



**BA ISAGO UNIVERSITY IN COLLABORATION WITH NATIONAL  
UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**FACULTY OF COMMERC**

**DEPARTMENT OF RISK MANAGEMENT, INSURANCE AND  
ACTUARIAL SCIENCE**

**BACHELOR OF COMMERCE (HONS) DEGREE IN ACTUARIAL  
SCIENCE**

**INDUSTRIAL ATTACHMENT CIN3001**

**INDUSTRIAL ATTACHMENT REPORT**

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## Executive Summary

A comprehensive and precise summary of findings

During my industrial attachment, I developed a solid foundation in programming, data analysis, and actuarial software tools, which deepened my understanding of actuarial science applications in real-world contexts. My initial months involved building foundational skills in R and Python and gaining industry insights into the Botswana and Zambia insurance markets. This initial period included an introduction to IFRS17, where I learned about its impact on insurance reporting standards.

Throughout my attachment, I contributed to the restructuring, optimization, and codebase development of an IFRS17 software tool, learning the importance of organized, maintainable code for large-scale projects. I was exposed to actuarial modelling concepts, such as variance analysis, surplus analysis, and cash flow projections, and realized how critical these analyses are for financial health assessments in the insurance sector. Moreover, I engaged in automation efforts, including automating actuarial models and developing tools for claims calculations and forward rate projections, which reinforced the value of efficiency in actuarial calculations.

In the later months, I gained firsthand experience with advanced actuarial tools like the General Measurement Model (GMM) and the Premium Allocation Approach (PAA) tool, as well as exposure to cloud computing to enhance scalability. I also contributed to the integration of an Own Risk and Solvency Assessment (ORSA) module into the GMM tool, understanding its importance for assessing organizational risk.

As I approached the final stages of my attachment, I focused on frontend development, interface design, and the migration of tools to a Django framework, which helped me

understand the role of user experience in actuarial applications. In preparation for the Gralix InsurTech Conference, I finalized tools and reports, underscoring the importance of presentation and accuracy in financial reporting. Overall, my attachment experience enhanced my technical skills, problem-solving abilities, and provided valuable insights into the practical applications of actuarial science in the insurance industry.

## Background to the Organization/Company/Department

### Background

Empirica is a leading actuarial and financial consulting firm located in Johannesburg, South Africa. Specializing in actuarial services, risk management, and financial engineering, Empirica caters to various industries, particularly focusing on insurance, pension schemes, and financial institutions. Established in 2016, the company has rapidly expanded its reach and capabilities, providing innovative and cutting-edge solutions to clients across Africa and Europe. Empirica's comprehensive service offerings include asset and liability modeling, risk management, valuations, product design, financial reinsurance, and IFRS 17 implementation, among others.

### When operations started

Empirica commenced its operations in 2016. Since its inception, the firm has steadily increased its presence and client base, handling a growing list of projects year after year. As an expert consultancy in actuarial science and financial engineering, Empirica has developed a reputation for its deep industry knowledge and ability to tackle complex financial challenges.

## Organizational structure

Empirica operates as a consulting firm that provides tailored actuarial and risk management services. The firm focuses on addressing the unique challenges of clients in sectors such as life insurance, pension funds, and banking.

While specific details about Empirica's internal departments are not provided, the organization is structured to focus on the following key areas:

- Actuarial Consulting: Providing risk management and actuarial services.
- Financial Engineering: Specializing in quantitative modelling and analysis.
- Software Solutions: Empirica offers innovative software tools like PAS 4 and PAM 1000, which support clients in policy administration and IFRS 17 reporting.

These focus areas reflect Empirica's diverse capabilities in both consulting and software development, ensuring they meet the needs of clients within various sectors.

## Management structure

Empirica Botswana is led by a team of experienced professionals in actuarial science, finance, economics, and software engineering. The management team includes the founder and actuary, Edwin Afitile, who provides strategic leadership for the firm. Other notable team members include actuarial analysts and developers who specialize in actuarial science, business intelligence, and data analytics.

The management structure is designed to facilitate collaboration between actuarial professionals, financial engineers, and technical experts, ensuring that Empirica can effectively serve its diverse client base. Additionally, the firm's workforce includes interns who contribute to the firm's operations, allowing Empirica to cultivate talent and provide opportunities for young professionals.

Notable changes in the organization/company/department

Since its founding in 2016, Empirica has experienced significant growth, particularly in its service offerings and its international reach. The firm has developed specialized actuarial software solutions like PAS 4 (Policy Administration System) and PAM 1000, designed to streamline insurance operations and assist with IFRS 17 compliance.

These software tools mark a key innovation for Empirica, enabling them to stay at the forefront of actuarial consulting and offer additional value to clients.

Furthermore, Empirica's deepening involvement in global markets, particularly in Africa and Europe, has expanded its influence in the actuarial field, positioning the company as a leading player in the industry.

### Pre-Attachment Perceptions

Perceptions of the market/sector

Before beginning the industrial attachment at Empirica, I had a general understanding of the actuarial and financial consulting sector. The market is highly specialized and rooted in advanced mathematical, statistical, and financial concepts, which intrigued me given my background in actuarial science. The sector is critical to industries such as insurance, pension funds, banking, and financial services, providing services that manage risks and uncertainties for both individuals and corporations.

Key perceptions included:

- **Demand for Expertise:** Actuarial consultants are highly sought after for their ability to analyse financial risks and provide solutions that optimize capital management, ensure compliance with industry regulations (like IFRS 17), and design sustainable insurance products.

- **Growth and Innovation:** The actuarial industry, particularly in Africa, is poised for continued growth as more insurance and financial institutions adopt complex financial models. Technological innovations such as the integration of artificial intelligence, machine learning, and cloud-based solutions (like PAS 4 and PAM 1000) are becoming pivotal in the market.
- **Challenges in Transitioning to IFRS 17:** A notable challenge faced by many firms in the sector is adapting to IFRS 17 regulations, which require insurers to manage long-term contracts and report financial results under a more complex framework. I perceived this as a key area for actuarial firms to innovate and assist clients in navigating these changes.
- **Global Reach and Impact:** Companies like Empirica with a focus on both African and European markets have the potential to influence the actuarial landscape significantly by setting high standards in terms of service quality and technical expertise.

Overall, I saw the actuarial and financial consulting market as one that requires not only strong technical skills but also strategic thinking and the ability to adapt to fast-evolving technologies and regulations.

#### Department/organization overview

Empirica is a dynamic actuarial consulting firm that started its operations in 2016 in Johannesburg, South Africa. The organization specializes in providing comprehensive actuarial and financial engineering services to clients across various sectors, including life insurance, pension schemes, and banking. Empirica's mission is to deliver innovative, high-quality solutions in risk management, product pricing, asset, and liability modelling, and IFRS 17 transitions, among others.

#### Key points about the organization:

- **Innovative Services:** Empirica stands out in the market by offering specialized services in asset and liability modelling (ALM), risk management, financial

reinsurance, and product design. Additionally, their expertise in IFRS 17 implementation and regulatory compliance is critical for clients in the insurance sector.

- **Software Solutions:** A unique feature of Empirica is its development of advanced actuarial software, such as PAS 4 (Policy Administration System) and PAM 1000, both of which streamline actuarial processes, improve decision-making, and enhance financial stability for clients.
- **Global Influence:** With a growing presence across Africa and Europe, Empirica aims to set industry standards and is committed to helping its clients achieve financial stability while navigating complex regulatory environments.
- **Commitment to Excellence:** Empirica's core values focus on providing tailored solutions that align with clients' strategic goals, fostering innovation, and advancing the actuarial profession through integrity and excellence.

Before my attachment, Empirica's reputation for delivering innovative actuarial solutions and its continuous growth seemed to make it an exciting place to gain hands-on experience and contribute to impactful projects.

#### Relevant academic courses

Several of the modules I studied at Ba Isago University provided a solid foundation for my industrial attachment at Empirica. These courses were directly applicable to the work in actuarial consulting, financial modelling, and risk management. Below is an overview of how each relevant course aligns with the tasks and projects at Empirica:

**Accounting:** This course introduced me to the principles of financial accounting, which were essential for understanding the financial statements and reports I encountered at Empirica. It helped me appreciate the importance of accurate data recording, especially in the context of IFRS 17 compliance.



**Economics:** Understanding economic theory, market structures, and macroeconomic factors helped me analyse the broader economic environment in which the financial consulting industry operates. This knowledge was especially useful when considering how external factors, such as inflation or interest rates, influence the actuarial models used at Empirica.

**Business Management:** The business management course equipped me with an understanding of organizational structure, strategic management, and project management—critical skills when working in a consultancy that deals with complex financial and actuarial problems for clients.

**Financial Mathematics:** This course was foundational in learning the mathematical techniques used to calculate interest rates, present values, and annuities—core components of financial modelling and actuarial work. This knowledge is directly relevant to the pricing and valuation services provided by Empirica.

**Business Communication:** Effective communication is essential in the actuarial profession, as professionals must explain complex financial concepts to clients. This course helped me develop skills in written and oral communication, which were valuable when presenting technical findings and reports at Empirica.

**Commercial Law:** This course introduced me to the legal framework governing business transactions and contracts. Understanding commercial law is crucial in actuarial consulting, as compliance with legal regulations is essential when designing financial products or collaborating with clients in the insurance and banking sectors.

**Calculus:** The calculus course deepened my understanding of mathematical modelling, differentiation, and integration—skills used in various actuarial calculations and financial engineering tasks at Empirica, such as modelling asset-liability risks and conducting sensitivity analyses.

**Marketing:** The marketing course provided insights into how financial products and services are marketed to clients. This knowledge could be applied in Empirica's work in product design and pricing, ensuring that products meet customer needs while maintaining financial stability.

**Risk and Insurance:** This course covered the fundamentals of risk management and the functioning of insurance markets. It aligned closely with Empirica's core services in risk modelling, product development, and actuarial valuations for insurance companies.

**Risk Management:** The risk management module focused on identifying, analysing, and mitigating risks in financial portfolios. This knowledge was crucial for understanding the risk management strategies employed at Empirica, especially in areas such as asset-liability modelling and financial reinsurance.

**Corporate Finance:** Corporate finance principles are vital for making strategic financial decisions in an organization. This course helped me understand concepts like capital structure, cost of capital, and corporate financial strategy, which were beneficial when working on financial models and valuation projects at Empirica.

**Research Methodology:** Research methodology taught me how to design and conduct research, analyse data, and report findings—skills that were essential for gathering data and working on actuarial models at Empirica.

**Actuarial Statistics:** This course was central to my understanding of probability distributions, statistical inference, and model fitting. These statistical techniques are widely used in actuarial work, such as in predicting life expectancy, mortality rates, and pricing insurance products at Empirica.

**Pensions and Benefits:** Pensions and benefits covered the actuarial aspects of pension schemes, annuities, and retirement benefits. This knowledge is particularly relevant to Empirica's work with pension funds and retirement planning, as it involves calculating present and future liabilities for pension plans.

**Actuarial Financial Mathematics:** This course was essential for understanding the financial mathematics behind actuarial work, including life insurance and pension calculations. The concepts learned here were directly applicable to Empirica's work in designing insurance products and performing actuarial valuations.

**Computer Packages and Applications in Insurance:** This course familiarized me with actuarial software and computational tools, which are crucial in today's actuarial consulting environment. I applied this knowledge while working with the software tools and modelling techniques used by Empirica.

**Topics in Applied Mathematics:** This course introduced advanced mathematical techniques used in applied problems, which helped me develop problem-solving skills essential for actuarial work. It was particularly useful for understanding complex models and algorithms employed in actuarial consulting.

**Visual Basic for Applications:** The skills gained in Visual Basic for Applications (VBA) helped me automate tasks, work with Excel models, and build simple actuarial tools that were helpful in the tasks and reports at Empirica.

Life Contingencies: This course dealt with the calculation of life insurance premiums, annuity values, and other life-related financial products. It provided the specific actuarial techniques needed for Empirica's work in pricing life insurance products and evaluating long-term liabilities for clients.

These academic modules were directly relevant to the types of projects and tasks I worked on during my industrial attachment at Empirica. The theoretical knowledge gained in these courses helped me better understand the practical applications of actuarial science in a real-world consulting environment, particularly in financial modelling, risk management, and actuarial valuations.

### Industrial Attachment Experience

Major activities and findings

During my industrial attachment at Empirica, I participated in a range of projects that provided valuable hands-on experience in actuarial modelling, software development, and financial analysis. Below are some key activities and findings from my attachment:

- **Programming and Software Development:** I was introduced to R and Python, learning foundational programming concepts, and applying them to data analysis. I also gained experience in developing actuarial tools using these languages, especially in automating actuarial models and optimizing software code. These skills were crucial in streamlining actuarial processes and improving the efficiency of data handling.
- **Research and Industry Understanding:** I conducted research into the insurance industry in Botswana and Zambia, studying market reports and case studies to deepen my understanding of the regulatory and competitive landscape. This research helped me understand the industry's challenges, such as regulatory

compliance (e.g., IFRS17), and how companies address them through actuarial methods.

- **IFRS17 Exposure:** A significant portion of my attachment involved understanding and working with IFRS17, including familiarizing myself with IFRS17 tools, software, and concepts like the General Measurement Model (GMM) and Premium Allocation Approach (PAA). I participated in restructuring, optimization, and coding for the IFRS17 tools, which enhanced my technical and actuarial skills.
- **Actuarial Modelling and Claims Calculations:** I gained hands-on experience in actuarial modelling, analysing insurance and reinsurance portfolios, claims calculations, and cash flow projections. I learned the intricacies of actuarial calculations, including surplus analysis, variance analysis, and forward rate projections, which are critical for determining financial health and solvency.
- **Automation and Tool Development:** I worked on automating actuarial models, coding tools, and integrating actuarial models with Excel and cloud-based platforms. This included developing a GMM premium calculation tool, enhancing VBA scripts, and working on cloud computing to increase scalability.

#### Application of theory and gaps between theory and practice

Throughout my attachment, I applied several theoretical concepts learned at Ba Isago University, including financial mathematics, actuarial statistics, and risk management, to real-world problems. However, there were some gaps between theory and practice:

- **Theory:** Theoretical actuarial models and financial calculations often assume ideal conditions, while in practice, factors such as market volatility, regulatory constraints, and data inaccuracies can affect the results.
- **Practice:** For example, while I understood the principles of actuarial modelling (such as the calculation of premiums and reserves) from an academic perspective, I had to quickly adapt to using specialized software tools and dealing with complex datasets. This highlighted the gap between theoretical

understanding and practical application, particularly when translating complex actuarial models into executable code and tools.

Additionally, the real-time application of actuarial models in a consulting environment also required balancing accuracy with the need for efficient processing and client-facing outputs, which was something I had not fully encountered in academic exercises.

Skills development, including analytical skills and problem-solving

During my attachment, I developed a wide range of skills, including:

- **Analytical Skills:** I honed my ability to analyze complex actuarial models, interpret statistical data, and evaluate the performance of various financial tools. Working with IFRS17 data and insurance portfolios enhanced my ability to identify patterns, calculate variances, and assess financial risks accurately.
- **Problem-Solving:** My exposure to coding and actuarial tool development required me to solve real-world problems such as automating actuarial calculations, restructuring code for better performance, and optimizing tools for cloud computing. I faced challenges in ensuring the accuracy of actuarial projections, and through trial and error, I learned how to debug and refine my solutions.
- **Software Development:** I gained practical experience in coding with Python, R, and VBA, as well as integrating actuarial models with software tools like Excel and cloud platforms. This experience was invaluable in bridging the gap between actuarial theory and technology.
- **Cloud Computing:** Learning cloud computing and integrating actuarial tools for deployment in the cloud significantly broadened my skill set, providing insight into scalable and accessible solutions for the actuarial profession.

Participation and value of input to the department and organization

I actively participated in several projects during my attachment, contributing to tool development, code optimization, and the analysis of insurance portfolios. My input was valuable to the team, particularly in the following areas:

- **Tool Development:** I was responsible for developing and refining actuarial tools used for premium calculations and cash flow projections, which improved the efficiency of the actuarial processes.
- **Automation:** By automating actuarial models and financial reports, I helped reduce the time spent on manual calculations and data entry, enhancing overall productivity.
- **Research:** My research into the insurance markets in Botswana and Zambia provided valuable insights into regional market trends, regulatory challenges, and the impact of IFRS17 on insurance companies.

While I was in the early stages of learning and applying actuarial principles, my efforts in programming, research, and tool development contributed meaningfully to Empirica's ongoing projects, particularly in improving the accuracy and efficiency of actuarial processes.

Additional experiences (e.g., client relations, interpersonal relations)

- **Client Relations:** During my attachment, I was introduced to the importance of client relationships in actuarial consulting. Although I did not directly interact with clients, I learned how actuarial reports and tools are tailored to meet client needs and ensure compliance with industry standards. I gained an understanding of how Empirica provides value to clients by offering customized actuarial solutions and consulting services.
- **Interpersonal Relations:** Working in a team environment helped me develop communication and interpersonal skills. I collaborated with colleagues from different technical backgrounds, enhancing my ability to explain actuarial concepts and technical details in a clear and concise manner. This experience emphasized the importance of teamwork and effective communication in the professional environment.

In summary, my industrial attachment provided a rich learning experience that allowed me to apply my academic knowledge in a real-world setting, develop essential technical

skills, and contribute meaningfully to the organization. It also highlighted the gaps between theoretical learning and practical application, which is a crucial aspect of professional growth in the actuarial field.

## Impact & Benefits of Industrial Attachment

To the host department

The industrial attachment was beneficial to the host department, Empirica, in several key ways:

1. **Increased Efficiency and Output:** My involvement in the automation of actuarial models, tool development, and coding optimization helped streamline various actuarial processes within the department. Automating manual processes reduced the time spent on repetitive tasks and allowed the team to focus on more complex analyses, improving overall productivity.
2. **Enhanced Software Tools:** The coding and optimization work I did contributed to the improvement of existing actuarial tools, particularly those used for IFRS17 compliance, premium calculation, and cash flow projection. By refactoring the code and optimizing performance, I helped ensure that the tools could handle large datasets more efficiently, which improved their scalability and user-friendliness.
3. **Fresh Perspective and Innovation:** As a student with a strong theoretical background, I brought fresh ideas to the department, particularly in terms of programming and technology. My research into Python, R, and cloud computing allowed me to suggest and implement modern tools and techniques that enhanced the department's workflow. Additionally, my exposure to actuarial theory in university allowed me to offer insights into certain industry practices and software functions.
4. **Increased Capacity for Research and Analysis:** The research projects I undertook, particularly into the Botswana and Zambia insurance markets and the application of IFRS17, added value by broadening the department's



understanding of regional markets. The reports and findings from these research projects provided the department with a deeper understanding of industry trends and helped improve strategic decision-making.

To yourself

My industrial attachment provided significant personal and professional growth, with key benefits in the following areas:

1. **Practical Experience in Actuarial and Software Development:** I gained invaluable experience applying theoretical knowledge to real-world actuarial tasks. This experience, such as automating models and optimizing actuarial tools, strengthened my technical skills in both actuarial science and programming. It also helped me develop problem-solving abilities, particularly in optimizing computational processes and integrating new technologies.
2. **Enhanced Programming and Technical Skills:** Throughout the attachment, I learned and improved my programming skills in Python, R, VBA, and cloud computing. These skills are crucial not only for my future career in actuarial science but also for pursuing roles in data science, machine learning, and software development. I gained hands-on experience with practical coding tasks and actuarial applications that I had previously studied only in theory.
3. **Understanding of Industry Practices and Challenges:** Through exposure to real-world actuarial models, financial reporting (including IFRS17), and the regulatory environment, I gained a deeper understanding of the challenges faced by actuaries in the insurance industry. This experience broadened my perspective on how actuarial science is applied in practice and the complexities involved in regulatory compliance, risk management, and financial projections.
4. **Teamwork and Collaboration:** Working within a multidisciplinary team allowed me to develop my communication and teamwork skills. I collaborated with professionals from different fields, learning how to effectively convey technical

actuarial concepts and solutions to non-technical stakeholders. This experience has equipped me with the ability to work collaboratively in a professional environment, which is a vital skill for any career.

5. **Career Insight and Networking:** The attachment gave me insight into the actuarial consulting industry and the role of actuarial professionals in corporate decision-making. I was able to network with industry professionals, gain mentorship, and better understand career paths in actuarial science and related fields. The experience also helped me identify areas where I need further development, ensuring I can tailor my future studies and career choices accordingly.

## To the College

The industrial attachment also brought several benefits to Ba Isago University, as it allowed me to contribute real-world insights back to my academic institution and demonstrated the effectiveness of the university's actuarial science program:

**Real-World Application of Academic Knowledge:** The attachment provided a platform for applying academic learning to practical scenarios, showcasing the relevance and applicability of the college's curriculum. It highlighted the importance of integrating programming, statistical analysis, and financial mathematics in actuarial work. This can inform future curriculum updates to better prepare students for the demands of the professional world.

**Strengthening Industry Links:** The successful completion of my attachment helped strengthen the relationship between Ba Isago University and the industry. Empirica, as a host company, benefited from the partnership by gaining a capable intern who contributed positively to their projects. The university's connection with a reputable actuarial consulting firm adds credibility to its programs and can create opportunities for future students to engage in similar internships, internships, and even job placements.

**Feedback for Academic Development:** The attachment allowed me to provide feedback about the relevance and practicality of my academic training. This feedback, coupled

with my experience in a professional setting, can help the university better understand how its curriculum aligns with industry expectations. This can lead to improvements in course content, especially in areas such as actuarial modeling, programming, cloud computing, and industry-specific software tools.

**Increased Employability of Graduates:** By successfully completing an industrial attachment, I've set an example of how students can leverage their academic learning to secure valuable work experience. This strengthens the reputation of Ba Isago University as a provider of highly employable graduates and encourages other students to seek similar opportunities for skill enhancement and career development.

## Recommendations

Recommendations for the department/organization/company

**Enhance Cross-Department Collaboration:**

- While the department is efficient in its current work processes, there is an opportunity to foster more collaboration across departments, particularly between the actuarial and IT teams. Creating a more integrated workflow could streamline the development of actuarial tools and improve the exchange of ideas, ensuring that tools are both technically robust and actuarially sound.
- **Recommendation:** Organize regular cross-departmental meetings or workshops to foster collaboration and the sharing of insights between actuarial and IT teams.

**Invest in Continuous Training:**

- Given the rapidly changing landscape of actuarial science and technology, continuous training is crucial to keeping the department at the forefront of industry practices and innovations.
- **Recommendation:** Allocate resources for ongoing professional development for staff, including advanced actuarial training, software tool certifications, and emerging technologies such as machine learning and cloud computing.

### Optimize Use of Cloud Computing:

- The department's use of cloud infrastructure can be expanded to improve scalability and accessibility of actuarial tools, especially for large datasets or collaborative projects. Cloud-based solutions can increase flexibility, improve data security, and enable faster processing times.
- Recommendation: Continue to explore cloud computing options and implement solutions that support efficient data storage, analysis, and collaboration across teams.

### Increase Automation and Efficiency:

- The current actuarial models and tools can be further optimized for automation, particularly in terms of data input, model execution, and reporting processes. Automation reduces human error and frees up valuable time for more strategic analysis.
- Recommendation: Invest in automating more parts of the actuarial workflow, such as data entry, report generation, and predictive modeling, to reduce manual workloads and improve accuracy.

### Improve Software Tool Documentation and User Training:

- While the tools developed within the department are technically sound, ensuring that all team members understand how to use and maintain them is essential. Adequate training materials and clear documentation will enhance the department's ability to leverage these tools fully.
- Recommendation: Create detailed user guides and hold regular training sessions for staff on how to use new tools and software efficiently. This will help maximize the tools' potential and reduce troubleshooting time.

### Suggestions for BAISAGO University College improvements

#### Expand Practical Programming Courses:

- The actuarial curriculum at Ba Isago University provides a solid foundation in theoretical knowledge but could benefit from more practical, hands-on programming experience. Many actuarial tasks are increasingly automated or assisted by software, so proficiency in programming languages such as Python, R, and VBA is crucial for future professionals.
- Recommendation: Introduce more hands-on programming courses and workshops that focus on real-world applications of programming in actuarial science, such as coding for actuarial models, data analysis, and report generation.

#### Integration of Emerging Technologies:

- The growing field of actuarial science increasingly incorporates machine learning, big data analytics, and cloud computing. Ba Isago University can benefit from integrating these technologies into the curriculum to better prepare students for the evolving demands of the industry.
- Recommendation: Develop courses or workshops focused on emerging technologies such as machine learning for predictive modeling, data visualization tools, and the use of cloud computing for actuarial tasks.

#### Strengthen Internship and Industry Partnerships:

- While internships are valuable for practical experience, there is room for expanding the network of companies and organizations offering internships to students. By creating stronger ties with industry players, Ba Isago University can provide students with more opportunities to gain real-world experience in actuarial roles.
- Recommendation: Foster stronger partnerships with insurance companies, actuarial consulting firms, and tech companies to provide a broader range of internship and job placement opportunities for students.

#### Enhanced Focus on Soft Skills Development:

- In addition to technical skills, soft skills such as communication, teamwork, and leadership are essential for career success. These skills are often developed through hands-on collaboration, client interaction, and leadership roles.
- Recommendation: Incorporate more team-based projects, leadership training, and communication skills workshops into the curriculum to ensure that students are well-rounded and prepared for the professional environment.

#### Offer Actuarial Software Training:

- Familiarity with industry-standard software tools is crucial for students entering the workforce. Ba Isago University could enhance its actuarial curriculum by incorporating training on popular actuarial software like Prophet, Moses, or R and Python for actuarial work.
- Recommendation: Introduce specialized software training into the curriculum or through workshops, focusing on tools commonly used in the industry for pricing, reserving, and financial reporting.

## Conclusions

The industrial attachment at Empirica has been a highly valuable experience, benefiting both the host department and myself. For the department, my contributions to optimizing actuarial tools, automating processes, and conducting research into regional markets added significant value. The skills I developed in programming, actuarial modeling, and data analysis will serve as a solid foundation for my future career in actuarial science.

Ba Isago University also benefited from the attachment, as it provided practical insights into the application of the academic curriculum in a real-world setting. The experience underscored the importance of integrating programming skills, emerging technologies, and practical actuarial software into the educational offerings to better prepare students for the demands of the profession.

Looking ahead, the department could further enhance its operations by focusing on increased collaboration, continuous training, and further automation of actuarial processes. Similarly, Ba Isago University could improve its curriculum by expanding practical programming courses, incorporating emerging technologies, and fostering stronger industry ties.

Overall, the attachment experience has reinforced the value of bridging the gap between theoretical knowledge and practical application. It has equipped me with the skills, insights, and network to thrive in the actuarial field and provided valuable feedback for continuous improvement both within the host organization and the university.