## 2019 Strategic Technology & Innovation Management Programme

Exploring disruptive innovation opportunity using deep learning

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Industrial / managerial need addressed

Disruptive technologies that is able to take competitive advantages in niche areas according to the advent of the fourth industrial revolution. There are difficulties to compete with other competitors by not responding disruptive technology at a proper time because of missing opportunities without prediction.
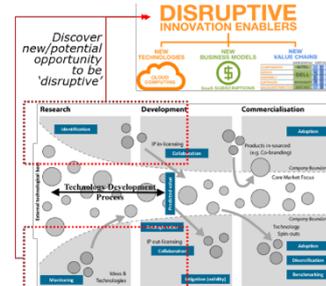
Summary

This project aims to explore disruptive innovation opportunity based on Intellectual Property data and opinion mining through deep learning. The disruptive innovation opportunity is defined as potential and promising technology as well as innovation to disrupt and reshape market or industry. The suggested algorithm helps practitioners to identify novel ideas or opportunities to be disruptive in the future.

Expected deliverables

- An AI-based decision support model (furthermore a prototype tool for detecting disruptiveness and disruptive innovation at the early stage)
- A completed report discussing the overall model

Engagement opportunities

- It is possible to engage in surveys and semi-structured interviews for deriving features of disruptiveness and improving accuracy of the suggested model
- It is also possible to apply suggested model into real cases of firms

Approach

To solve the problem, this project mainly utilizes deep learning for classification and prediction. Deep learning that is regarded as attractive artificial intelligence technique serves as a tool to detect 'disruptiveness' in the form of numeric value and find contents of disruptive innovations in the form of text. The main source for identifying disruptive innovation opportunity consists of IPs, opinion data, and semi-structured interview.
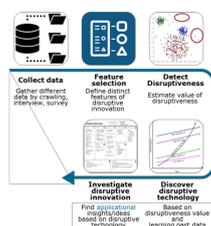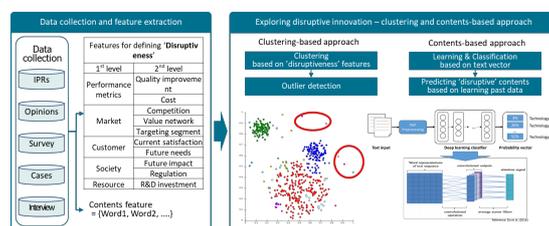

Fig 1. The scope of project

Fig 2. The framework of project

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