



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

Malaysia-Japan
International
Institute of Technology
(MJIT)

UNIVERSITI TEKNOLOGI MALAYSIA

**MALAYSIA-JAPAN INTERNATIONAL INSTITUTE OF TECHNOLOGY
(MJIT)**

SEMESTER 1 , SESSION 2023/2024

ASSIGNMENT 3:
TECHNOLOGY INFORMATION AND SYSTEMS
INDUSTRY TALK 2 REPORT
SECTION 15
GROUP 3

LECTURER'S NAME: DR. HALINAWATI BINTI HIROL

GROUP MEMBERS: JAYOTSHNA A/P SENGANY (A22MJ8015)

JOMANA MAHMOUD ALI (A22MJ3005)

MAHMOUD ALI MAHMOUD (A22MJ3006)

ASHA A/P SHANMUGAM (A22MJ8019)

TABLE OF CONTENTS

INTRODUCTION	2
CAREER IN ANALYTICS (TIMELINE)	4
TECHNOLOGY USED BY CREDENCE IN DAILY LIVES	5
WORKSPACE CULTURE	6
TIPS AND MOTIVATION	7
SUMMARY	8

INTRODUCTION

On the dynamic afternoon of December 28, 2023, Credence hosted its eagerly anticipated second Industry Talk, delving deep into the intricacies of system development. The insightful session was led by the esteemed Ms. Qistina Batrisyia Binti Azman Shah, a luminary in Analytics Delivery and AI Operations at Credence.

Ms. Qistina eloquently navigated the audience through the labyrinth of analytics processes, unraveling the myriad job roles available within this sphere at Credence. The discourse extended beyond the technicalities, shedding light on the sophisticated tools and software that form the backbone of their operations.

However, it wasn't merely a walkthrough of technology; She also provided invaluable insights into the unique workplace culture at Credence. A focal point was the nurturing environment, fostering the joy of mutual learning among colleagues and instilling a profound sense of confidence. Beyond the algorithms and data sets, she unveiled the core values that illuminate the interactions among team members.

At Credence, the ethos is not just about development and innovation but also about establishing a workplace where every individual thrives, both in acquiring new knowledge and in cultivating self-assurance. Join us in unraveling the tapestry of insights from this remarkable Industry Talk, where the convergence of technology and culture sets the stage for a progressive and enriching professional journey.

REVIEW OF ANALYTICS

Analytics refers to the systematic computational analysis of data or statistics. It involves discovering meaningful patterns, trends, and insights within data sets, often to aid decision-making and improve business performance. Analytics encompasses a broad range of techniques and approaches, including statistical analysis, data mining, predictive modeling, machine learning, and various other methods.

As explained in the industry talk, there are several steps in the analytics process:

1. Identifying the problem:

It is important to clearly articulate the issues to be resolved/ improvements to be made. The objectives have to align with business organizational goals.

2. Data collection:

Data can be gathered from external sources such as open-source provided by the government or social media, which are essentially sources outside the organization. It could also be gathered from within, aka Internally. Examples of that include customer databases and sales records.

3. Data Transformation:

Reprocessing the collected data to handle missing data, outliers and inconsistencies. This is done to ensure quality of data.

4. Analytics and Modelling:

Creating an analytics model fitting for the kind of data/nature of the problem. The model is then trained using training data, and adjusted as fit.

5. Prediction and Visualization:

The model is then used to make predictions based on historical data outcomes. The goal is to make informed decisions, anticipate trends, or estimate values that haven't occurred yet. Visualization is done to properly convey the complex information in a simple and easy to understand way.

Finally, Insights in data analytics refer to valuable and meaningful interpretations or discoveries derived from the analysis of data. These insights often provide actionable information that can inform decision-making, optimize processes, or contribute to a better understanding of a particular phenomenon.

CAREER IN ANALYTICS (TIMELINE)

Now, for the people who are interested in data analysis, Madam Qistina Azman's timeline will be demonstrated as a way to understand the concept of a journey into having a career in the Analytics Industry.

2016-2020:

The journey into the analytics industry began with a focus on data engineering during a Bachelor's program in Computer Science, where the focus was on having a good understanding of data engineering.

2019-2020:

Experience was gained through an industrial training as a Social Media Data Analyst, providing real-world insights into data analytics.

2020-2022:

The Data Engineer role was undertaken simultaneously alongside the Social Media Data Analyst role, blending theoretical knowledge with practical experience in data manipulation and analytics.

2022-present

The journey has shifted to the new meta: Analytics Delivery and AI Operation, focusing on making analytics processes smooth and efficient via AI integration, enhancing the decision-making aspect of Analytics Delivery.

TECHNOLOGY USED BY CREDENCE IN DAILY LIVES

Credence takes great care of their quality of work in their company by ensuring to utilize softwares that can help enhance their work life productivity and deliver outstanding results. Here are some of the softwares that is used by Credence.

1. Database/OLAP

- PostgreSQL
- ClickHouse
- Druid

Credence relies on three key software for their database and OLAP technologies. PostgreSQL which is an open source RDBMS that allows relational database management. ClickHouse is a columnar database that can help process large datasets with a focus on real time analytics. Meanwhile, Druid is an open-source data source that can optimize quick query responses.

2. Visualization Tools

- Tableau
- PowerBI
- Metabase
- Superset

In terms of the visualization tools, Credence uses various sources namely, such as Tableau that enables the creation of interactive and shareable dashboards connecting to various data sources. PowerBI is a software that lets users generate impeccable reports. Metabase and Superset allows users to explore visualizing data.

3. ETL/ELT

- Airflow
- Spark

Airflow and Spark is an open source platform that is used to schedule and monitor workflows, particularly for complex ETL processes and data pipelines. This software offers a great scale to Credence to ensure their analytic needs are fulfilled.

4. Programming Language

- SQL
- Python
- Bash Syntax

Credence makes sure to utilize three programming languages mainly for their coding. SQL is widely known for its manipulations of databases. On the other hand, python is a widely efficient programming language used in machine learning, software coding, and extensive frameworks. BashSyntax is mainly for the automation of scripting tasks.

WORKSPACE CULTURE

At credence there's a priority placed on several ethos:

1. Open Communication

Open communication is a foundational aspect of a healthy and productive work environment. It involves the free flow of information and ideas across all levels of an organization.

2. Continuous Learning and Development

Acknowledging the importance of adapting to a changing world, Credence promotes a culture of continuous learning. The organization offers their employees equal opportunities to learn and stay ahead of the growing industry.

3. Empowerment and Autonomy

In a rapidly changing world, fostering a culture of continuous learning is crucial. This involves providing opportunities for employees to acquire new skills, update existing ones, and stay current with industry trends empowerment and autonomy. Thus, Credence places a lot of focus on it.

4. Celebration of success

Recognizing and celebrating employee's achievements, both big and small, is essential for creating a positive and motivating workplace culture. At Credence, celebrations can take various forms, such as acknowledging individual accomplishments, team milestones, or the successful completion of projects.

TIPS AND MOTIVATION

The industrial talk has also shared some valuable tips and motivation that can help us fellow students that will leap into their future job and workspace. This insight was shared with great care by our modest speaker during the end of the industry talk. Some of the insights and tips that has been shared to us are;

1. Eager to learn and explore new things

The speaker emphasized the importance of maintaining a sense of eagerness when it comes to exploring new concepts and technologies. This is a very important key to adaptability and personal growth as we will be in a rapidly evolving workspace.

2. Learn to work in teams

Learning to collaborate with other individuals is one of the fundamentals. Working in a team involves communication and cooperation which can help enhance creativity, problem solving skills and overall productivity.

3. Be confident with yourself

Being confident in ourselves is crucial to our way to professional success. It is important to appropriate and acknowledge our own skills and strengths. Cultivating a self confidence energy can have a great impact on us and also our workplace.

4. Do not GIVE up!

The most important thing is to not give up and be persistent in our career journey. No matter what setbacks come along the journey, the speaker emphasized to not give up and learn from the failures. This is also a reminder to maintain positivity and a determined mindset.

SUMMARY

Credence's second Industry Talk, led by Ms. Qistina Batrisyia Binti Azman Shah, offered insights into system development and analytics processes. Ms. Qistina highlighted the tools used, workplace culture, and shared valuable tips for career success. The analytics review covered problem identification, data collection, transformation, modeling, and visualization. Ms. Qistina's career timeline showcased a progression from data engineering to Analytics Delivery and AI Operations. Credence's technology stack included databases, visualization tools, ETL/ELT, and programming languages. The workspace culture prioritizes open communication, continuous learning, empowerment, and celebrating success. Tips emphasized eagerness to learn, teamwork, self-confidence, and persistence. The Industry Talk encapsulated the dynamic blend of technology, culture, and personal development at Credence.