Specification of business processes

# 1. Business goals of the organization

“Skissue Ski Resort” is a ski resort located in the Alps and Dolomites. The resort comprises ski slopes and ski lifts and does not own any hotels, spas or other tourist destinations. The main goal of a ski resort is to maximise the satisfaction of ski pass owners. To achieve this goal Jon Snow- the CEO of the company – assumes the following changes to the two main metrics over the course of the following 3 years:

1. Seasonal increase in the amount of ski lift usage of at least 4%.
2. Seasonal increase in the average daily time of ski pass owners spent on the slopes and lifts of at least 4%.

Currently the biggest problem the CEO is trying to answer is the question of which factors contributed to the rise/fall of ski lift uses and the starts/ends of ski pass subscriptions. Each ski lift can bring its riders onto a slope of a different difficulty rating: green, blue, red, black and double black, additionally there are multiple types of lifts: chairlift, magic carpet, rope tows and gondolas, all operating with different speeds and maximum throughputs. Lifts are also placed on differing altitudes and in positions of varying daylight time. Jon Snow would like to analyse the influence of national and international holidays and weekends on the ski lift usage. Moreover, Jon Snow would like to know, how the usage of ski lifts varies depending on whether their slopes have floodlights or not.

# 2. Business processes

## **Ski lift transportation**

### A general description of the business process.

Ski lift transportation as a business process consists of a skier or a snowboarder scanning their ski pass at the entrance gates. If the pass is valid the gate will allow the ski pass owner to pass through the gate. Upon crossing the gate, information about ski pass id and current time will be send to database. Subsequently the skier or snowboarder will board the ski lift (chairlift, magic carpet, rope tow or gondola). Next they will travel up the mountain to the offboarding station, where they will dismount the ski lift. This completes the ski lift transportation service.

### Example queries

* Average amount of ski lift uses, during a given hour, across all days.
* What are the most popular lifts during a given month.
* Compare average usage of lifts that lead to slopes with and without floodlights, at evening hours in entire season.
* Whether adding floodlights to a slope increased average usage of ski lift connected to that slope during daylight hours.
* Whether the oldest ski lift in the resort was used on the given day.
* Whether the given ski lift was used after 4:00 pm.
* Give the 10 most used lifts of last season.

### Data sources

All the ski lift transportation data is send to the database and excel spreadsheet. Both data storage solutions will receive ski pass identification number and date and time of scanning. In addition the database hold information about previous scanning and identification number of ski pass user. There are also some information about users such as age, name, gender and country of origin.

## **Maintenance of ski slopes**

### A general description of the business process.

Maintenance of ski slopes is comprised of multiple steps, such as:  
- Grooming the ski slopes using snowcats every morning to ensure smooth and flattened surface.  
- Ensuring slopes are sufficiently covered with snow, and supplying artificial snow if needed.  
- Performing routine maintenance checks and repairs on ski lifts  
The resulting product of this business process are safe and well prepared ski slopes.

### Example queries

* Compare thickness of snow in cm between a sunny and a gloomy day.
* Check whether snow cannons were used in a given week.
* Give the top 10 slopes on which the snowcat fuel usage was the highest compared to slope length
* Whether the snow cannons usage increased with the outside temperature
* Check the average amount of maintenance fixes performed on all lifts in a given month.

### Data sources

Data will be provided to a database and Excel spreadsheet manually, based on the accounts of maintenance workers. After each shift, the workers are required to input their respective data into the system provided by the ski resort. Excel spreadsheet will contain information about repairs, such as cost, date of operation beginning and end. Database will contain worker ids that performed the maintenance, in addition to data contained in the Excel sheet. It will also contain maintenance data such as snow thickness, air temperature and fuel usage.