

Staff management tool

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Until now, personnel planning at the Casino Bern has been done, based solely on experience. This leads to vague and economically unviable decisions. In this thesis, past events were analyzed and the influential factors on the personnel intensity were sought. Based on existing event data, a suitable forecast model was methodically investigated. The number of personnel required can now be more reliably predicted with the help of the product developed within this thesis.

Introduction

Various cultural events take place at the Casino Bern, and this requires a certain amount of personnel. For each event, a utilization is calculated, which corresponds to the number of spectators divided by the available seats. Depending on the utilization, an according amount of personnel is required. Up until now, personnel planning has been based on experience values. This study analyses the utilizations of past events and influencing factors to develop a suitable forecast model. This model is then used as the basis of a tool that helps organizers to plan the personnel for events.

Research Design

In the first part, the utilization of the two halls “Grosser Saal” and “Burgerratssaal” was compared through statistical analysis. Then, an analysis of the utilization of the weekdays was made and the corre-

lation to the weather was calculated. These methods were used to find the influences on the personnel intensity. In the last analysis, different forecasting methods were applied to past data and compared with each other to find the one who fits best. Based on the findings of the three analyses a tool was developed. (Figure 1)

Results

The first analysis has shown that for many events, the numbers were not recorded and had to be estimated by the Casino Bern. The exact data, which was not estimated shows an average utilization of 70% and 87% for the estimated data. No correlation between precipitation and utilization could be found, which means utilization was not influenced by weather. Most events take place on Thursdays and Fridays and had a utilization of 80% and 87%. (Figure 2) Most of the analyzed forecast models couldn't describe the data well. Thus, they reacted too highly to outliers or were too accurate for long-term planning. Based on the previous findings a tool was developed. The tool written in Excel is mainly used for personnel planning and data storage. Furthermore, the personnel costs can be calculated, and statistical evaluations of the utilization can be made. Also, the forecast values are dynamically updated based on new data sets, which can be added by the user.



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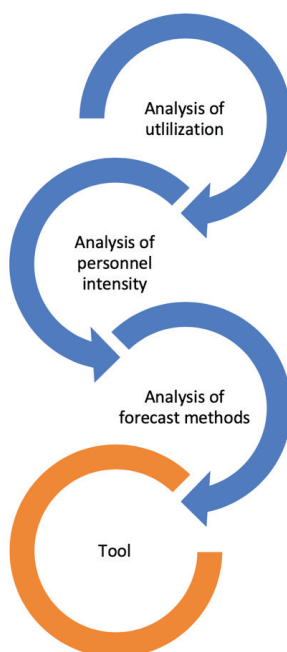


Figure 1 Steps to develop the tool

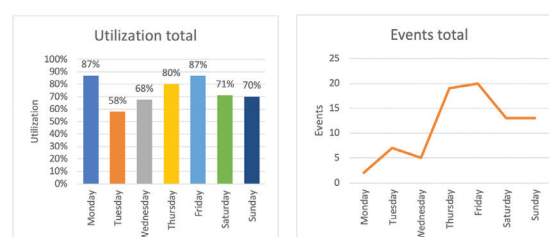


Figure 2 Utilization per weekday and events per weekday