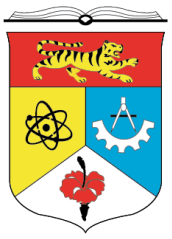

UNIVERSITI KEBANGSAAN MALAYSIA

The National University of Malaysia

Assignment:
Industrial Seminar Report

Course:
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INTRODUCTION

The rapid advancement of data science and artificial intelligence (AI) has significantly reshaped the landscape of modern industries, highlighting the critical need for professionals to remain adaptive, ethically grounded, and technically proficient. In line with this paradigm shift, a series of industrial seminars were organized to expose postgraduate students to real-world applications, career insights, and evolving trends in data analytics. These seminars served as a platform to bridge the gap between academic knowledge and industrial practice, enabling students to gain first hand exposure to how data-driven strategies are implemented across diverse sectors.

This report summarizes three insightful industrial seminars conducted in 2025, featuring experienced professionals from prominent organizations QS, Sun Life Research Assurance, and the Department of Statistics Malaysia (DOSM). Each speaker offered unique perspectives based on their industry experiences, ranging from branding insights using text mining, strategic leadership in analytics, to the application of big data for public policy. The seminars emphasized not only the importance of mastering technical tools such as SQL, Python, and R, but also highlighted the growing relevance of AI tools, data ethics, and the mindset required for innovation and continuous learning.

Collectively, these sessions provided invaluable knowledge that aligns closely with students' academic training and future career trajectories in the field of data analytics and AI. The following sections will detail the content and key takeaways from each seminar, reflecting on the implications for professional development and the broader data science landscape.

INDUSTRIAL SEMINAR 1

In this seminar, Mr. Izzudeen Rahmad shared his professional experience as a Data Operations Analyst at QS, where he served for nearly three years. He highlighted his involvement in projects related to text mining, where he applied techniques such as word cloud generation to identify trending keywords for branding insights. This analytical approach was well received by clients for its value in

strategic decision-making. He also emphasized the importance of technical tools such as SQL, Python, and R in data analysis and encouraged students to explore these tools.

Importantly, Mr. Izzudeen discussed the role of AI tools like ChatGPT, advising that while they can be helpful for guidance and code generation, users must understand their limitations, particularly concerning data privacy and confidentiality. He stressed that data professionals must not rely solely on AI, but instead act as responsible end users who understand the tools and ensure data security. The session concluded with a Q&A and networking invitation through LinkedIn. Our group found this seminar highly valuable, especially the emphasis on ethical AI usage and real-world applications of data analysis tools, which directly relate to our field of study and future career paths.

INDUSTRIAL SEMINAR 2

Industrial Seminar 2 was presented by Mr. Jeff Lim, Head of Strategic Analytics at Sun Life Research Assurance.

The seminar started by mentioning the importance of blending or combining industrial application and academia application together. Mr. Jeff Lim is an established and professional data analytics with over 16 years of industry experience. He was sharing his journeys with data analytics and proposed several considerations on how data analytics is strategically utilized within the business community especially in his current work in the insurance industry. He noted that his academic background which is his master's in statistics and bachelor's in mathematics from Universiti Teknologi Malaysia was important, however, it was his mindset and way of approaching leadership that matters more.

Mr. Jeff's comments on learning in your own way, was a very impactful idea. He shared with us how he offers an environment that is ripe for growth for his interns and members rather than giving out answers to his interns and members. Instead of lessons, he offered a real-world problem and let them seek their own answers. He also described how most interns would go even beyond the time they are directly attached to his team to continue to learn and develop new skill sets. Thus, this

reinforced a powerful idea where growth is about initiative and curiosity and going well beyond what is being taught.

Another aspect of Mr. Jeff's philosophy was the concept of innovators. He stated that leadership is not teaching but is about inspiration and enabling and creating an environment that encourages questioning and experimenting. By fostering an environment for his team to try out the possibilities and take responsibility for their learning and contributing to the business agenda, he creates innovators and builds learning organizations. As someone who is going to be entering the data analytics space, this changed our view considerably. It shifted our perspective from a narrow, technical viewpoint of analytics success wise to a more business minded perspective. While knowledge of analytics is important, all the knowledge of analytics would hit the wall unless the student has developed the drive, adaptability, and learning components.

When the seminar finished, the group was left with a valuable takeaway that data analytics is not about simply data processing but rather giving meaning to decisions and providing strategic direction. Mr. Jeff's spotlight on his work with data strategy and system optimization and level analytics project work provided a real-life context for the many facets and applications of data in all areas of business. The reflections Mr. Jeff shared not only provided a deeper insight into the work of an analytics professional, but also the mindset and characteristics of work ethic that one needs to recognize and develop.

INDUSTRIAL SEMINAR 3

The third industrial seminar which was held on 13th June 2025 was presented by Puan Nur Hurriyatul Huda Abdullah Sani from Department of Statistics Malaysia (DOSM) which operates under the Ministry of Economy. With 17 years of experience in labour statistics, big data analytics, and statistical data systems, she is now involved in the development of MyLabourHub, a centralised digital portal that integrates labour market information from diverse data sources to support policymaking and public accessibility. The topic of her presentation is Data Science for Public Good: Careers in the AI-Driven Statistics Office.

She started her presentation by sharing that nowadays, the amount of data that is being generated daily is only increasing as every time we use social media, shop online, or move around, we are actually generating data. A total of 2.5 quintillion bytes of data are being produced everyday and 90% from the data are unstructured data. Then, she also shared information on UN Big Data where we can get real-time big data to further sharpen our skills in data cleaning, handling noise data, etc since according to her that is one of the most challenging steps before conducting analytics.

The main reasons for the growth of big data is the increase of storage capacity, increase of computer processing power and the availability of the data itself. There are three types of data which are structured, unstructured, and semi-structured data. She mentioned that in the latest analytics data, people have advanced from text data to audio, image and video data. For example, with the rise of social media trends through Facebook, TikTok, YouTube, etc, she has started to analyze the audio, image and video data as part of her job.

Certifications also have become crucial for analytics professionals to keep up to date with the latest skillset and knowledge. As a result, DOSM has also encouraged their staff to become certified professionals. DOSM also sent some officers to get certified as SAS Certified Data Scientist and this number has been increasing from 9 to 30 across a 5 year period. Not limited to certification, DOSM has also been encouraging their officers to further studies on Master's of PhD level in areas related to Data Science and starting this year, they will include AI as the area of interest.

DOSM has done a lot of projects that are evolving through analytics, such as Mobile Positioning Data (MPD), Earth Observation (EO), Central Database Hub (PADU), etc. These projects have been helping the government to make data-driven decision making. For example, EO has been helping the government to monitor the movement of Malaysian citizens and plan a countermeasure based on which area to lockdown during Covid-19. On the other hand, MPD has been a great help in tourism statistic where tourism has been contributing 30% to the Malaysia's GDP, showcasing the importance of data analytics to the economics

Next, she also shared some technology updates on the global level. Previously, DOSM has sent her to China for an international exhibition. There, we can see that China has adopted robots as assistance, for example, hotels have been using robots as assistance, to send goods to the guest's room. Furthermore, China has been implementing a low altitude economy where drones instead of massive vehicles will bring things to the top of mountains to avoid destroying forests.

In applying data science for public goods, we must be alert with ethical considerations in AI adoption. Ethical considerations include bias, privacy, transparency, and accountability. These ethical considerations need to be seriously considered while implementing AI and analytics to our jobs to ensure customer privacy and confidentiality are not violated while maintaining our integrity.

With the fast advancement of AI and analytics, we must always continuously upskills ourselves to keep relevant in the industry and make our job more efficient. If you fail to keep up with the current tech, our job might be replaced by AI. On the bright side, AI-Powered jobs will have more openings so we can start upskilling ourselves in areas like Data Science, AI Engineering, AI Ethics, and AI User Experience (UX).

CONCLUSION

In summary, the three industrial seminars provided valuable insights into the real-world applications of data science and analytics across various industries. From Mr. Izzudeen Rahmad's emphasis on practical tools and responsible AI usage, to Mr. Jeff Lim's inspiring leadership philosophy that stresses on curiosity, innovation, and strategic thinking in analytics, and finally Puan Nur Hurriyatul Huda's extensive experience in national-level data initiatives and AI-driven public service, each session offered a unique perspective on the evolving role of data professionals. Common pointers shared by all speakers is the importance of continuously upskilling, ethical use of AI, and bridging academic knowledge with industry practices. As a result, these seminars have broadened our understanding of the dynamic landscape of data analytics, and reinforced the mindset, skills, and values necessary for future success in the field.