learning Outcome: The Solution Design Meeting experience strengthened my understanding of the process by which high-level requirements are transformed into feasible solutions within the system. This meeting fostered critical thinking and communication skills, as I learned to anticipate technical questions and clarify requirements in ways that support clear, effective solution design.
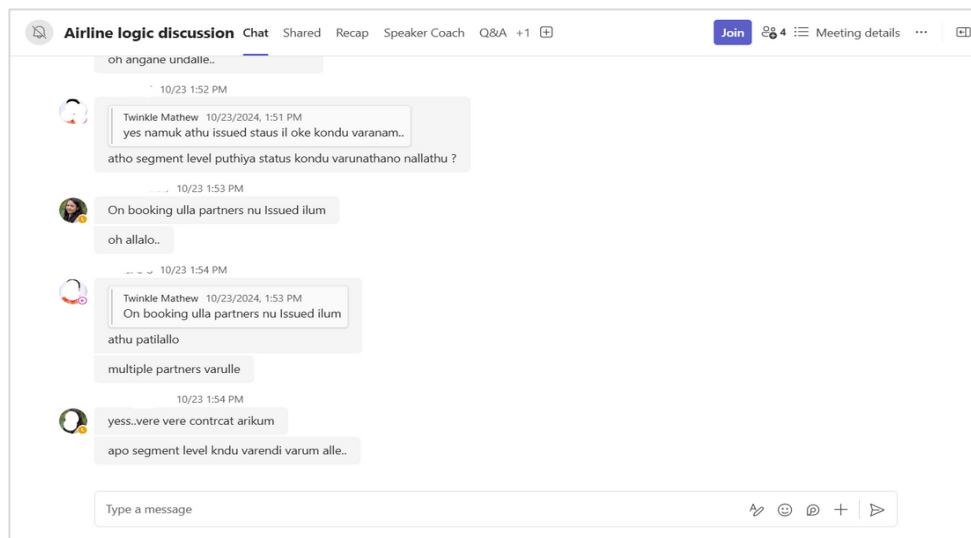

Figure 14: Work sample 5 - Solution design discussion meeting

7. Critical Analysis of Internship

The primary objective of the internship at IBS Software is to assist in business requirements and solution analysis, as well as to provide roll-out support for enabling partner invoicing within a leading loyalty management program in Australia. This role requires engaging in detailed business analysis activities and collaborating closely with various stakeholders to ensure the successful implementation of the project. Key responsibilities include identifying and analyzing business requirements in partnership with stakeholders from different departments, liaising between teams to ensure alignment on project goals, and assessing options for process improvements using business process modeling techniques. Maintaining detailed and evolving requirements documentation is also a critical task.

Additionally, responsibilities include documenting end-to-end process flows and collaborating with lead business analysts, delivery managers, and cross-functional teams to support the design, implementation, and rollout of effective solutions. This internship provides practical experience in business analysis and project management, offering a valuable opportunity to apply and expand upon theoretical knowledge gained during academic studies in a real-world context. Some theoretical concepts learned during coursework have been particularly beneficial throughout the internship, and their impact on the work performed is discussed below.

7.1. Business Process Analysis

In coursework, particularly in units covering Enterprise Application Integration and Enterprise Systems Integration, a comprehensive understanding of Business Process Modeling Notation (BPMN) and Business Process Modeling (BPM) was developed. These units offered insights into

the BPM lifecycle, covering stages such as process design, modeling, execution, monitoring, and optimization. During the internship at IBS Software, these theoretical concepts proved highly relevant, especially in the development of the Process Documentation and Process Flow Diagram for the partner invoicing module. A core activity involved assessing and documenting existing business processes, where BPM lifecycle concepts were essential for identifying improvement opportunities. The Process Documentation provided a structured representation of the invoicing workflows, while the Process Flow Diagram visually captured each step and decision point in the process. This combination of documentation and visual modeling facilitated a clearer understanding of the workflows for stakeholders, ensuring consistency and enabling efficient process execution. Applying BPM concepts was crucial for analyzing and interpreting these processes, as the Process Flow Diagram served as a foundational tool to map out dependencies and interactions within the invoicing system. The practical application of BPM principles enhanced the documentation's quality, aligning it with the business objectives and operational requirements of the project.

7.2. Requirements Gathering and Documentation

The Applications Modelling and Development unit in coursework provided a comprehensive understanding of the processes, methods, techniques, and tools that organizations use to determine how they should conduct their business. It covered fundamental concepts and models of applications development, focusing on key processes such as requirements gathering, solution design, and the software development life cycle. During the internship at IBS Software, these concepts were directly applied in the creation and management of internship deliverables for the partner invoicing module. Engaging with stakeholders to gather detailed business requirements ensured that the Functional Documentation was thorough and aligned with both business

objectives and system capabilities. Additionally, the theoretical foundation from this unit was instrumental in structuring the Process Documentation, where business workflows were clearly outlined, and the Deployment Documentation, which provided guidelines for seamless implementation. The knowledge from this unit enabled effective management and updating of these documentation deliverables, ensuring that each document met the project's standards and served as a reliable reference for all involved teams.

7.3. System Functionality and Behavior Analysis

The Database Systems unit in coursework provided essential knowledge on how databases are designed, created, and managed within an enterprise information system. This included understanding how data should be stored, retrieved, and optimized for efficient system performance. During the internship at IBS Software, this knowledge proved invaluable when analyzing the system functionality of the partner invoicing module. Many of the current system functionalities were driven by preconfigured jobs, essentially database procedures that encapsulate business logic. Prior experience with procedures, queries, and database management made it easier to understand how these database elements played a crucial role in overall system functionality. This understanding allowed effectively relating system behavior to the underlying database processes and contributing meaningfully to the internship's documentation.

7.4. Project Management

The Management of IT Systems and Projects unit provided essential knowledge on managing IT projects, including aspects such as planning, tracking, quality assurance, and risk management. During the internship, it was observed that the team employed the Agile methodology with the Scrum framework, which directly aligned with these concepts. The project manager made use of

JIRA boards to track project progress and conducted regular feedback sessions with the team, mirroring the practices covered in the coursework on managing IT projects at an enterprise level. The unit also highlighted the importance of capacity planning and stakeholder management, both of which proved critical in dividing tasks effectively and ensuring the overall success of the project.

8. Critical Analysis of IBS Software

8.1. Market Position

IBS Software has established itself as a global leader in the digital transformation of the travel, transportation, and logistics industries since 1997. With over 25 years of domain expertise, the company is a trusted provider of innovative solutions across multiple sectors, including aviation, hospitality, and cargo logistics. The company serves a wide range of major customers, including 14 of the world's 20 largest airlines, 2 of the 15 largest airports, and 5 of the 15 largest hotel chains (Technology for the Best Travel Companies, 2024).

IBS Software's association with high-profile clients, such as Lufthansa, Emirates, Qantas, Air India and Etihad Airways, along with significant investments like those from Apax Funds (IBS Software, 2023), further enhances its market position and industry reputation. Through strategic acquisitions, including AdOPT (IBS Software, 2020) and HBSi, among others (Travel Technology Transformed, 2024), the company has expanded its capabilities and solidified its status as a leading travel technology provider.

8.2. Internal Processes

Internally, IBS Software has adopted robust Agile project management practices that emphasize continuous feedback and collaboration, ensuring the efficient delivery of projects. During the internship, it was evident that the company uses tools like JIRA and Confluence Cloud extensively to track progress, manage tasks, and facilitate documentation. These tools play a crucial role in keeping teams aligned with project goals, allowing for real-time updates and collaboration across departments. Regular sprint planning, scrum of scrums and retrospective meetings ensure that any issues are promptly addressed, and improvements are continuously integrated into the project workflow.

Furthermore, IBS Software's global presence, with 16 offices worldwide, enhances its capacity to manage projects across different time zones and regions. This international reach allows for seamless communication and project coordination between teams located in different parts of the world, contributing to the efficient execution of large-scale multi-regional projects. The integration of Agile practices across its global workforce not only improves project outcomes but also ensures flexibility and adaptability in responding to evolving customer needs.

8.2. Organizational Culture

IBS Software fosters a dynamic and innovative organizational culture that is deeply rooted in its corporate ethos. The company's culture is defined by several key elements (Travel Technology Transformed, 2024).

1. **Innovation**: IBS Software places a strong emphasis on innovation, as highlighted by its vision of 'Redefining the future of travel through technology innovation'. This commitment to

innovation is evident in its approach to developing cutting-edge solutions that transform how travel companies operate in a digital world.

2. **Diversity and Inclusion:** The company proudly supports a diverse workforce, with 33 nationalities represented across 5 geographies. This multicultural environment, comprising 4000 professionals, brings a wide range of perspectives and ideas, which is crucial for driving innovation and creativity.

3. **Collaborative Transformation:** The company's ideology of 'Partnering for Transformation' represents its collaborative approach to working with clients and partners. IBS Software views itself as a partner in the digital transformation journey of its clients, which aligns with its mission of 'Transforming how travel companies operate in a digital world'.

4. **Core Values:** The company operates with a set of core values that include Precision, Commitment, Passion, Integrity, and Respect for the Individual. These values are at the heart of its operations, guiding how employees interact with each other, with clients, and in the execution of their duties.

5. **Customer-Centric Approach**: IBS Software positions itself as a 'One Stop Shop for Travel Solutions', emphasizing its comprehensive portfolio that caters to the needs of the travel industry. The company's testimony of serving the world's best airlines, busiest airports, major travel distributors, and the top energy and resources companies reflects its customer-centric approach and commitment to excellence.

6. **Purpose-Driven:** The core purpose of IBS Software is 'Redefining businesses' which drives its strategic initiatives and daily operations. This purpose underscores the company's goal of continuously evolving and adapting to meet the changing needs of its clients and the industry.

7. **Creative Environment:** The phrase 'Where ideas are born' encapsulates the company's belief in nurturing creativity and innovation within its workforce. IBS Software encourages employees to bring forward new ideas, fostering a culture where innovation is not just encouraged but is a foundational element of the company's identity.

9. SWOT Analysis of IBS Software

SWOT analysis on IBS Software involves evaluating the company's internal strengths and weaknesses, along with external opportunities and threats.

9.1. Strengths

1. **Strengths Industry Expertise:** IBS Software has over 25+ years of domain expertise, particularly in the travel, aviation, and hospitality sectors. This specialized knowledge gives them a competitive edge.

2. **Global Presence:** With 16 offices worldwide, including major hubs in Asia-Pacific, Europe, and North America, IBS can serve a global clientele effectively.

3. **Innovative Solutions:** The company is known for its cutting-edge SaaS products, which cater to complex operational needs in aviation.

4. **Strong Client Base:** IBS boasts a portfolio of 160+ clients, including some of the world's leading airlines, airports, and hotel chains.

5. **Diverse Workforce:** A multicultural workforce of around 4000 employees brings diverse perspectives and innovation to the company.

9.2. Weaknesses

1. **Niche Focus:** While specialization is a strength, it also means that IBS Software is heavily dependent on the travel and aviation sectors, making it vulnerable to downturns in these industries.

2. **Scalability Challenges:** As a company grows, maintaining the same level of personalized service and innovative output can be challenging, particularly in a highly competitive market.

3. **Brand Recognition:** Despite its strong client base, IBS Software may not be as widely recognized as some of its larger competitors, which could limit new customer acquisition.

4. **Weak Documentation Practices:** The company lacks standardized documentation processes, leading to key information being stored as tacit knowledge within individuals. This poses a significant risk as systems grow more complex or older, making it difficult to access historical data and understand system intricacies.

9.3. Opportunities

1. **Market Expansion:** There is potential for growth in emerging markets, particularly in Asia and Africa, where the travel and aviation sectors are expanding rapidly.

2. **Technological Advancements:** Continuous advancements in AI, data analytics, and cloud computing offer opportunities for IBS to innovate further and create more sophisticated solutions for its clients.

3. **Strategic Partnerships:** Forming alliances with other technology providers or expanding its network of clients can open new revenue streams and enhance its service offerings.

9.4. Threats

1. **Economic Downturns and Industry Shocks:** The aviation and travel industries, key markets for IBS Software, are highly susceptible to economic fluctuations. The COVID-19 pandemic is a prime example, where global air travel came to a near standstill, severely impacting demand for aviation-related software solutions. Such industry-wide disruptions pose significant risks to IBS's revenue and growth.

2. **Intense Competition:** The software and IT services market is highly competitive, with numerous global players offering similar solutions. This intense competition can lead to price wars, reduced margins, and increased pressure to continuously innovate to stay ahead.

3. **Regulatory Changes:** Evolving regulations, particularly concerning data protection (like GDPR) and industry-specific compliance (like IATA), can present challenges in maintaining global operations and ensuring that all client solutions meet these standards.

4. **Cybersecurity Risks:** As a provider of software solutions, IBS faces the ongoing threat of cyberattacks. Breaches can lead to compromised client data, loss of customer trust, and potential legal consequences, making cybersecurity a critical concern for the company.

10. Conclusion

Through analysis, IBS Software is a well-established leader in the digital transformation of the travel, transportation, and logistics sectors. With over 25 years of expertise, the company has successfully built a strong foothold in the global market, serving a wide range of top-tier clients, including airlines, airports, and hotel chains. The company's strengths lie in its deep industry knowledge, innovative solutions and a diverse workforce that brings fresh perspectives. The collaborative culture observed during the internship emphasizes creativity and teamwork, which

allows IBS to stay at the forefront of industry innovation. However, the experience also revealed a few areas that present challenges. IBS's specialization in travel and aviation, while a competitive advantage, also makes it vulnerable to disruptions in these industries, as seen during the pandemic. The need for better documentation practices, especially in legacy systems, became apparent during my internship. Addressing this could streamline operations and reduce project delays, enhancing overall efficiency.

Looking ahead, there are numerous opportunities for IBS to expand, particularly into emerging markets like Asia and Africa. The company is well-positioned to leverage advancements in AI and data analytics, which could enhance its product offerings and help maintain its competitive edge. Moreover, by building partnerships with other technology providers or broadening its client base, the company can unlock new revenue opportunities and strengthen its range of services. At the same time, external threats such as intense competition, changing data privacy regulations, and cybersecurity risks require careful attention. Continuous investment in compliance, security measures, and innovation will be key to mitigating these threats and ensuring sustained success.

11. Recommendations

Based on the analysis done earlier, the following three recommendations are proposed to address challenges faced.

1. **Improve documentation practices**

The lack of documentation observed during the internship poses a significant long-term challenge. As systems grow more complex and age, vital knowledge becomes confined to individuals as tacit knowledge, making it difficult to retrieve and understand when needed. This issue complicates

efforts to analyze historical data and comprehend system behavior. A potential solution is the implementation of standard documentation processes across all departments, ensuring that every piece of information is properly captured and stored for future references. By leveraging tools such as Confluence and SharePoint more extensively, teams can efficiently create, maintain, and share data with all relevant stakeholders. Research indicates that keeping detailed and up-to-date documentation enhances knowledge management, minimizes project risks, and boosts team productivity (Idrees et al., 2023).

2. Enhance Cybersecurity Measures

Given the increasing prevalence of cyber threats, IBS Software should prioritize continuous investment in advanced security protocols and information security infrastructure. Regular employee training on cybersecurity is crucial to ensure that staff remain aware of the latest threats and vulnerabilities. Research indicates that adopting proactive cybersecurity strategies can significantly mitigate the risk of data breaches and protect the company's reputation (Anderson and Moore, 2006). By staying ahead of potential threats, IBS Software can safeguard both its operations and its clients' sensitive information, reinforcing trust and maintaining a strong market position.

3. Adopt Agile Scalability Models

As IBS Software continues to grow, scaling Agile methodologies to suit bigger teams and more complex implementations will be necessary. Adopting modern Agile at scale frameworks, such as SAFe (Scaled Agile Framework) would enable handling growing project needs while maintaining the flexibility that Agile practices provide. Research (Maarit, 2017) supports that scaling Agile

frameworks in large organizations leads to better project outcomes and more aligned cross functional teams.

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