

SKILLTREE-AI FOR EMPLOYEE ENGAGEMENT

PROBLEM

COVID-19 has disrupted global economy at an unprecedented scale and Singapore, while nimble and diverse in its economy, is still receiving the impact of pandemic-increased unemployment. With businesses striving to become lean and efficient in operations to cut down costs, businesses that are not flexible enough in terms of human asset management leads to high retrenchment rates and skills shortages. This is where engagement is required to ensure flexibility and adaptability of manpower for business continuity and economic resilience.

2019

87%

HR PRIORITIZING HOW TO
IDENTIFY THE
FUTURE WORKFORCE
COMPOSITION (KPMG)

FEB 2020

46%

BELOW-AVERAGE(GLOBAL)
EMPLOYEE ENGAGEMENT
SCORE FOR SINGAPORE
(DSRINSIGHT)

JULY 2020

2.9%

HIGHEST UNEMPLOYMENT
RATE IN MORE THAN A
DECADE (MINISTRY OF
MANPOWER, SINGAPORE)

CURRENT SOLUTIONS

To capitalize on our human capital, there are solutions out there which can be separated into two forms:

A) Human Resource Management

Applicant tracking systems (ATS) and resume screeners enable recruiters to hire the right fit for the job, which is especially important amid disruptions where cost and time need to be reduced. Examples include LinkedIn Recruiter, Freshteam and Manatal.

Limitations:

Solution only cater to the recruitment stage and does not encourage further engagement or provide insights on how each employee can grow to be more relevant.

B) Skills Upgrading

Government initiatives like SkillsFuture, SGUnited Package and Workforce Skills Qualifications Schemes aim to provide reskilling or skills upgrading options and reducing the cost for locals.

Limitations:

Mismatch still occurs due to missing links between business requirements and the skills available for retraining.





PROPOSED SOLUTION - SKILLTREE

SkillTree is a system powered by artificial intelligence (AI) to identify and recommend what relevant skills a (potential) employee is lacking and should upgrade.

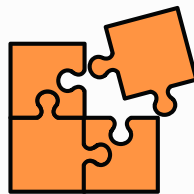
Natural Language Processing (NLP) will be heavily used to identify what are the most trending and relevant skills required for a specific job position before comparison with employee's profile. Word embedding will be used to associate the relevant skills to the job position based on customized input and data scraping from sources like LinkedIn, the company's recruitment data and news. Employee profiles can also be used to evaluate what are the best-suited positions for better matching and further training.

Proof of Concept: <https://github.com/gau-nernst/MLDA-DLW2020-Anything>

BENEFITS



Improve clarity of skills required and stay updated



Better match between skills and requirement



Reduce time for decision-making

FEASIBILITY

SkillTree is a system which can be deployed by the government or by internal human resource teams to enhance business continuity and economic resilience through well-prepared and flexible manpower management.

A) Government Deployment

The system can be deployed by the relevant Ministries to better understand the job market to formulate education and manpower policies. For retrenched workers, **SkillTree** deployed together with WSQ courses and SkillFuture can help reduce between mismatch of skills and ensure the effectiveness of skill-upgrading.

B) Internal Deployment

Hiring managers can better understand and be updated on what skills (potential) employees are lacking in addition to the skills they have, encouraging further engagements for promotion or restructuring. The employee can tap on SkillFuture to develop themselves in a more guided and informed way.