

Improving tourism marketing strategies by predicting the behavior of travelers using social media networks

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Summary

1. Analysis of social networks to understand the behavior of tourists
2. Marketing message improvement based on semantic concepts extraction
3. Enhancement of customer adhesion to marketing texts created with automatic text generator

Introduction

Every minute:

- **2'430'000** posts on Instagram
- **400 hours** of new videos on Youtube
- **7M** videos watched on Snapchat

This project analyses comments from Instagram (over 200'000) to detect a correlation between posts, weather and holidays. It aims to improve the customer adhesion and provide a better marketing message based on semantic concepts extraction for automatic multilingual text generator.

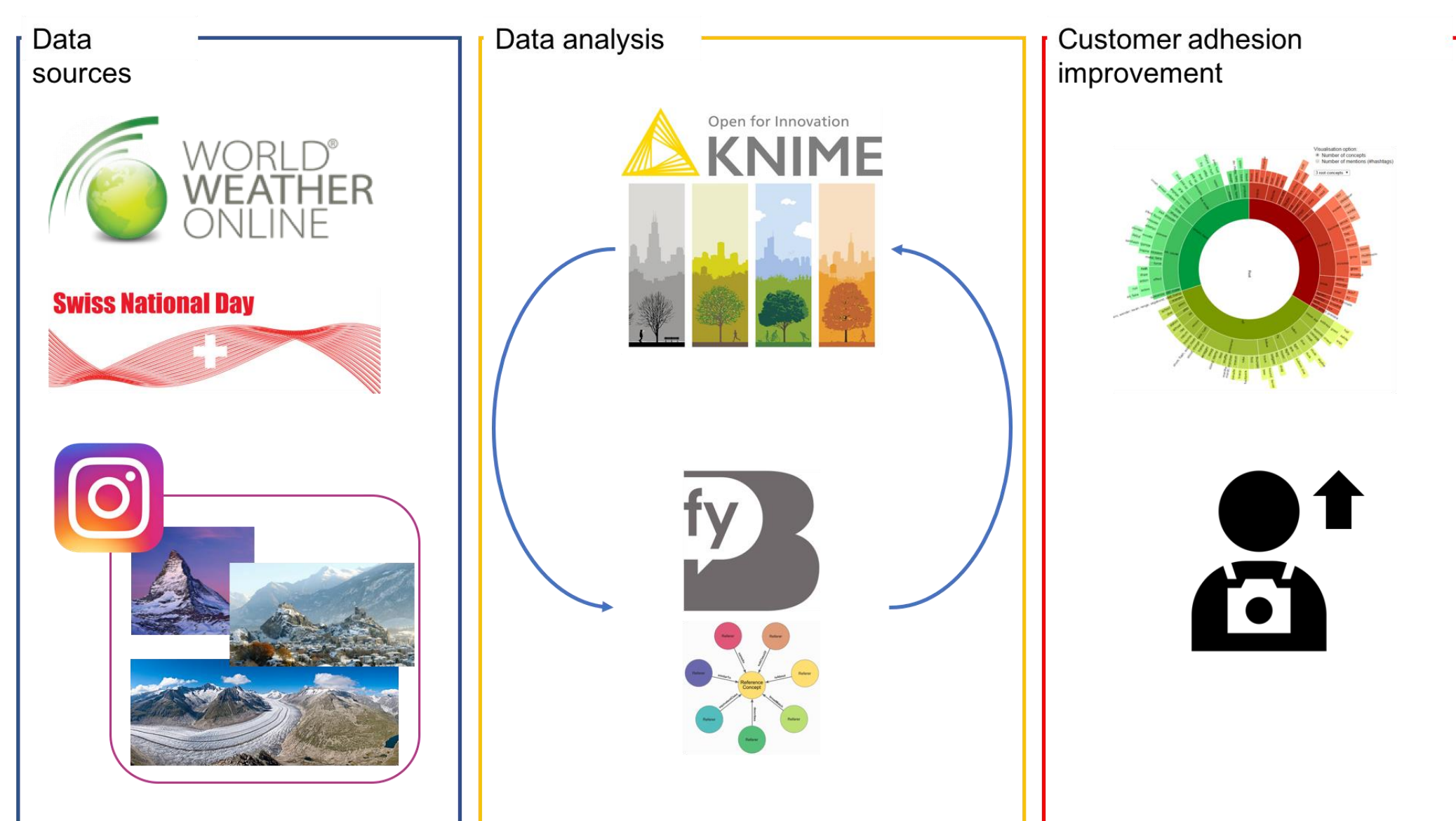


Fig. 1 – Project process: data is extracted from social media and online sources. It is processed through the data mining platform “KNIME” to prepare it for “Babel” and extract concepts. In the end, the data is used to improve the marketing message for the customer adhesion improvement.

Methods

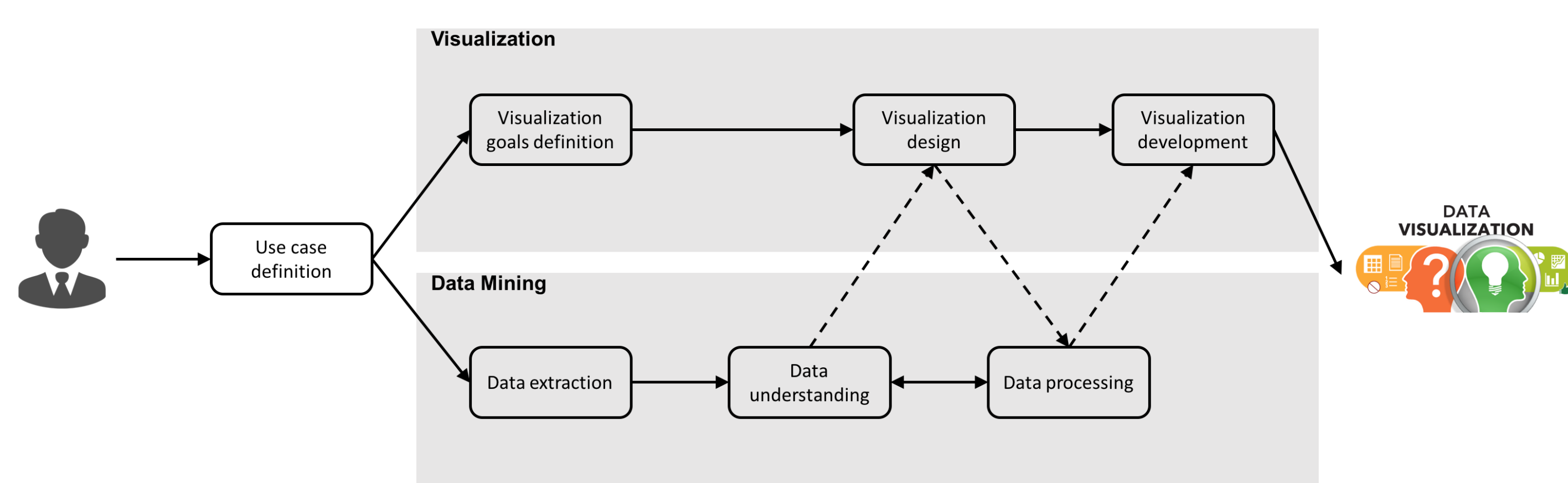


Fig. 2 – The methodology used to create the visualization in our use case is based on CRISP-DM, with the addition of a visualization branch. The iterative process stays present in this methodology mainly in the data mining process.

Results

- Project status: **ongoing**
- Statistics:
 - **+ 200'000** comments and captions for selected touristic places
 - **3 years** of pictures meta-information available
 - The number of posts increases when the weather conditions are good
- **5 top** concepts used in **winter** in Valais



- Next steps:
 - Text generation based on semantic concepts
 - Comparison of marketing messages impact before and after our process
 - Multi-season generalization

Our room was **great!** Large, luminous and with a large terrace which we unfortunately had no real time to enjoy. The room is **nice** and clean. The owners were very friendly and our room was **comfortable** if small. Stayed July 2015, traveled as a couple. We were there for the comedy festival and this **place** is very **nice**. You feel as if you were visiting friends, tea **time** is **fantastic**.

The second room was **small** for two people, but we managed. Check there for possible discounts! The **location** is **great**- close to the metro station, and they provide a free travel card for all the bus and metro area. Stayed January 2014, traveled on business. The hotel room was **nice** at a very good price. The **hotel** is very **clean** tidy and Very appealing. Not only was the lift tiny but the **bathroom** was extremely **small!** If you are an oversized individual you may have to put up without bathing for the duration of your stay here! We decided to eat dinner in the little restaurant which adjoins the hotel and found it to be typically Swiss in decor.

The **breakfast** was **good** for the hotel's level (not a great choice, but the quality was good). Breakfast choice could be bigger but the **quality** was **good**. Very home feeling, even though the bathroom was not clean (because it is old) the **room** was **big** and clean, lots of TV channels to choose from and lovely little town to walk around. Car **parking** is **available** but must be booked in advance, there is a small charge and it is not ideal for large cars! The hotel offers guests the Montreux Riviera Card which includes free local bus use for several zones and the bus stops are right outside the hotel. The **situation** is just **beautiful** near Montreux and plenty of mountains like (les rochers de naye).

Fig. 3 – Summary of hotel reviews. Our text generator takes semantic concepts (in **bold**) and generates a new summary for the final client. That text is used as a basis for tourism/marketing message creation.

Conclusion

1. Adapted CRISP-DM methodology to match the client vision
2. The variety of API to connect to social media vary often over time
3. A novel way to handle the customer comments and sentiment through an automatic online tool
4. An automatic text generator for tourism/marketing messages to improve the customer adhesion was addressed multiple times by various clients (private and tourism companies)