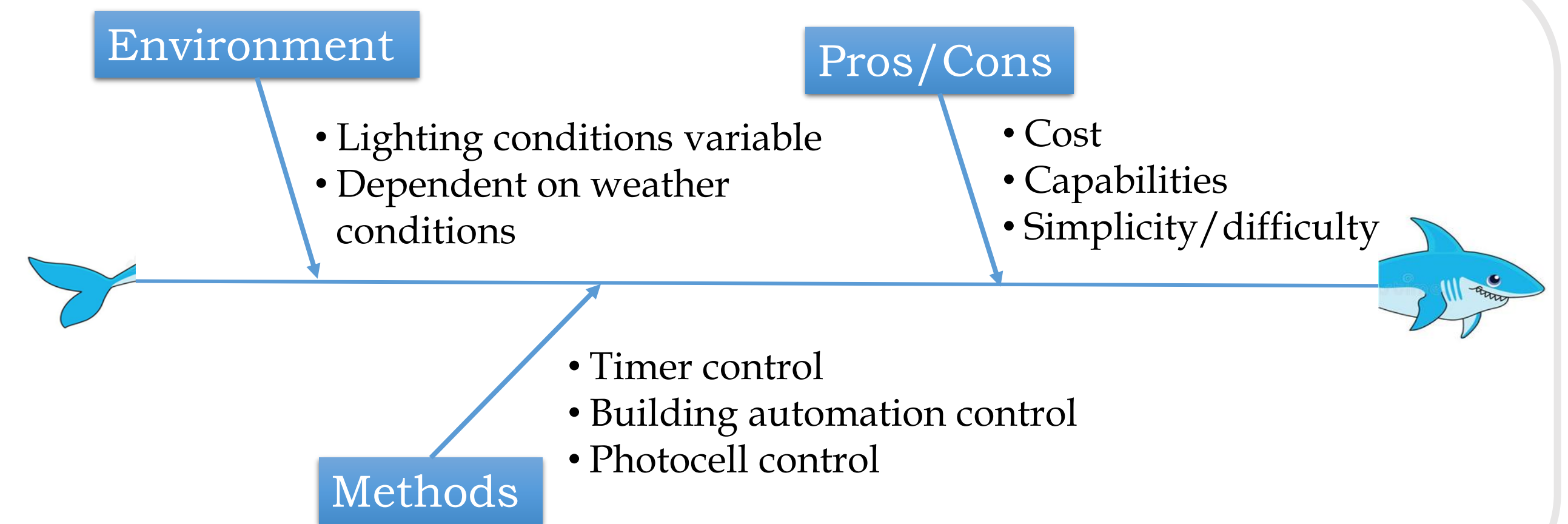


## INTRODUCTION

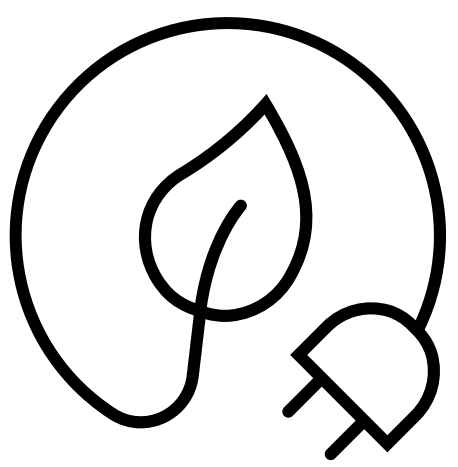
The link bridge connecting main building to medical center is affected by natural lighting and natural lighting varies through the day, such as when it is cloudy or raining. The lighting is always turned on, as such it is not efficient to turn on the lights all the time as it is a waste of electricity.

Utilizing a Fish-Bone diagram, the team analyzed the various methods of controlling lighting, considering the pros and cons of each system. The method of selection shall be based on efficiency and productivity.



## OBJECTIVES

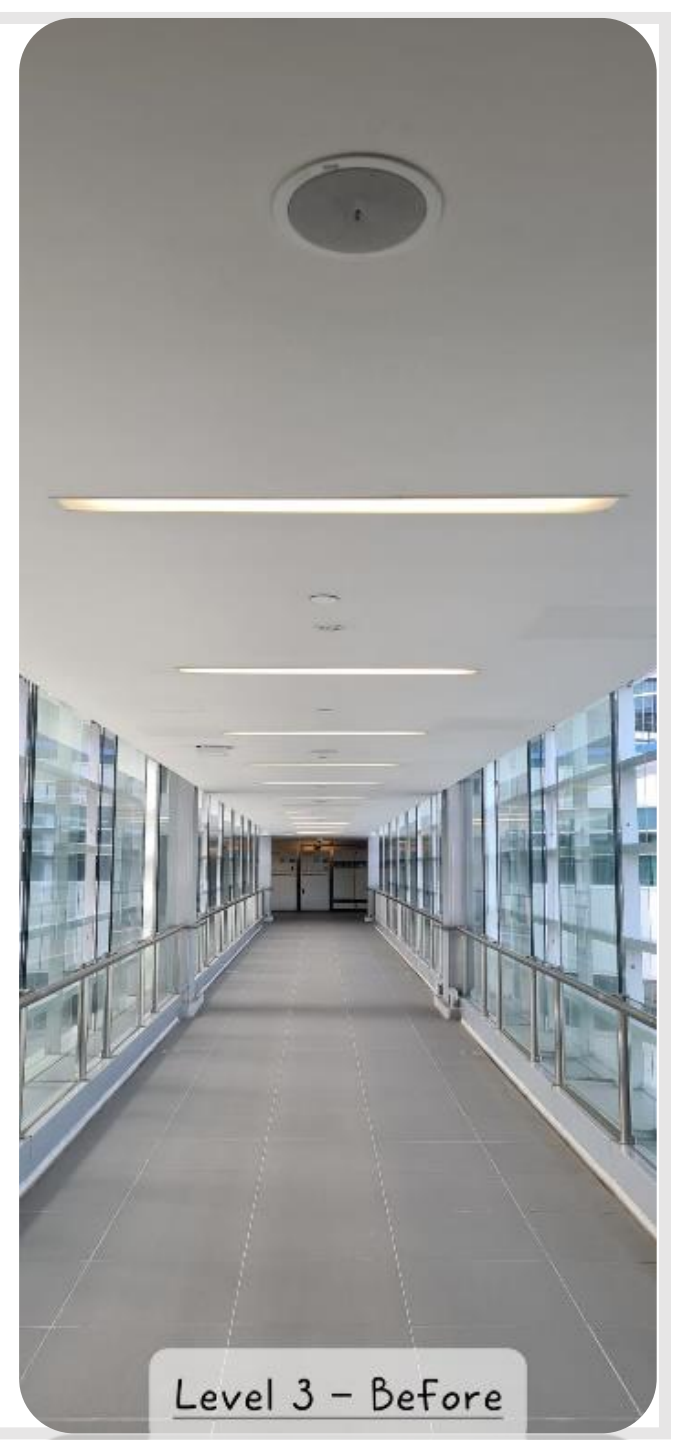
To find a sustainable, productive, and efficient way of turning on the link bridge lights automatically depending on the level of brightness



## METHOD

### Before implementation

Link bridge lightings are always turned on, and it does not take into consideration of the real time ambient lighting levels.



Level 3 - Before

## METHOD

### After implementation - Photocell installed

Link bridge lightings are controlled using photocells. Lights are turned on automatically when ambient natural lighting is insufficient to achieve energy conservation.



Level 3 - After



## RESULTS

- Before and after operating costs, obtaining a savings of \$1,165 or 28%.
- The installation cost is \$4,355, as such the simple payback period is 3.7 years.
- The energy saving is 4.7MWh per year which is equivalent to a 340L fridge running 24/7 for 3.5days.



## CONCLUSION

Based on this project, there's various learning lessons such as:

- ✓ Understanding the micro environment
- ✓ Understand various types of technologies used to control lighting
- ✓ When to apply the various types of technologies

The impact of the project has resulted in:

- ✓ Energy savings
- ✓ Lighting control based on demand
- ✓ Energy usage awareness